



# Selection Guide 2024

Small-Signal Discretes,  
Power Discretes and  
Analog & Logic ICs

nexperia

EFFICIENCY WINS.



# MORE EXPERTISE



Bipolar transistors



Diodes



ESD protection,  
TVS, signal  
conditioning



MOSFETs



SiC MOSFETs



GaN FETs



IGBTs



Analog & logic ICs

Every piece of electronics in the world can benefit from Nexperia efficiency. That's every design, from the simplest phone charger or light switch to the most complex hybrid automobile. Efficiency means we produce the world's most essential semiconductors, the finishing touches that empower electronic designs everywhere. That's all we do, **more or less.**



LESS COMPLEXITY



# Introduction

Welcome to the 2024 edition of the Nexperia Selection Guide. Here we present all our Small-Signal Discretes, Power Discretes and Analog & Logic ICs in one single document to give you a complete overview. We aim to make it even easier for you to find the best product for your design.

Our extensive portfolio offers a wide range of general purpose devices and those that meet the stringent standards set by the automotive industry. They are housed in some of the most advanced, industry-leading small packages that combine power and thermal efficiency with best-in-class quality levels.

Alongside quality and efficiency, Nexperia customers value reliability and a consistent supply they can trust. We produce consistently reliable semiconductor components at high volume (Over 100 billion annually) and we work at every step to safeguard the long-term availability of our manufacturing processes and products, to ensure secure supply for all our customers.

We have a long history and broad experience. That ensures we can support you with the dedicated in-house technical support you need - from simplifying selection via quick-reference material to simple-to-use design tools and application insights. All to help drive up efficiency in your designs.

## All the functionality you need in one spot

Just like on our website, you will find the Selection Guide is split into our six key product areas. There is also a dedicated section on packages, highlighting the latest package innovations and packing options.

### Bipolar transistors

- › Resistor-equipped, low  $V_{CEsat}$  and small-signal transistors
- › Standard SMD, leadless and clip-bond packages

### Diodes

- › Broad choice of Zener, Schottky and switching diodes
- › Ultra-small, low-profile surface-mount package options
- › SiC Schottky diodes in surface-mount and through hole package options

### ESD protection, filtering and signal conditioning

- › Extensive range of protection in ultra-small form factors
- › Optimized for signal integrity, robustness and system protection

### MOSFETs

- › Low  $R_{DS(on)}$  devices from < 20 V to > 200 V
- › Industry-leading, high-quality, highly robust, copper-clip SMD packaging, LFPACK

### SiC MOSFETs

- › High-performance 1200 V SiC MOSFETs for superior efficiency
- › Optimized for high-speed switching and reduced losses
- › Available in well-established 3-pin & 4-pin TO-247 package and 7-pin TO-263 package
- › Robust and reliable performance in demanding power applications

### Power GaN FETs

- › Efficient and effective power FETs from 100 - 650 V
- › Cascode and e-mode configurations
- › Industry-standard TO-247, DFN, WLCSP and LGA packages
- › High-quality, highly robust copper-clip surface mount package technology, CCPAK

### IGBTs

- › 650V portfolio for industrial applications
- › High power density & high ruggedness reliability
- › Industry-standard packaging (TO-247)
- › Low conduction & switching losses

### Analog & logic ICs

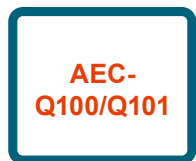
- › Comprehensive portfolio of Logic, Translator and Analog switch functions
- › Expanding portfolio of I<sup>2</sup>C GPIO, Battery Booster and Energy Harvesting products
- › Unrivalled package innovation for various pin counts with low power solutions

### Packages

- › The next generation of packaging for volume production
- › Package cross-reference and packing options

As an innovative company we are continually adding to our product portfolio, so to discover all our latest product information you should visit our website – [www.nexperia.com](http://www.nexperia.com)

# Our commitment: quality and reliability



## AEC-Q100/Q101 qualified

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We qualify our products according to the automotive AEC-Q100/Q101 standard and even exceed its requirements, for instance when doing extended lifetime testing.



## Go for quality

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All our processes and manufacturing plants are subject to regular international and internal audits, including the following:

- › ISO9001
- › IATF 16949 for automotive sites
- › ISO14001
- › OHSAS18001



## Design for excellence

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Nexperia's Design for Excellence (DfX) program ensures that each new development builds on past learning and that best practices are always employed. The result is continual product improvement.

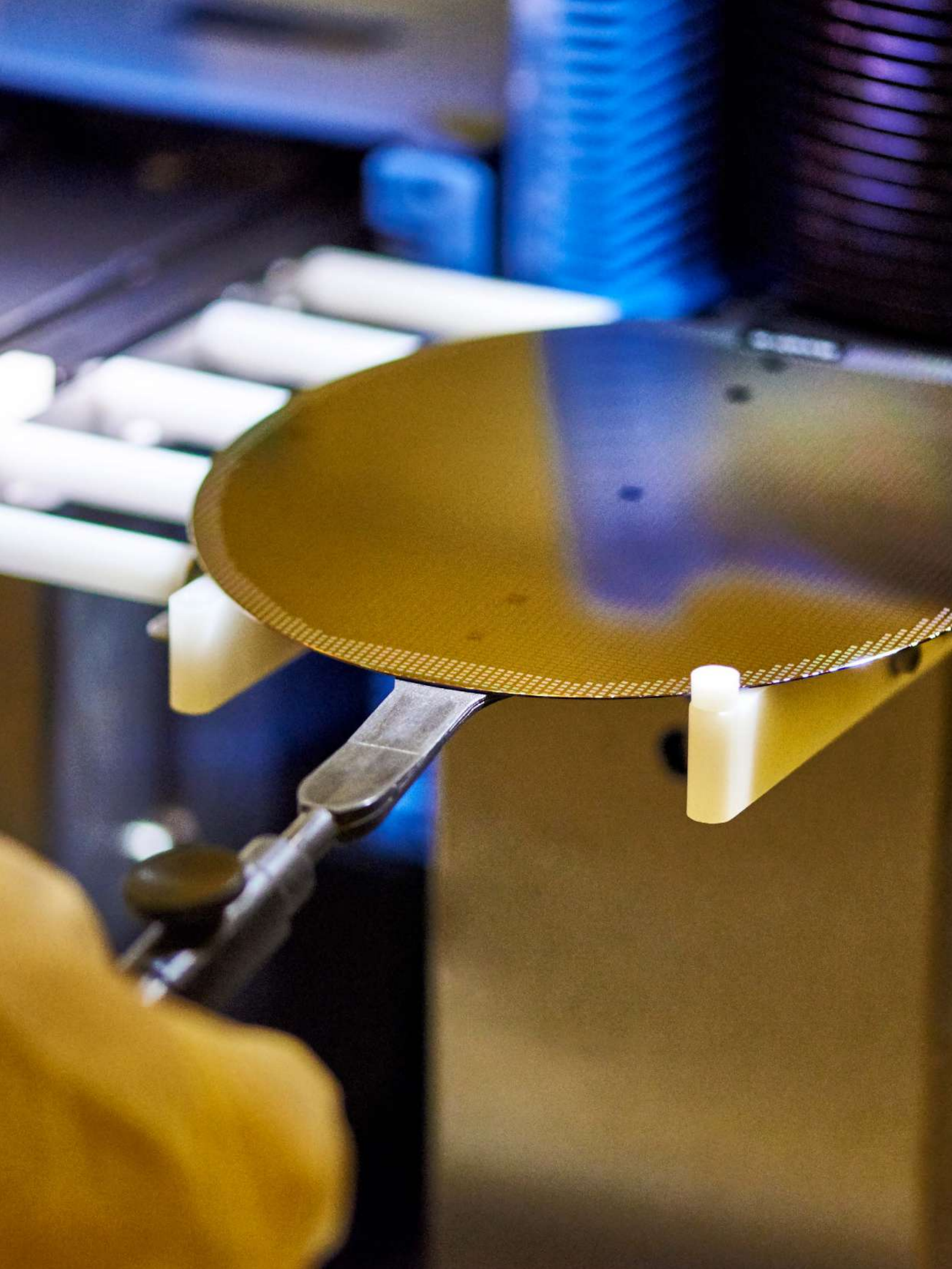


## Zero defects

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Zero defects is our standard through the organisation. A rigorous 8-discipline approach and thorough 5-why analysis ensure strong improvements are constantly made to our products and processes.

**Rigorous attention to detail and commitment to quality have yielded a very low product failure rate of a single-digit part per billion (ppb).**



# Selection Guide 2024

Small-Signal Discretes, Power Discretes and Analog & Logic ICs

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## New products

As an innovative company we invest significantly in R&D, and continually expand our portfolio with the latest generation of technology and products. Here is a snapshot of our most recent releases, but don't forget to visit the website for the most up-to-date information - [www.nexperia.com](http://www.nexperia.com)

## Bipolar transistors

Category	Products	Description	Page
General purpose bipolar transistors	<b>PMBT2227AYS-Q</b>	40 V, 600 mA, NPN/PNP double switching transistor	<b>25</b>
	<b>BCM847BSH-Q</b>	45 V, 100 mA NPN/NPN matched double transistor	<b>26</b>
	<b>BC846SH-Q</b>	65 V, 100 mA NPN/NPN general-purpose double transistor	<b>26</b>
	<b>BC847BSH-Q</b>	45 V, 100 mA NPN/NPN general-purpose double transistor	<b>26</b>
	<b>BC846BSH-Q</b>	65 V, 100 mA NPN/NPN general-purpose double transistor	<b>26</b>
	<b>BCM846BSH-Q</b>	65 V, 100 mA NPN/NPN matched double transistor	<b>26</b>
	<b>BCM857BSH-Q</b>	45 V, 100 mA PNP/PNP matched double transistor	<b>26</b>
	<b>BC856SH-Q</b>	65 V, 100 mA PNP/PNP general-purpose double transistor	<b>26</b>
	<b>BC857BSH-Q</b>	45 V, 100 mA PNP/PNP general-purpose double transistor	<b>26</b>
	<b>BC856BSH-Q</b>	65 V, 100 mA PNP/PNP general-purpose double transistor	<b>26</b>
	<b>BCM856BSH-Q</b>	65 V, 100 mA PNP/PNP matched double transistor	<b>26</b>
	<b>BC847BPNH-Q</b>	45 V, 100 mA NPN/PNP general-purpose double transistor	<b>26</b>
	<b>BC846BPNH-Q</b>	65 V, 100 mA NPN/PNP general-purpose double transistor	<b>26</b>
	<b>PUMD6H-Q</b>	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistor; R1 = 4.7 kΩ, R2 = open	<b>26</b>
	<b>PUMH7H-Q</b>	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistor; R1 = 4.7 kΩ, R2 = open	<b>26</b>
	<b>PUMB3H-Q</b>	50 V, 100 mA PNP/PNP Resistor-Equipped double Transistor; R1 = 4.7 kΩ, R2 = open	<b>26</b>
	<b>BC56PAST(-Q)</b>	80 V, 1 A NPN medium power transistors	<b>26</b>
	<b>BC56-10PAST (-Q)</b>	80 V, 1 A NPN medium power transistors	<b>26</b>
	<b>BC56-16PAST (-Q)</b>	80 V, 1 A NPN medium power transistors	<b>26</b>
	<b>BC53PAST (-Q)</b>	80 V, 1 A PNP medium power transistors	<b>26</b>
	<b>BC53-10PAST (-Q)</b>	80 V, 1 A PNP medium power transistors	<b>26</b>
	<b>BC53-16PAST (-Q)</b>	80 V, 1 A PNP medium power transistors	<b>26</b>
	<b>PMP3906AYS-Q</b>	40 V, 200 mA PNP/PNP matched double transistor	<b>30</b>
	Low $V_{CEsat}$ transistors	<b>PBSS4350PAS (-Q)</b>	50 V, 3 A NPN low $V_{CEsat}$ transistor
<b>PBSS5250PAS (-Q)</b>		50 V, 2 A PNP low $V_{CEsat}$ transistor	<b>34</b>
<b>PBSS5350PAS (-Q)</b>		50 V, 3 A PNP low $V_{CEsat}$ transistor	<b>34</b>
Resistor equipped transistors (RETs)	<b>PDTC123YQB(-Q)</b>	50 V, 100 mA, NPN RET; R1 = 2.2 kΩ, R2 = 10 kΩ in a small DFN1110D-3 (SOT8015)	<b>40</b>
	<b>PDTA123YQB(-Q)</b>	50 V, 100 mA, PNP RET; R1 = 2.2 kΩ, R2 = 10 kΩ in a small DFN1110D-3 (SOT8015)	<b>41</b>
	<b>PIMN31PAS-Q</b>	50 V, 500 mA, NPN/NPN double RET; R1 = 1 kΩ, R2 = 10 kΩ in a small DFN2020D-6 (SOT1118D)	<b>43</b>
	<b>PIMC31PAS-Q</b>	50 V, 500 mA, NPN/PNP double RET; R1 = 1 kΩ, R2 = 10 kΩ in a small DFN2020D-6 (SOT1118D)	<b>43</b>
	<b>PIMP31PAS-Q</b>	50 V, 500 mA, PNP/PNP double RET; R1 = 1 kΩ, R2 = 10 kΩ in a small DFN2020D-6 (SOT1118D)	<b>43</b>
	<b>PIMN31PA</b>	50 V, 500 mA, NPN/NPN double RET; R1 = 1 kΩ, R2 = 10 kΩ in a small DFN2020-6 (SOT1118)	<b>43</b>
	<b>PIMC31PA</b>	50 V, 500 mA, NPN/PNP double RET; R1 = 1 kΩ, R2 = 10 kΩ in a small DFN2020-6 (SOT1118)	<b>43</b>
	<b>PIMP31PA</b>	50 V, 500 mA, PNP/PNP double RET; R1 = 1 kΩ, R2 = 10 kΩ in a small DFN2020-6 (SOT1118)	<b>43</b>
	<b>PIMN32PAS-Q</b>	50 V, 500 mA, NPN/NPN double RET; R1 = 2.2 kΩ, R2 = 10 kΩ in a small DFN2020D-6 (SOT1118D)	<b>43</b>
	<b>PIMC32PAS-Q</b>	50 V, 500 mA, NPN/PNP double RET; R1 = 2.2 kΩ, R2 = 10 kΩ in a small DFN2020D-6 (SOT1118D)	<b>43</b>
	<b>PIMP32PAS-Q</b>	50 V, 500 mA, PNP/PNP double RET; R1 = 2.2 kΩ, R2 = 10 kΩ in a small DFN2020D-6 (SOT1118D)	<b>43</b>
	<b>PIMN32PA</b>	50 V, 500 mA, NPN/NPN double RET; R1 = 2.2 kΩ, R2 = 10 kΩ in a small DFN2020-6 (SOT1118)	<b>43</b>
	<b>PIMC32PA</b>	50 V, 500 mA, NPN/PNP double RET; R1 = 2.2 kΩ, R2 = 10 kΩ in a small DFN2020-6 (SOT1118)	<b>43</b>
	<b>PIMP32PA</b>	50 V, 500 mA, PNP/PNP double RET; R1 = 2.2 kΩ, R2 = 10 kΩ in a small DFN2020-6 (SOT1118)	<b>43</b>

## Diodes

Category	Products	Description	Page
Zener diodes	<b>HPZR-Q series</b>	High power dissipation 5.5W Zener in CFP3 with Tj 175°C	53
	<b>HPZR series</b>	High power dissipation 4.1W Zener in CFP3 with Tj 150°C	53
Switching diodes	<b>BAS116LS (-Q)</b>	Low-leakage 85V, 325mA switching diode	58
Recovery rectifiers	<b>PNE20020EXD (-Q)</b>	200 V, 2 A hyperfast recovery rectifier	59
	<b>PNE20040EP (-Q)</b>	200 V, 4 A Hyperfast switching recovery rectifier in CFP5	59
	<b>PNE20050EP (-Q)</b>	200 V, 5 A Hyperfast switching recovery rectifier in CFP5	59
	<b>PNU65010ER (-Q)</b>	650 V, 1 A Ultrafast recovery rectifier in CFP3	59
	<b>PNU65010EP (-Q)</b>	650 V, 1 A Ultrafast recovery rectifier in CFP5	59
	<b>PNU65020EP (-Q)</b>	650 V, 2 A Ultrafast recovery rectifier in CFP5	59
	<b>PNU65030EP (-Q)</b>	650 V, 3 A Ultrafast recovery rectifier in CFP5	59
	<b>PNU650100EJ (-Q)</b>	650 V, 10 A Ultrafast recovery rectifier in D2PAK R2P	59
	<b>PNE650100EJ (-Q)</b>	650 V, 10 A Hyperfast recovery rectifier in D2PAK R2P	59
	<b>PNU650150EJ (-Q)</b>	650 V, 15 A Ultrafast recovery rectifier in D2PAK R2P	59
	<b>PNE650150EJ (-Q)</b>	650 V, 15 A Hyperfast recovery rectifier in D2PAK R2P	59
	<b>PNU650200EJ (-Q)</b>	650 V, 20 A Ultrafast recovery rectifier in D2PAK R2P	59
	<b>PNE650200EJ (-Q)</b>	650 V, 20 A Hyperfast recovery rectifier in D2PAK R2P	59
	<b>PNU650150AEJ (-Q)</b>	650 V, 15 A Ultrafast recovery rectifier in D2PAK R2P	59
	<b>PNU650200AEJ (-Q)</b>	650 V, 20 A Ultrafast recovery rectifier in D2PAK R2P	59
	<b>PNU650300AEJ (-Q)</b>	650 V, 30 A Ultrafast recovery rectifier in D2PAK R2P	59
SiC Schottky diodes	<b>PSC1065H-Q</b>	650 V, 10 A SiC Schottky diode in DPAK R2P	61
	<b>PSC0665K</b>	650 V, 6 A SiC Schottky diode in TO-220-2 R2P	61
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	<b>PESD1V0Y1BIF</b>	Extremely low clamping bidirectional ESD protection diode	<b>79</b>
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	<b>PESD5V5C1BL</b>	Very low clamping, Vt1, capacitance, low InsertionLoss ESD protection in SOD882	<b>79</b>
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	<b>PTVS20VD1UL</b>	Ultra compact Transient Voltage Suppressor	<b>86</b>
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	<b>BUK9M24-80L</b>	N-channel 80 V, 24 mOhm logic level MOSFET in LFPAK33	99
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	<b>PSMN013-60HL</b>	N-channel 60 V, 12.5 mOhm, logic level MOSFET in LFPAK56D using TrenchMOS technology	109
	<b>PSMN014-60HS</b>	N-channel 60 V, 14 mOhm, standard level MOSFET in LFPAK56D using TrenchMOS technology	109
	<b>PXN012-60QL</b>	N-channel 60 V, 11.5 mOhm, logic level Trench MOSFET in MLPAK33	109
	<b>PSMNR90-80ASF</b>	NextPower 80 V, 0.85 mOhm, N-channel MOSFET in CCPAK1212 package	110
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	<b>PSMN1R0-100ASF</b>	NextPower 100 V, 0.99 mOhm, N-channel MOSFET in CCPAK1212 package	110
	<b>PSMN1R0-100ASE</b>	N-channel, 100 V, 1.04 mOhm, MOSFET with enhanced SOA in CCPAK1212 package	110
	<b>PSMN1R1-80ASF</b>	NextPower 80 V, 1.11 mOhm, N-channel MOSFET in CCPAK1212 package	110
	<b>PSMN1R2-80ASE</b>	N-channel, 80 V, 1.18 mOhm, MOSFET with enhanced SOA in CCPAK1212 package	110
	<b>PSMN1R3-100ASF</b>	NextPower 100 V, 1.3 mOhm, N-channel MOSFET in CCPAK1212 package	110
	<b>PSMN1R4-100ASE</b>	N-channel, 100 V, 1.36 mOhm, MOSFET with enhanced SOA in CCPAK1212 package	110
	<b>PSMNR90-80CSF</b>	NextPower 80 V, 0.9 mOhm, N-channel MOSFET in CCPAK1212i package	110
	<b>PSMN1R0-80CSE</b>	N-channel, 80 V, 0.95 mOhm, MOSFET with enhanced SOA in CCPAK1212i package	110
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	<b>PSMN2R6-80YSF</b>	NextPower 80 V, 2.4 mOhm, 231 A, N-channel MOSFET in LFPAK56E package	110
	<b>PSMN3R5-80YSF</b>	NextPower 80 V, 3.5 mOhm, 150 A, N-channel MOSFET in LFPAK56E package	110
	<b>PSMN4R2-80YSE</b>	N-channel 80 V, 4.2 mOhm MOSFET with enhanced SOA in LFPAK56E	110
	<b>PSMN3R9-100YSF</b>	NextPower 100 V, 4.3 mOhm, 120 A, N-channel MOSFET in LFPAK56E package	110
<b>PSMN4R8-100YSE</b>	N-channel 100 V, 4.8 mOhm MOSFET with enhanced SOA in LFPAK56E	110	
<b>PSMN3R3-80YSF</b>	NextPower 80 V, 3.1 mOhm, 160 A, N-channel MOSFET in LFPAK56 package	111	
<b>PSMN4R5-80YSF</b>	NextPower 80 V, 4.5 mOhm N-channel MOSFET in LFPAK56	111	
<b>PSMN5R5-100YSF</b>	NextPower 100 V, 5.6 mOhm N-channel MOSFET in LFPAK56 package	111	
<b>PSMN7R2-100YSF</b>	NextPower 100 V, 6.9 mOhm N-channel MOSFET in LFPAK56 package	111	

MOSFETs

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	<b>PSMN9R8-100YSF</b>	NextPower 100 V, 10.2 mΩ N-channel MOSFET in LFPAK56 package	111	
	<b>PSMN012-100YSF</b>	NextPower 100 V, 11.8 mΩ N-channel MOSFET in LFPAK56 package	111	
	<b>PSMN015-100YSF</b>	NextPower 100 V, 15.5 mΩ N-channel MOSFET in LFPAK56 package	111	
	<b>PSMN025-100HS</b>	N-channel 100 V, 24.5 mΩ, standard level MOSFET in LFPAK56D using TrenchMOS technology	111	
	<b>PSMN029-100HL</b>	N-channel 100 V, 29 mΩ, logic level MOSFET in LFPAK56D using TrenchMOS technology	111	
	<b>PSMN028-100HS</b>	N-channel 100 V, 27.5 mΩ, standard level MOSFET in LFPAK56D using TrenchMOS technology	111	
	<b>PSMN033-100HL</b>	N-channel 100 V, 31 mΩ, logic level MOSFET in LFPAK56D using TrenchMOS technology	111	
	<b>PSMN038-100HS</b>	N-channel 100 V, 37.6 mΩ, standard level MOSFET in LFPAK56D using TrenchMOS technology	111	
	<b>PSMN045-100HL</b>	N-channel 100 V, 45 mΩ, logic level MOSFET in LFPAK56D using TrenchMOS technology	111	
	<b>PSMN1R8-80SSF</b>	NextPower 80 V, 1.8 mΩ, 270 Amp, N-channel MOSFET in LFPAK88 package	112	
	<b>PSMN1R9-80SSE</b>	N-channel 80 V, 1.9 mΩ MOSFET with enhanced SOA in LFPAK88	112	
	<b>PSMN2R3-80SSF</b>	NextPower 80 V, 2.3 mΩ, 240 Amp, N-channel MOSFET in LFPAK88 package	112	
	<b>PSMN2R5-80SSE</b>	N-channel 80 V, 2.5 mΩ MOSFET with enhanced SOA in LFPAK88	112	
	<b>PSMN2R8-80SSF</b>	NextPower 80 V, 2.8 mΩ, 205 Amp, N-channel MOSFET in LFPAK88 package	112	
	<b>PSMN2R0-100SSF</b>	NextPower 100 V, 2.07 mΩ, 267 Amp, N-channel MOSFET in LFPAK88 package	112	
	<b>PSMN2R3-100SSE</b>	N-channel 100 V, 2.3 mΩ MOSFET with enhanced SOA in LFPAK88	112	
	<b>PSMN2R9-100SSE</b>	N-channel 100 V, 2.9 mΩ MOSFET with enhanced SOA in LFPAK88	112	
	<b>PSMN2R6-100SSF</b>	NextPower 100 V, 2.6 mΩ, 200 Amp, N-channel MOSFET in LFPAK88 package	112	
	<b>PSMN3R3-100SSF</b>	NextPower 100 V, 3.3 mΩ, 180 Amp, N-channel MOSFET in LFPAK88 package	112	
	<b>PXN011-100QL</b>	N-channel 100 V, 11 mΩ, logic level Trench MOSFET in MLPAK33	112	
	<b>PXN011-100QS</b>	N-channel 100 V, 11 mΩ, standard level Trench MOSFET in MLPAK33	112	
	<b>PXN012-100QL</b>	N-channel 100 V, 12 mΩ, logic level Trench MOSFET in MLPAK33	112	
	<b>PXN012-100QS</b>	N-channel 100 V, 12 mΩ, standard level Trench MOSFET in MLPAK33	112	
	<b>PXN020-100QS</b>	N-channel 100 V, 20 mΩ, standard level Trench MOSFET in MLPAK33	112	
	<b>PXN028-100QL</b>	N-channel 100 V, 28 mΩ, logic level Trench MOSFET in MLPAK33	112	
	<b>PXN040-100QS</b>	N-channel 100 V, 40 mΩ, standard level Trench MOSFET in MLPAK33	112	
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	<b>PXP700-150QS</b>	150 V, P-channel Trench MOSFET	113	
	Small-signal MOSFETs	<b>PMPB09R1XN</b>	30 V, N-channel Trench MOSFET in a leadless medium power DFN2020M-6 (SOT1220-2)	116
		<b>PMPB10R3XN</b>	30 V, N-channel Trench MOSFET in a leadless medium power DFN2020M-6 (SOT1220-2)	116
<b>PMPB14R8XN</b>		30 V, N-channel Trench MOSFET in a leadless medium power DFN2020M-6 (SOT1220-2)	116	

## Power GaN FETs

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Power GaN FETs	<b>GAN3R9-150QBA</b>	150 V, 3.9 mOhm Gallium Nitride (GaN) FET in a 4.0 mm x 6.0 mm Very-Thin-Profile Quad Flat No-Lead Package (VQFN)	<b>133</b>
	<b>GANB4R8-040CBA</b>	40 V, 4.8 mOhm bi-directional Gallium Nitride (GaN) FET in a 2.1 mm x 2.1 mm Wafer Level Chip-Scale Package (WLCSP)	<b>133</b>
	<b>GAN039-650NBB</b>	650 V, 33 mOhm Gallium Nitride (GaN) FET in a CCPAK1212 package	<b>133</b>
	<b>GAN039-650NTB</b>	650 V, 33 mOhm Gallium Nitride (GaN) FET in a CCPAK1212i package	<b>133</b>
	<b>GAN041-650WSB</b>	650 V, 35 mΩ Gallium Nitride (GaN) FET in a TO-247 package	<b>133</b>
	<b>GAN111-650WSB</b>	650 V, 97 mOhm Gallium Nitride (GaN) FET in a TO-247 package	<b>133</b>

# Bipolar Discretes Q-portfolio

Introducing a new semiconductor quality that is addressing the growing support levels enhanced by ACES and prepares Bipolar Discretes for future automotive designs.

## The largest automotive innovations are still ahead of us

- › Autonomous Driving, connectivity, electrified- and shared mobility (ACES) will shape the future of automobility and redefine the manner of moving from place to place.
- › ACES amplify the need for proven reliability in increasingly challenging environments and for extended operating times [e.g. over-night operation of xEV on-board chargers].
- › Essential quality of all components is key for mission-critical functions and amplified by regulatory pressures and reduces prospective service cost or even the risk of personal injuries.

## Nexperia introduces future-proof automotive portfolio for Bipolar Discretes | The Q-Portfolio

- › On top of all automotive standards (e.g. AEC-Q101) Nexperia always enhanced its preeminent quality level by close consultation of its industry leading customer base (e.g. via regular audits).
- › With our dedicated automotive portfolio of Bipolar Discretes (e.g. BAV99-Q) we gear up to address the growing quality and support levels enhanced by ACES.
- › Moreover, we offer an additional option of standard types if an automotive grade is not required.

### Quality | Moving beyond AEC-Q101

Continuously adopting the latest quality standards exceeding AEC-Q101 by new mission profiles (VDE ITG MN5.7), extended firewalls and more.

### Supply | Incorporate particular industry needs

Guaranteed longevity of >10 years, <2 years date code, supply prioritization, IATF Certification and use of VDA A-rated in-house front- and backend.



## The Q-portfolio

### Service | Unique support for unique customers

Additional support offer including PPAPs, extended PCN implementation time and more.

### Performance | Tailored investments to suit automotive needs

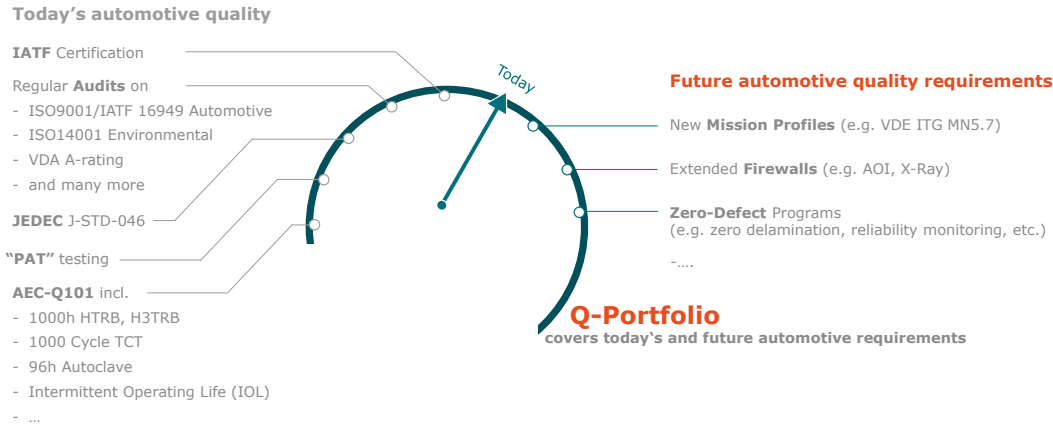
Drive CAPEX investments into dedicated automotive portfolio executed via BCamX Product Creation Process compliant to automotive APQP.

### Our promise:

- › With our Q-Portfolio you automatically benefit from the adoption of future automotive standards.
- › We continue to guarantee all performance specifications stated in the datasheets.
- › The transfer to Q-Portfolio has no impact on (1) confirmed shipments, (2) product supply chain or (3) negotiated contract prices.

## The Q-portfolio – Q for Quality

Based on today's automotive requirements, the Q-portfolio will adopt future quality standards



## Service options

With the introduction of the Q-portfolio, Bipolar Discretes offers 2 portfolio options, depending on each customer service level requirement.

Q-Portfolio		Standard Portfolio
• 2x JEDEC   180 days <sup>1)</sup>	<b>PCN handling</b>	• JEDEC   90 days
• Supported	<b>PPAP</b>	• Not supported
• Minimum of 10 years	<b>Longevity</b>	• Minimum of 5 years
• <2 years	<b>Date Code</b>	• <4 years
• Very high	<b>Supply Priority<sup>2)</sup></b>	• High

## Product overview

Q-portfolio types will be offered across all Bipolar Discretes product groups. Types can be recognized by the -Q ending of the part name.

Small Signal Diodes		Small Signal Transistors		Power Rectifiers		Power Transistors		BISS Transistors		ESD Protection	
ProductType	Package	ProductType	Package	ProductType	Package	ProductType	Package	ProductType	Package	ProductType	Package
BAS316	SOD323	BC817-40	SOT23	PMEG100V080ELPD	SOT128	BCX56-16	SOT89	PBSS5255PAPS	SOT111	PESD24VL18A	SOD323
BAV99	SOT23	BC847C	SOT23	PMEG4005EJ	SOD323	BCP56-16T	SOT223	PBSS5240T	SOT23	PESD21VN24-T	SOT23
BAS21	SOT23	BC817-25	SOT23	PMEG4010CEJ	SOD323	BCP56-16	SOT223	PBSS5350T	SOT23	PESD15VL18A	SOT23
BAT54S	SOT23	BC807-40	SOT23	PMEG4050EP	SOD128	BCX53-16	SOT89	PBSS4350T	SOT23	PESD21V18A	SOT23
BAV99W	SOT323	BC846B	SOT23	PMEG6010ER	SOD323	BSR41	SOT89	PBSS4140T	SOT23	PESD21V18A	SOT23
BAV70	SOT23	BC807-40	SOT23	BAT760	SOD323	BCX56	SOT89	PBSS4350Z	SOT23	PESD21V18A	SOT23
BAS321	SOD323	BC847BPN	SOT363	PMEG4010BEA	SOD323	BCX56-10	SOT89	PBSS4240T	SOT23	PESD21V18A	SOT23
BAT54C	SOT23	BC847B	SOT23	PMEG6030EP	SOD128	BCX52-16	SOT89				
BAS16VY	SOT363	PUMD3	SOT363	PMEG10010ELR	SOD123	PBSS5350X	SOT89				
BAT46WJ	SOD323	PUMD9	SOT363	BC817-40W	SOT323						
BAV70W	SOT323	BC807-25	SOT23	BC856B	SOT23						
BAT54SW	SOT323	BC847B5	SOT363	BC857B5	SOT363						
BAV99S	SOT363	PDT114ET	SOT23	BC847CW	SOT23						
BAT54	SOT23	BC817-40W	SOT323	PUMH9	SOT23						
BAS16	SOT23	BC856B	SOT23								
BAT54CW	SOT323	BC857B5	SOT363								
BAV199	SOT23	BC847CW	SOT23								
BAT54A	SOT23	PUMH9	SOT23								
BAV56	SOT23										
BAT54AW	SOT23										

Future Bipolar Discretes Portfolio (exemplary)	
Standard Portfolio	Q-Portfolio
BAS316	BAS316-Q
BAV99	BAV99-Q
BAS21	BAS21-Q
...	...



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# Bipolar transistors






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Small signal transistors single NPN


Package					Automotive-qualified				
					SOT23	SOT323 (SC-70)	DFN1412D-3 (SOT8009)	DFN1110D-3 (SOT8015)	DFN1006-3 (SOT883)
					Leaded SMD		DFN		
Size (mm)					2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.4 x 1.2 x 0.47	1.1 x 1.0 x 0.47	1.0 x 0.6 x 0.5
P <sub>tot</sub> (mW)					250	200	360	340	250
V <sub>CE0</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min/typ	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)					
25	100	450	1200	100		PMST5089			
30	100	110 - 200	450 - 800	100	BC848B (-Q)	BC848W (-Q)			
		350	900	100		PMST5088			
32	100	110	220	100	BCW31				
		200	450	100	BCW32				
		420	800	100	BCW33				
		180	310	100	BCW60B				
		250	460	100	BCW60C				
		380	630	100	BCW60D				
45	100	110	800	100	BC847 (-Q)	BC847W (-Q)			
		110	220	100	BC847A (-Q)	BC847AW (-Q)	BC847AQC (-Q)	BC847AQB (-Q)	BC847AM (-Q)
		200	450	100	BC847B (-Q)	BC847BW (-Q)	BC847BQC (-Q)	BC847BQB (-Q)	BC847BM (-Q)
		420	800	100	BC847C (-Q)	BC847CW (-Q)	BC847CQC (-Q)	BC847CQB (-Q)	BC847CM (-Q)
		120	220	100	BCX70G				
		180	310	100	BCX70H				
		250	460	100	BCX70J				
		380	630	100	BCX70K				
		110	220	100	BCW71				
		200	450	100	BCW72				
50	100	500	1250	100	PMBT6429	PMST6429			
		210	340	100 - 150	2PD601ART (-Q)				
		210	340	100 - 150	2PD601ARL	2PD601ARW (-Q)			
		290	460	100 - 150	2PD601ASL	2PD601ASW (-Q)			
60	100	250	650	100	PMBT6428	PMST6428			
		110	220	100	BCV71 (-Q)				
65	100	200	450	100	BCV72 (-Q)				
		110	450	100	BC846 (-Q)	BC846W (-Q)			
		110	220	100	BC846A (-Q)	BC846AW (-Q)	BC846AQC (-Q)	BC846AQB (-Q)	
50	150	200	450	100	BC846B (-Q)	BC846BW (-Q)	BC846BQC (-Q)	BC846BQB (-Q)	BC846BM (-Q)
		120	270	100		2PC4081Q (-Q)			2PC4617QMB
	200	180	390	100		2PC4081R (-Q)			2PC4617RMB
		270	560	100		2PC4081S (-Q)			
		210	340	100	2PD601BRL				
45	500	290	460	100	2PD601BSL				
		100	600	100	BC817 (-Q)	BC817W (-Q)			
		100	250	100	BC817-16 (-Q)	BC817-16W (-Q)	BC817-16QC (-Q)	BC817-16QB (-Q)	
		160	400	100	BC817-25 (-Q)	BC817-25W (-Q)	BC817-25QC (-Q)	BC817-25QB (-Q)	
		250	600	100	BC817-40 (-Q)	BC817-40W (-Q)	BC817-40QC (-Q)	BC817-40QB (-Q)	
50	500	100	600	100	BCX19 (-Q)				
		85	170	140 - 180	2PD602AQL (-Q)				
		120	240	140 - 180	2PD602ARL	2PD1820AR (-Q)			
60	500	170	340	140 - 180	2PD602ASL (-Q)	2PD1820AS (-Q)			
		50	-	100		PMSTA05 (-Q)			
80	500	100	-	50	PMBTA06 (-Q)	PMSTA06 (-Q)			
80	500	100	250	100	BC816-16 (-Q)	BC816-16W (-Q)			
		160	400	100	BC816-25 (-Q)	BC816-25W (-Q)			
45	800	100	250	100	BCW66F				
		160	400	100	BCW66G				
		250	630	100	BCW66H				

## Small signal transistors single PNP





Package					Automotive-qualified				
					SOT23	SOT323 (SC-70)	DFN1412D-3 (SOT8009)	DFN1110D-3 (SOT8015)	DFN1006-3 (SOT883)
					Leaded SMD		DFN		
									
Size (mm)					2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.4 x 1.2 x 0.47	1.1 x 1.0 x 0.47	1.0 x 0.6 x 0.5
P <sub>tot</sub> (mW)					250	200	360	340	250
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min/typ	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)					
30	100	125 - 220	500 - 800	100	BC858B (-Q)	BC858BW (-Q)			
32	100	120	260	100	BCW29				
		215	500	100	BCW30				
		180	310	100	BCW61B				
		250	460	100	BCW61C				
		380	630	100	BCW61D				
45	100	210	340	70	2PB709ART (-Q)				
		210	340	70	2PB709ARL (-Q)	2PB709ARW			
		290	460	70	2PB709ASL (-Q)	2PB709ASW			
		180	310	100	BCX71H (-Q)				
		250	460	100	BCX71J (-Q)				
		380	630	100	BCX71K (-Q)				
		120	260	100	BCW69				
		215	500	100	BCW70				
		125	800	100	BC857 (-Q)	BC857W (-Q)			
		125	250	100	BC857A (-Q)	BC857AW (-Q)	BC857AQC (-Q)	BC857AQB (-Q)	BC857AM (-Q)
220	475	100	BC857B (-Q)	BC857BW (-Q)	BC857BQC (-Q)	BC857BQB (-Q)	BC857BM (-Q)		
420	800	100	BC857C (-Q)	BC857CW (-Q)	BC857CQC (-Q)	BC857CQB (-Q)	BC857CM (-Q)		
60	100	120	260	150	BCW89				
65	100	125	475	100	BC856 (-Q)				
		125	250	100	BC856A (-Q)	BC856AW (-Q)	BC856AQC (-Q)	BC856AQB (-Q)	
		220	475	100	BC856B (-Q)	BC856BW	BC856BQC (-Q)	BC856BQB (-Q)	BC856BM (-Q)
100	100	30	-	100	BSS63 (-Q)				
50	150	120	270	100		2PA1576Q (-Q)			2PA1774QM (-Q)
		180	390	100		2PA1576R (-Q)			2PA1774RM (-Q)
		270	560	100		2PA1576S (-Q)			2PA1774SM (-Q)
	200	200	340	100	2PB709BRL (-Q)				
		290	460	100	2PB709BSL				
25	500	100	600	80	BCX18				
45	500	100	600	80	BC807 (-Q)	BC807W (-Q)			
		100	250	80	BC807-16 (-Q)	BC807-16W (-Q)	BC807-16QC (-Q)	BC807-16QB (-Q)	
		160	400	80	BC807-25 (-Q)	BC807-25W (-Q)	BC807-25QC (-Q)	BC807-25QB (-Q)	
		250	600	80	BC807-40 (-Q)	BC807-40W (-Q)	BC807-40QC (-Q)	BC807-40QB (-Q)	
		100	600	80	BCX17 (-Q)				
50	500	40	240	100 - 40	2PB710ARL (-Q)				
		40	240	100 - 40	2PB710ASL (-Q)				
		100	-	100 - 40		2PB1219AQ			
		120	-	100 - 40		2PB1219AR			
		140	-	100 - 40		2PB1219AS			
60	500	100	-	50		PMSTA55 (-Q)			
80	500	100	-	50	PMBTA06 (-Q)	PMSTA06 (-Q)			
80	500	100	250	80	BC806-16 (-Q)	BC806-16W (-Q)			
		160	400	80	BC806-25 (-Q)	BC806-25W (-Q)			
45	800	100	250	80	BCW68F				
			400	80	BCW68G				
		250	600	80	BCW68H				

## General purpose bipolar transistors







### High performance transistors (superior power dissipation)

							Automotive-qualified
							SOT23
Package							
Size (mm)							2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)							775
Polarity	V <sub>CEO</sub> (V)	V <sub>ebo</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)	
NPN	45	5	0.5	100	250	100	BC817K-16
				160	400	100	BC817K-25
				250	600	100	BC817K-40
PNP	45	5	0.5	100	250	80	BC807K-16
				160	400	80	BC807K-25
				250	600	80	BC807K-40

### Small signal transistors double

						Automotive-qualified			
						SOT457 (SC-74)	SOT363 (SC-88)	DFN1412-6 (SOT1268)	DFN1010B-6 (SOT1216)
Package									
Size (mm)						2.9 x 1.5 x 1.0	2.0 x 1.25 x 0.95	1.4 x 1.2 x 0.5	1.0 x 1.0 x 0.37
P <sub>tot</sub> (mW)						750	300	480	350
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)				
NPN	40	100	120	450	100		PUMX1 (-Q)		
	45	100	200	450	100	BC847DS (-Q)	BC847BS (-Q)	BC847RA	BC847QAS
	65	100	110	-	100		BC846S (-Q)		
			200	450	100	BC846DS (-Q)	BC846BS (-Q)		
	50	150	120	560	100		PUMX2 (-Q)		
45	500	160	400	80		BC817DS (-Q)		BC817RA	
PNP	40	100	120	450	100	PIMT1 (-Q)	PUMT1 (-Q)		
	45	100	200	450	100		BC857BS (-Q)	BC857RA	BC857QAS
	65	100	110	-	100			BC856S (-Q)	
			200	450	100		BC856DS (-Q)		
	45	500	160	400	80		BC807DS (-Q)		BC807RA
NPN / PNP	40	100	120	450	100		PUMZ1 (-Q)		
	45	100	200	450	100		BC847BPN (-Q)	BC847RAPN	BC847QAPN
	50	100	120	560	100	PIMZ2 (-Q)	PUMZ2 (-Q)		
	65	100	200	450	100		BC846BPN (-Q)		
	45	500	160	160	100 / 800		BC817DPN (-Q)		BC817RAPN




## Small signal switching transistors single

Package							SOT223 (SC-73)	SOT89 (SC-62)	SOT23	SOT323 (SC-70)	DFN1006-3 (SOT883)	DFN1010D-3 (SOT1215)	
													
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.5	1.1 x 1.0 x 0.37	
P <sub>tot</sub> (mW)							1700	1300	250	200	250	440	
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)	t <sub>off</sub> (ns)							
NPN	40	200	100	300	300	250			PMBS3904 (-Q)				
					180	1200			PMSS3904				
	15	200	40	120	500	20			PMBT2369 (-Q)	PMST2369 (-Q)			
									MMBT3904 (-Q)				
	40	200	100	300	300	250			PMBT3904 (-Q)	PMST3904 (-Q)	PMBT3904M (-Q)	PMBT3904QA	
									PMBT2222 (-Q)	PMST2222 (-Q)			
	40	600	100	300	250	250		PZT4401	PXT4401	PMBT4401 (-Q)	PMST4401 (-Q)		
									MMBT2222A (-Q)				
								PZT2222A	PXT2222A	PMBT2222A (-Q)	PMST2222A (-Q)		
												PMBT2222AM (-Q)	PMBT2222AQA
40	800	100	300	300	250			BSR14 (-Q)					
PNP	40	100	100	300	150	700			PMBS3906 (-Q)	PMSS3906			
									MMBT3906 (-Q)				
	40	200	100	300	250	300			PMBT3906 (-Q)	PMST3906 (-Q)	PMBT3906M (-Q)		
									PZT4403	PXT4403	PMBT4403 (-Q)	PMST4403 (-Q)	
	40	600	100	300	200	350	365		PMBT2907 (-Q)				
											PMST2907A (-Q)		
	60	600	100	300	200	365			BSR16 (-Q)				
								PZT2907A	PXT2907A	PMBT2907A (-Q)			
				210 <sup>1)</sup>						PMBT2907AM (-Q)	PMBT2907AQA		

<sup>1)</sup> f<sub>T</sub> Typ

## Small signal switching transistors double




Types in **bold** represent new products

Package							SOT363 (SC-88)	SOT457 (SC-74)	DFN1412-6 (SOT1268)
									
Size (mm)							2.0 x 1.25 x 0.95	2.9 x 1.5 x 1.0	1.4 x 1.2 x 0.5
P <sub>tot</sub> (mW)							300	750	480
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)	t <sub>off</sub> (ns)			
NPN	40	200	100	300	300	250	PMBT3904YS (-Q)	PMBT3904RA	
					250	250	PMBT4401YS (-Q)		
	40	600	100	300	300	250	PMBT2222AYS (-Q)		
PNP	40	200	100	300	250	300	PMBT3906YS (-Q)		
							40	600	100
	60	600	100	300	200	365	PMBT2907AYS (-Q)		
NPN / PNP	40	200	100	300	300 / 250	250 / 300	PMBT3946YPN (-Q)		
					40 / 60	600	100	300	300 / 200
	40 / 60	600	100	300	300 / 200	250 / 365	<b>PMBT2227AYS-Q</b>		

# General purpose bipolar transistors

## 175 °C capable products





Types in **bold** represent new products

									Automotive-qualified				
									SOT223 (SC-73)	SOT23		SOT363 (SC-88)	
													
Package									6.5 x 3.5 x 1.65	2.9 x 1.3 x 1.0		2.0 x 1.25 x 0.95	
Size (mm)									1700	415	950	675	300
P <sub>tot</sub> (mW)													
Polarity	V <sub>CEO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)	hFE1/hFE2	VBE1 - VBE2 (mV)					
NPN	45	6	0.1	200	450	100	0.9 <sup>1)</sup>	2					
				100	250	250							
		7	0.5	160	400	400							
				250	600	600	BC817K-16H (-Q)						
	65	6	0.1	110	-	-							
				200	450	100	0.9	2					
		7	1	63	250	100							
				100	250	100							
	80	7	0.5	100	250	100							
				160	400	100							
	PNP	45	5	0.1	200	450	100	0.9 <sup>1)</sup>	2				
					100	250	80						
7			0.5	160	400	80							
				250	600	80							
65		5	0.1	110	-	100							
				200	450	100	0.9	2					
		7	1	63	250	100							
				100	250	100							
80		7	0.5	100	250	80							
				160	400	80							
NPN/PNP		45	7	0.1	200	450	100						
					100	250	80						
	65		5	0.1	110	-	100						
					200	450	100	0.9	2				
	60	6	0.1	110	-	100							
				200	450	100							
		7	1	63	250	100							
				100	250	100							
	80	7	0.5	100	250	80							
				160	400	80							
	NPN/PNP	45	7	0.1	200	450	100						
		65	6										
50		5											
NPN/PNP	50	5	0.1	200	-	only R1 (4.7kΩ)							
				50	5								

<sup>1)</sup> IC1 / IE2


## Power transistors

Types in **bold** represent new products

							Automotive-qualified			
							SOT223 (SC-73)	SOT89 (SC-62)	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)
										
Package							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
Size (mm)							1700	1300	1300	1300
P <sub>tot</sub> (mW)										
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)					
NPN	20	2	85 - 160	375	40	BCP68 (-Q) / -25 (-Q)	BC868 (-Q) / -25 (-Q)	BC68PA (-Q) / BC68-25PA (-Q)	BC68PAS / BC68-25PAS	
	45	1	63 - 100	160 - 250	100	BCP54 (-Q) / -10 (-Q) / -16 (-Q)	BCX54 (-Q) / -10 (-Q) / -16 (-Q)	BC54PA (-Q) / BC54-10PA (-Q) / BC54-16PA (-Q)	BC54PAS (-Q) / BC54-10PAS / BC54-16PAS	
						BCP54T / -10T / -16T	BCX54T / -10T / -16T			
	60	1	63 - 100	160 - 250	100	BCP55 (-Q) / -10 (-Q) / -16 (-Q)	BCX55 (-Q) / -10 (-Q) / -16 (-Q)	BC55PA / BC55-10PA / BC55-16PA	BC55PAS (-Q) / BC55-10PAS / BC55-16PAS	
						BCP55T / -10T / -16T	BCX55T / -10T / -16T			
	80	1	63 - 100	160 - 250	100	BCP56 (-Q) / -10 (-Q)	BCX56 / -10 / -16	BC56PA (-Q) / BC56-10PA (-Q) / BC56-16PA (-Q)	BC56PAS (-Q) / BC56-10PAS (-Q) / BC56-16PAS (-Q)	
						BCP56T (-Q) / -10T (-Q) / -16T (-Q)	BCX56T / -10T / -16T		<b>BC56PAST (-Q) / BC56-16PAST (-Q)</b>	
	40 - 100	120 - 300	100			BSP41	BSR41 (-Q)			
				BSP43	BSR43 (-Q)					
PNP	20	2	85 - 160	250 - 375	40	BCP69 / -16 / -25 (-Q)	BC869 / -16 / -25	BC69PA / BC69-16PA / BC69-25PA	BC69PAS / BC69-16PAS / BC69-25PAS	
	45	1	63 - 100	160 - 250	115 <sup>1)</sup> - 145 <sup>1)</sup>	BCP51 / -10 / -16	BCX51 / -10 / -16	BC51PA (-Q) / BC51-10PA / BC51-16PA	BC51PAS / BC51-10PAS / BC51-16PAS	
						BCP51T / -10T / -16T	BCX51T / -10T / -16T			
	60	1	63 - 100	160 - 250	100	BCP52 / -10 / -16	BCX52 / -10 / -16	BC52PA / BC52-10PA / BC52-16PA	BC52PAS / BC52-10PAS / BC52-16PAS	
						BCP52T / -10T / -16T	BCX52T / -10T / -16T			
	40 - 100	120 - 300	100			BSP31	BSR30 (-Q) / 31 (-Q)			
						BSP32 / 33	BSR33 (-Q)			
	80	1	63 - 100	160 - 250	115 <sup>1)</sup> - 145 <sup>1)</sup>	BCP53 / -10 / -16	BCX53 / -10 / -16	BC53PA (-Q) / BC53-10PA (-Q) / BC53-16PA (-Q)	BC53PAS (-Q) / BC53-10PAS (-Q) / BC53-16PAS (-Q)	
BCP53T / -10T / -16T						BCX53T / -10T / -16T		<b>BC53PAST (-Q) / BC53-10PAST (-Q) / BC53-16PAST (-Q)</b>		
40 - 100	120 - 300	100			BSP32 / 33	BSR33 (-Q)				
					BSP32 / 33	BSR33 (-Q)				

<sup>1)</sup> Typical value

## General purpose power transistors

Package							DPAK (SOT428C)	
								
Size (mm)							6.1 x 6.6	
P <sub>tot</sub> (mW)							1750	
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min MHz	Polarity	Automotive-qualified		
45	4	85	375	3	NPN	Yes	MJD148(-Q)	
50	2	120	360	65	NPN	Yes	MJD2873(-Q)	
80	8	60	-	typ: 160	NPN	No	MJD44H11	
				typ: 80	PNP	No	MJD45H11	
				typ: 160	NPN	Yes	MJD44H11A	
				typ: 80	PNP	Yes	MJD45H11A	
100	3	25	-	3	NPN	No	MJD31C	
					PNP	No	MJD32C	
					NPN	Yes	MJD31CA	
					NPN	Yes	MJD31CH-Q*	
	6	30	-	-	-	PNP	Yes	MJD32CA
						NPN	Yes	MJD41C(-Q)
						PNP	Yes	MJD42C(-Q)

\* high gain version



## General purpose high voltage transistors

Package						Automotive-qualified				
						SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	SOT23	SOT323 (SC-70)
Size (mm)						6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
P <sub>tot</sub> (mW)						1700	1300	750	250	200
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)					
NPN	140	300	60	250	100				PMBT5550	PMST5550 (-Q)
	160	300	80	250	100				PMBT5551 (-Q) / BSR19A(-Q)	PMST5551 (-Q)
	250	100	50		60	BF722 (-Q)	BF622 (-Q)		BF822(-Q)	
			50	60	BF720 (-Q)	BF620 (-Q)	BF820(-Q)	BF820W (-Q)		
	300	100	40		50	PZTA42 (-Q)	PXTA42 (-Q)		PMBTA42 MMBTA42 (-Q)	PMSTA42 (-Q)
			40		70	BSP19 (-Q)	BST39 (-Q)			
400	300	50	200	20	PZTA44(-Q)			PMBTA44 (-Q)		
PNP	100	100	30		50				BSS63 (-Q)	
			50	60	BF723 (-Q)					
	250	100	50		60		BF623 (-Q)		BF823	
			50	60		BF621 (-Q)		BF821 (-Q)		
			40	50	PZTA92 (-Q)	PXTA92 (-Q)		PMBTA92(-Q)	PMSTA92 (-Q)	
2 x NPN	300	100	40		50			PMBTA42DS (-Q)		


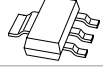

For high-voltage transistors with increased performance please refer to our high-voltage low V<sub>CEsat</sub> transistor portfolio on page 38.

## General purpose bipolar transistors


### PNP LED driver

			Automotive-qualified	
			SOT457	SOT23
Package				
Size (mm)			2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)			750	480
Maximum supply voltage V <sub>s</sub> max (V)		Typical stabilized output current I <sub>out</sub> typ (mA)	Maximum stabilized output current I <sub>out</sub> max (mA)	
18		10	-	
		20	-	
40		10	65	NCR401U
		20	65	NCR402U
		50	65	NCR405U
				NCR401T
				NCR402T




### NPN LED driver

				Automotive-qualified		
				SOT457 (SC-74)	SOT223 (SC-73)	DFN2020D-6 (SOT1118D)
Package						
Size (mm)				2.9 x 1.5 x 1.0	6.5 x 3.5 x 1.65	2 x 2 x 0.62
P <sub>tot</sub> (mW)				750	1250	530
Maximum supply voltage V <sub>s</sub> max (V)	Maximum Enable voltage VEN max (V)	Typical stabilized output current I <sub>out</sub> typ (mA)	Maximum stabilized output current I <sub>out</sub> max (mA)			
16	25	10	250	NCR320U		
	4.5			NCR321U		
40	40	10	150	NCR420U		
	4.5			NCR421U		
16	25	10	250		NCR320Z	
	4.5				NCR321Z	
40	40	10	150		NCR420Z	
	4.5				NCR421Z	
16	25	10	250			NCR320PAS
	4.5					NCR321PAS
40	40	10	150			NCR420PAS
	4.5					NCR421PAS


### Constant current source

Automotive-qualified					
Package	SOT353 (SC-88A)				
					
Size (mm)	2.0 x 1.25 x 0.95				
P <sub>tot</sub> (mW)	335				
Type	PSSI2021SAY				
Description	Maximum supply voltage	Maximum supply current	Typical stabilized output current	Minimum stabilized output current	Maximum stabilized output current
Parameter	V <sub>s</sub> max (V)	I <sub>s</sub> max (mA)	I <sub>out</sub> typ (μA)	I <sub>out</sub> min (mA)	I <sub>out</sub> max (mA)
Value	75	2.2	15	0.015	50



## Darlington transistors

					Automotive-qualified			
					SOT223 (SC-73)	SOT89 (SC-62)	SOT23	
Package								
Size (mm)					6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.3 x 1.0	
P <sub>tot</sub> (mW)					1700	1300	250	
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	f <sub>r</sub> min (MHz)				
NPN	30	500	10000	125			PMBTA13	
			20000		PZTA14 (-Q)	PXTA14	PMBTA14	
	45	1000	500	2000	200		BCV29	BCV27 (-Q)
				10000	220	BSP50 (-Q)	BST50 (-Q)	BCV49 (-Q)
	80	1000	2000	2000	200	BSP51 (-Q)	BST51	
				BSP52 (-Q)	BST52			
PNP	30	500	20000	125			PMBTA64	
			220			BCV28	BCV26	
	45	1000	500	2000	200	BSP60	BST60 (-Q)	
				10000	220		BCV48 (-Q)	BCV46 (-Q)
	80	1000	2000	2000	200	BSP61	BST61	
				BSP62 (-Q)	BST62			

## Schmitt-triggers









							Automotive-qualified
							SOT143B
Package							
Size (mm)							2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)							250
Polarity	V <sub>CEO</sub> (V) TR1	V <sub>CEO</sub> (V) TR2	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	V <sub>CEsat</sub> typ (mV)	
NPN	30	6	100	110	800	250	BCV63 / B
PNP	30	6	100	220	475	250	BCV64B

## Low noise transistors

							Automotive-qualified	
							SOT23	SOT323 (SC-70)
Package								
Size (mm)							2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
P <sub>tot</sub> (mW)							250	200
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Noise figure max (dB)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>r</sub> min (MHz)		
NPN	30	100	4	200	450	100	BC849B	BC849BW
				420	800	100	BC849C	BC849CW
	45	100	4	200	450	100	BC850B	BC850BW
				420	800	100	BC850C	BC850CW
PNP	30	100	4	220	475	100	BC859B	BC859BW
				420	800	100	BC859C	BC859CW
	45	100	4	220	475	100	BC860B	BC860BW
				420	800	100	BC860C	BC860CW

# General purpose bipolar transistors











## Matched pair transistors - part 1

							Automotive-qualified			
Package							SOT143B	SOT457 (SC-74)	LFPAK56D (SOT1205)	
Size (mm)							2.9 x 1.3 x 1.0	2.9 x 1.5 x 1.0	5 x 6 x 1.1	
P <sub>tot</sub> (mW)							250	750	1250	
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	h <sub>FE1</sub> /h <sub>FE2</sub>	V <sub>BE1</sub> - V <sub>BE2</sub> (mV)				
NPN	30	100	110	800	0.7 <sup>1)</sup>	n.a.	BCV61/A/B/C			
	45	100	200	450	0.9 <sup>1)</sup>	2	BCM61B			
								BCM847DS		
	80	1000	63	250	0.95	n.a.		BCM56DS		
100	3000	150	-	0.95	n.a.			PHPT610035NK		
Configuration										
PNP	30	100	100	800	0.7 <sup>1)</sup>	n.a.	BCV62/A/B/C			
	45	100	200	450	0.9 <sup>1)</sup>	2	BCM62B			
								BCM857DS		
	65	100	200	450	0.9	2		BCM856DS		
	80	1000	63	250	0.95	n.a.		BCM53DS		
100	3000	150	-	0.9	n.a.			PHPT610035PK		
Configuration										

<sup>1)</sup> I<sub>C1</sub> / I<sub>E2</sub>


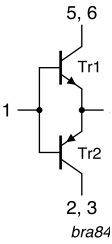

## Matched pair transistors - part 2

Types in **bold** represent new products



							Automotive-qualified				
Package							SOT353 (SC-88A)	SOT363 (SC-88)	SOT1216 (DFN1010B-6)		
Size (mm)							2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.37		
P <sub>tot</sub> (mW)							300	300	350		
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	h <sub>FE1</sub> /h <sub>FE2</sub>	V <sub>BE1</sub> - V <sub>BE2</sub> (mV)					
NPN	45	100	200	450	0.9 <sup>1)</sup>	2		BCM847BS			
					0.95	2	PMP4501G	PMP4501Y	BCM847QAS	PMP4501QAS	
					0.98	2	PMP4201G	PMP4201Y			
	65	100	200	450	0.9	2		BCM846BS			
Configuration											
	40	200	100	300	0.98	2		<b>PMP3906AYS-Q</b>			
PNP	45	100	200	450	0.9 <sup>1)</sup>	2		BCM857BS			
					0.95	2	PMP5501G	PMP5501Y	BCM857QAS	PMP5501QAS	
					0.98	2	PMP5201G	PMP5201Y			
	65	100	200	450	0.9	2		BCM856BS			
Configuration											

<sup>1)</sup> I<sub>C1</sub> / I<sub>E2</sub>

## MOSFET driver

$V_{CE0}$ (V)	$I_c$ (A)	$I_{cm}$ [A]	Automotive-qualified		Remark	Configuration
			Type	Package		
30	0.1	0.2	BCV65	 SOT143B	General-purpose transistors	
40	0.6	1	PMD2001D	 SOT457	Switching transistors with reduced storage time	
	1	2	PMD3001D		Low $V_{CEsat}$	

## Medium frequency transistors

						Automotive-qualified	
						SOT23	SOT323 (SC-70)
Package							
Size (mm)						2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
$P_{tot}$ (mW)						250	200
Polarity	$V_{CE0}$ (V)	$I_c$ (mA)	$h_{FE}$ min	$h_{FE}$ max	$f_T$ typ (MHz)		
NPN	15	100	40	-	500	BF570	
	20	25		85	>275		BFS20
		30	65	225	260		BFS19
	40	25	67	220	380	BF840	
PNP	30	25	25	50	250	BF824	BF824W
	40		50	-	>325	BF550	

Low  $V_{CEsat}$  transistors single NPN up to 2000 mW

Types in **bold** represent new products

Package							Automotive-qualified				
							SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	DFN2020D-3 (SOT1061D)	DFN2020-3 (SOT1061)
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
P <sub>tot</sub> (mW)							1700	1650	750	1300	1300
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A					
10	3	5	325 / -	0.5	2	25 (max value)				PBSS4310PAS-Q	
12	5.3	10.6	300 / 530	0.5	2	18		PBSS301NX (-Q)			
	5.8	11.6	300 / 530	0.5	2	18	PBSS301NZ				
20	3	5	220 / 390	0.5	2	40		PBSS4320X			
	4	15	300 / 450	0.5	2	30			PBSS301ND PBSS4420D (-Q)		
	5	10	300 / 450	0.5	2	35		PBSS4520X (-Q)			
	5.3	10.6	300 / 570	0.5	2	20		PBSS302NX (-Q)			
	5.8	10.2	300 / 570	0.5	2	20	PBSS302NZ (-Q)				
	6	7	280 / 440	0.5	2	20					PBSS4620PA
	7	15	300 / 550	0.5	2	12		PBSS4021NX			
	8	20	300 / 550	0.5	2	9	PBSS4021NZ (-Q)				
30	3	5	300 / 490	0.5	2	45		PBSS4330X			
	3	5	300 / 465	0.5	2	40				PBSS4330PAS (-Q) <sup>2)</sup>	PBSS4330PA
	3.5	6	300 / 500	0.5	2	70			PBSS4032ND <sup>3)</sup>		
	4.7	10	300 / 500	0.5	2	57		PBSS4032NX <sup>3)</sup>			
	5.1	10.2	300 / 480	0.5	2	20		PBSS303NX (-Q)			
	5.4	10	300 / 500	0.5	2	57	PBSS4032NZ <sup>3)</sup>				
	5.5	11	300 / 480	0.5	2	20	PBSS303NZ				
	6	7	280 / 450	0.5	2	21					PBSS4630PA
40	2	3	300 / -	0.5	5	140		PBSS4240X			
	4	15	300 / 520	0.5	2	35			PBSS302ND (-Q)		
		10	300 / 500	0.5	2	21		PBSS4540X (-Q)			
	5	10	300 / 500	0.5	2	25	PBSS4540Z				
50	2	5	300 / -	0.5	2	90 <sup>2)</sup>		PBSS4250X			
	3	5	200 / 280	0.5	2	65			PBSS4350D (-Q)		
			300 / 460	0.5	2	50		PBSS4350X		<b>PBSS4350PAS (-Q)</b>	
			200 / 280	0.5	2	60 <sup>1)</sup>	PBSS4350Z (-Q)				
60	1	2	170 / -	0.5	10	200 <sup>2)</sup>		PBSS4160X			
	3	6	200 / 360	0.5	5	45				PBSS4360PAS (-Q) <sup>2)</sup>	
			200 / -	0.5	5	45	PBSS4360Z	PBSS4360X			
			345 / 570	0.5	2	40			PBSS303ND		
	4.7	9.4	300 / 520	0.5	2	25		PBSS304NX (-Q)			
	5.2	10.4	300 / 520	0.5	2	25	PBSS304NZ				
	6	7	280 / 440	0.5	2	22					PBSS4560PA
	6.2	15	300 / 500	0.5	2	17		PBSS4041NX			
7	15	300 / 500	0.5	2	13	PBSS4041NZ (-Q)					
80	3	6	240 / 360	0.5	2	40			PBSS304ND		
	4	10	250 / 400	0.5	2	25		PBSS4480X (-Q)			
	4.6	9.2	300 / 470	0.5	2	25		PBSS305NX (-Q)			
	5.1	10.2	300 / 470	0.5	2	25	PBSS305NZ				
	5.6	7	270 / 425	0.5	2	25					PBSS4580PA
100	1	3	150 / 290	0.25	10	75			PBSS8110D		
			150 / 290	0.25	10	73		PBSS8110X			
			150 / 290	0.25	10	73	PBSS8110Z				
	3	4	170 / 275	0.5	2	45			PBSS305ND		
	4.5	9	200 / 330	0.5	2	27		PBSS306NX (-Q)			
	5.1	10.2	200 / 330	0.5	2	27	PBSS306NZ				
5.2	6	180 / 285	0.5	2	30					PBSS8510PA	

<sup>1)</sup> I<sub>C</sub> / I<sub>B</sub> = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching

<sup>2)</sup> 175°C capable

# Low $V_{CEsat}$ transistors single NPN up to 750 mW

Package							Automotive-qualified				
							SOT23	SOT323 (SC-70)	SOT363 (SC-88)	DFN1006B-3 (SOT883B)	DFN1010D-3 (SOT1215)
Size (mm)							2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37
P <sub>tot</sub> (mW)							480	350	430	250	750
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A					
15	0.5	1	200/325	0.01	2	-			PBSS2515MB		
20	1	3	350/470	0.1	2	110 <sup>2)</sup>	PBSS4120T				
	2	5	220/330	0.1	2	45	PBSS4320T				
	4.3	8	300/550	0.5	2	21	PBSS4021NT (-Q)				
30	1	1.5	230/380	0.5	2	90				PBSS4130QA	
		3	300/450	0.5	2	120 <sup>2)</sup>	PBSS4130T				
	2	3	300/450	0.5	2	70	PBSS4230T				
			230/380	0.5	2	75				PBSS4230QA	
2.6	5	300/500	0.5	2	80	PBSS4032NT <sup>3)</sup>					
40	0.5	1	200/550	0.01	2	200 <sup>2)</sup>			PBSS2540MB		
			300/440	0.5	5	130		PBSS4140U			
			300/510	0.5	5	120	PMMT491A				
	1	2	300/420	0.5	5	130	PBSS4140T (-Q)				
2			3	350/470	0.1	2	70		PBSS4240Y		
	300/450	0.5		2	70	PBSS4240T (-Q)					
50	2	5	300/495	0.5	2	60	PBSS4350T (-Q)				
60	1	1.5	150/240	0.5	2	90				PBSS4160QA (-Q)	
			200/420	0.5	5	120		PBSS4160U			
		200/350	0.5	5	110	PBSS4160T (-Q)					
	2	3	150/240	0.5	2	75				PBSS4260QA	
3.8	8	300/500	0.5	2	29	PBSS4041NT (-Q)					
100	1	3	150/400	0.25	10	80			PBSS8110Y		
			150/300	0.25	10	70	PBSS8110T (-Q)				

<sup>1)</sup> I<sub>C</sub>/I<sub>B</sub> = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching

Low  $V_{CEsat}$  transistors single PNP up to 2000 mW

Types in **bold** represent new products

Package							Automotive-qualified				
							SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	DFN2020D-3 (SOT1061D)	DFN2020-3 (SOT1061)
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
P <sub>tot</sub> (mW)							1700	1650	750	1300	1300
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A					
12	5.3	10.6	250 / 400	0.5	2	20		PBSS301PX (-Q)			
	5.7	11.4	250 / 400	0.5	2	20	PBSS301PZ				
20	3	5	200 / -	0.5	2	80 <sup>2)</sup>			PBSS5320D		
			220 / 450	0.5	2	50		PBSS5320X			
	4	15	250 / 400	0.5	2	35			PBSS301PD PBSS5420D		
			300 / 430	0.5	2	45		PBSS5520X (-Q)			
	5.1	10.2	250 / 370	0.5	2	25		PBSS302PX (-Q)			
	5.5	11	250 / 370	0.5	2	25	PBSS302PZ				
	6	7	230 / 345	0.5	2	25				PBSS5620PA	
	6.2	15	250 / 400	0.5	2	18		PBSS4021PX (-Q)			
6.6	20	250 / 400	0.5	2	16	PBSS4021PZ (-Q)					
30	2.7	5	200 / 350	0.5	2	87			PBSS4032PD <sup>3)</sup>		
			200 / 380	0.5	2	50		PBSS5330X			
	3	5	200 / 320	0.5	2	45				PBSS5330PAS <sup>2)</sup>	PBSS5330PA
			200 / 350	0.5	2	70		PBSS4032PX <sup>3)</sup>			
	4.2	10	200 / 350	0.5	2	70	PBSS4032PZ <sup>3)</sup>				
	5.1	10.2	250 / 400	0.5	2	25		PBSS303PX (-Q)			
	5.3	10.6	250 / 400	0.5	2	25	PBSS303PZ				
	6	7	200 / 335	0.5	2	25				PBSS5630PA	
40	2	3	215 / -	0.5	5	170		PBSS5240X			
			200 / 310	0.5	2	46			PBSS302PD		
	4	10	250 / 370	0.5	2	33		PBSS5540X (-Q)			
			250 / 350	0.5	2	40 <sup>1)</sup>	PBSS5540Z (-Q)				
50	2	5	200 / -	0.5	2	90 <sup>2)</sup>		PBSS5250X		<b>PBSS5250PAS (-Q)</b>	
			200 / 300	0.5	2	70			PBSS5350D (-Q)		
	3	5	200 / 375	0.5	2	70		PBSS5350X		<b>PBSS5350PAS (-Q)</b>	
			200 / 300	0.5	2	70	PBSS5350Z (-Q)				
60	3	6	130 / 220	0.5	5	55				PBSS5360PAS (-Q) <sup>2)</sup>	
			130 / -	0.5	5	55	PBSS5360Z (-Q)	PBSS5360X			
			180 / 265	0.5	2	55			PBSS303PD (-Q)		
	4.2	8.4	200 / 295	0.5	2	35		PBSS304PX (-Q)			
	4.5	9	200 / 295	0.5	2	35	PBSS304PZ				
	5	6	170 / 260	0.5	2	35				PBSS560PA	
	5	15	200 / 300	0.5	2	30		PBSS4041PX			
	5.7		200 / 300	0.5	2	22	PBSS4041PZ (-Q)				
80	3	5	155 / 225	0.5	2	55			PBSS304PD		
			180 / 265	0.5	2	40					PBSS580PA
	4	10	200 / 300	0.5	2	35		PBSS5480X (-Q)			
			200 / 280	0.5	2	36		PBSS305PX (-Q)			
4.5	9	200 / 280	0.5	2	36	PBSS305PZ					
100	1	3	150 / 350	0.5	5	100			PBSS9110D		
			150 / 350	0.5	5	90		PBSS9110X			
			150 / -	0.5	5	90	PBSS9110Z				
	2	3	175 / 275	0.5	2	65			PBSS305PD		
	2.7	4	180 / 295	0.5	2	45				PBSS9410PA	
	3.7	7.4	200 / 300	0.5	2	45		PBSS306PX (-Q)			
4.1	8.2	200 / 300	0.5	5	45	PBSS306PZ					





<sup>1)</sup> I<sub>C</sub> / I<sub>B</sub> = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching  
<sup>2)</sup> 175°C capable

# Low $V_{CEsat}$ transistors single PNP up to 750 mW

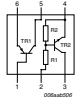
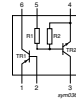
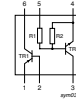
Package							Automotive-qualified				
							SOT23	SOT323 (SC-70)	SOT363 (SC-88)	DFN1006B-3 (SOT883B)	DFN1010D-3 (SOT1215)
Size (mm)							2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37
P <sub>tot</sub> (mW)							480	350	430	250	750
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A					
15	0.5	1	200/260	0.01	2	150				PBSS515MB	
20	1	2	300/450	0.1	2	125 <sup>2)</sup>	PBSS5120T				
		3	225/-	0.5	2	80 <sup>2)</sup>	PBSS5220T (-Q)				
	2	5	220/420	0.5	2	50	PBSS5320T (-Q)				
		3.5	8	250/400	0.5	2	35	PBSS4021PT (-Q)			
30	1	3	260/350	0.5	2	110	PBSS5130T				
	2	3	300/450	0.1	2	70	PBSS5230T (-Q)				
	2.4	5	200/320	0.5	2	95	PBSS4032PT <sup>3)</sup>				
40	0.5	1	200/380	0.01	2	220				PBSS3540MB	
			300/520	0.1	5	130		PBSS5140U			
			300/800	0.1	5	130	PMMT591A				
	1	2	300/510	0.1	5	130	PBSS5140T (-Q)				
			2	3	300/-	0.1	2	110 <sup>2)</sup>		PBSS5240Y	
					300/450	0.1	2	70	PBSS5240T (-Q)		
50	2	3	200/-	0.5	2	90 <sup>2)</sup>	PBSS5250T				
			PBSS5250TH (-Q)								
	3	3	200/-	0.5	2	90 <sup>2)</sup>	PBSS5350TH				
5		200/360	0.5	2	55	PBSS5350T (-Q)					
60	1	1.5	120/185	0.5	2	125				PBSS5160QA	
		2	150/250	0.5	5	135		PBSS5160U			
			150/250	0.5	5	120	PBSS5160T (-Q)				
	1.7	2.5	120/185	0.5	2	105				PBSS5260QA	
	2.7	8	200/300	0.5	2	49	PBSS4041PT (-Q)				
100	1	3	150/-	0.25	5	93			PBSS9110Y		
			150/350	0.5	5	95	PBSS9110T (-Q)				

<sup>1)</sup> IC / IB = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching

Low  $V_{CEsat}$  transistors double

Package										Automotive-qualified			
										SOT457 (SC-74)	DFN2020-6 (SOT1118)	DFN2020D-6 (SOT1118D)	SOT363 (SC-88)
Size (mm)													
P <sub>tot</sub> (mW)										2.9 x 1.5 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62	2.0 x 1.25 x 0.95
P <sub>tot</sub> (mW)										750	1300	1300	430
V <sub>CE0</sub> (V)	I <sub>C</sub> (A)	Polarity	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A	V <sub>CEsat</sub> max (mV)	@ I <sub>C</sub> (A)	@ I <sub>B</sub> (A)				
15	0.5	NPN/PNP	200	0.1	2	-	250	0.5	0.05				PBSS2515YPN (-Q)
20	2	NPN/NPN	230	0.5	2	60	90	0.5	0.05			PBSS4220PANS	
	2	PNP/PNP	210	0.5	2	70	110	0.5	0.05			PBSS5220PAPS (-Q)	
30	1	NPN/NPN	210	0.5	2	75	100	0.5	0.05		PBSS4130PAN		
		PNP/PNP	170	0.5	2	85	140	0.5	0.05		PBSS5130PAP (-Q)		
		NPN/PNP	210/170	0.5	2	75/85	100/140	0.5	0.05		PBSS4130PANP		
	2	NPN/NPN	230	0.5	2	60	80	0.5	0.05		PBSS4230PAN		
		PNP/PNP	210	0.5	2	75	110	0.5	0.05		PBSS5230PAP		
		NPN/PNP	230/210	0.5	2	60/75	80/100	0.5	0.05		PBSS4230PANP		
40	1	NPN/PNP	300/250	0.5	5	130/150	500	1	0.1	PBSS4140DPN (-Q)			
	2	NPN/PNP	300/250	0.5	5	80/100	400/530	2	0.2	PBSS4240DPN			
55	2	PNP/PNP	140/200	0.5	2	80/120	300/450	2	0.2			PBSS5255PAPS (-Q)	
60	1	2 x NPN	200	0.5	5	115	250	1	0.1	PBSS4160DS (-Q)			
		2 x PNP	150	0.5	5	120	330	1	0.1	PBSS5160DS (-Q)			
		NPN/PNP	200/150	0.5	5	115/120	250/330	1	0.1	PBSS4160DPN			
	1	NPN/NPN	150	0.5	2	90	120	0.5	0.05		PBSS4160PAN	PBSS4160PANS	
		PNP/PNP	120	0.5	2	125	180	0.5	0.05		PBSS5160PAP	PBSS5160PAPS	
		NPN/PNP	150/120	0.5	2	90/125	120/180	0.5	0.05		PBSS4160PANP (-Q)	PBSS4160PANPS	
	2	NPN/NPN	210	0.5	2	70	90	0.5	0.05		PBSS4260PAN	PBSS4260PANS (-Q)	
		PNP/PNP	140	0.5	2	100	140	0.5	0.05		PBSS5260PAP	PBSS5260PAPS	
		NPN/PNP	210/140	0.5	2	70/100	90/140	0.5	0.05		PBSS4260PANP	PBSS4260PANPS	
120	1	NPN/NPN	240	0.1	2	90	120	0.5	0.05		PBSS4112PAN		
		PNP/PNP	190	0.1	2	150	220	0.5	0.05		PBSS5112PAP		
		NPN/PNP	240/190	0.1	2	90/150	120/220	0.5	0.05		PBSS4112PANP		

# Low $V_{CEsat}$ transistors load switches

Package				Automotive-qualified		
				SOT457 (SC-74)	SOT363 (SC-88)	
Size (mm)				2.9 x 1.5 x 1.0		2.0 x 1.25 x 0.95
P <sub>tot</sub> (mW)				750 <sup>1)</sup>	600 <sup>1)</sup>	300 <sup>2)</sup>
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	V <sub>CEsat</sub> max (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A	R1, R2 (kΩ)			
15	0.5	250	2.2			PBLS1501Y
			4.7			PBLS1502Y
			10			PBLS1503Y
			22			PBLS1504Y (-Q)
20	1	150	2.2		PBLS2001D	
			4.7		PBLS2002D	
			10		PBLS2003D	
			22		PBLS2004D	
	1.8	70	2.2	PBLS2021D		
			4.7	PBLS2022D		
			10	PBLS2023D		
			22	PBLS2024D		
40	0.5	350	2.2			PBLS4001Y
			4.7			PBLS4002Y (-Q)
			10			PBLS4003Y (-Q)
			22			PBLS4004Y
			47			PBLS4005Y (-Q)
	1	170	2.2		PBLS4001D	
			4.7		PBLS4002D	
			10		PBLS4003D	
			22		PBLS4004D	
			47		PBLS4005D	
60	1	180	2.2		PBLS6001D	
			4.7		PBLS6002D (-Q)	
			10		PBLS6003D (-Q)	
			22		PBLS6004D	
	1.5	100	2.2	PBLS6021D		
			4.7	PBLS6022D		
			10	PBLS6023D		
			22	PBLS6024D (-Q)		

<sup>1)</sup> Device mounted on a ceramic PCB, Al<sub>2</sub>O<sub>3</sub>, standard footprint  
<sup>2)</sup> Device mounted on an FR4 PCB, single-sided copper, tin-plated, and standard footprint


## Low $V_{CEsat}$ high voltage transistors

Package					Automotive-qualified			
					SOT223 (SC-73)	SOT89 (SC-62)	DFN1010D-3 (SOT1215)	SOT23
Size (mm)					6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	1.1 x 1.0 x 0.37	2.9 x 1.3 x 1.0
$P_{tot}$ (mW)					1700	1300	750	250
Polarity	$V_{CE0}$ [max] (V)	$I_c$ (A)	$h_{FE}$ [min]	$h_{FE}$ [max]				
NPN	150	0.5	100				PBHV8515QA	
		1	70	300				PBHV8115TLH (-Q)
			100				PBHV8115T (-Q)	
		2	100			PBHV8115X (-Q)		
						PBHV8115Z (-Q)		
		180	1	100		PBHV8215Z (-Q)		
	400	0.5	100		PBHV8540Z (-Q)	PBHV8540X (-Q)		PBHV8118T (-Q)
		1	100		PBHV8140Z (-Q)			PBHV8540T (-Q)
	500	0.15	50			PBHV8550X		
	600	0.1	70			PBHV2160Z (-Q)		
		0.5	70			PBHV8560Z (-Q)		
	140	4	100			PBHV9414Z (-Q)		
PNP	150	0.5	100				PBHV9515QA	
		1	70	300				PBHV9115TLH (-Q)
			100				PBHV9115T (-Q)	
		2	100			PBHV9115X (-Q)		
						PBHV9115Z (-Q)		
		400	0.25	100			PBHV9215Z (-Q)	
	500	0.5	100			PBHV9040Z (-Q)		
		140	450			PBHV9540Z (-Q)		
	500	0.15	100			PBHV9540X (-Q)		
	600	0.1	70			PBHV9050Z (-Q)		
		0.5	70			PBHV3160Z (-Q)		
						PBHV9560Z (-Q)		


## Low $V_{CEsat}$ transistors PNP - N-channel MOSFET combination

Package												Automotive-qualified
												DFN2020-6 (SOT1118)
Size (mm)												2.0 x 2.0 x 0.62
$P_{tot}$ (mW)												1300
$V_{CE0}$ (V)	$I_c$ (A)	$h_{FE}$ min	$h_{FE}$ max	@ $I_c$ (mA)	@ $V_{CE}$ (V)	$R_{CEsat}$ typ (m $\Omega$ )	$V_{DS}$ (V)	$V_{GS}$ (V)	$I_D$ (A)	$R_{Dson}$ typ (m $\Omega$ )		
40	2	300	800	100	5	240	30	0.7	0.66	390	PBSM5240PF	
		100	-	100	5	240	30	0.7	0.66	390	PBSM5240PFH	

## Low $V_{CEsat}$ power transistors single (175 °C capable)

Package								LFPAK56 (SOT669)
								
Size (mm)								5 x 6 x 1.1
$P_{tot}$ (mW)								1250
$V_{CEO}$ (V)	$I_C$ (A)	$I_{CM}$ [max] (A)	$h_{FE}$ min/typ	@ $I_C$ (A)	@ $V_{CE}$ (V)	Polarity	Automotive-qualified	
40	6	14	230 / 350	0.5	2	NPN	Yes	PHPT60406NY
		12	210 / 300	0.5	2	PNP	Yes	PHPT60406PY
	10	20	230 / 370	0.5	2	NPN	Yes	PHPT60410NY
			240 / 350	0.5	2	PNP	Yes	PHPT60410PY
	15	30	250 / 410	0.5	2	NPN	Yes	PHPT60415NY
			200 / 340	0.5	2	PNP	Yes	PHPT60415PY
60	3	8	200 / 400	0.5	2	NPN	Yes	PHPT60603NY
			250 / 250	0.5	2	PNP	Yes	PHPT60603PY
	6	14	240 / 390	0.5	2	NPN	Yes	PHPT60606NY
			120 / 200	0.5	2	PNP	Yes	PHPT60606PY
	10	20	240 / 410	0.5	2	NPN	Yes	PHPT60610NY
			120 / 215	0.5	2	PNP	Yes	PHPT60610PY
100	2	6	150 / 250	0.5	10	NPN	No	PHPT61002NYC
			150 / 220	0.5	10	PNP	No	PHPT61002PYC
			120 / 220	0.5	10	NPN	No	PHPT61002NYCLH
			100 / 180	0.5	10	PNP	No	PHPT61002PYCLH
	3	8	150 / 250	0.5	10	NPN	Yes	PHPT61003NY
			150 / 220	0.5	10	PNP	Yes	PHPT61003PY
	6	12	140 / 260	0.5	2	NPN	Yes	PHPT61006NY
			170 / 305	0.5	2	PNP	Yes	PHPT61006PY
	10	20	150 / 275	0.5	2	NPN	Yes	PHPT61010NY
			180 / 330	0.5	2	PNP	Yes	PHPT61010PY

## Low $V_{CEsat}$ power transistors double (175 °C capable)

Package												Automotive-qualified
												LFPAK56D (SOT1205)
												
Size (mm)												5 x 6 x 1.1
$P_{tot}$ (mW)												1250
$V_{CEO}$ (V)	$I_C$ (A)	$I_{CM}$ (A)	$h_{FE}$ typ	@ $I_C$ (A)	@ $V_{CE}$ (V)	$V_{CEsat}$ typ (mV); $I_C = 0.5$ A; $I_B = 0.05$ A	$V_{CEsat}$ max (mV)	@ $I_C$ (A)	@ $I_B$ (A)	Polarity	$h_{FE1}/h_{FE2}$	
100	3	6	150	0.5	10	50	300	3	0.2	2XNPN	-	PHPT610030NK (-Q)
			220			70	400	3	0.2	2XPNP	-	PHPT610030PK (-Q)
			250			50 / 70	300 / 400	3	0.2	NPN/PNP	-	PHPT610030NPK
			250			50	300	3	0.2	2XNPN	0.95	PHPT610035NK
			220				400	3	0.2	2XPNP	0.9	PHPT610035PK

# Resistor equipped transistors (RETs)






## 50 V/100 mA single NPN RETs

Types in **bold** represent new products

Package					Automotive-qualified					
					SOT23	SOT323 (SC-70)	DFN1412D-3 (SOT8009)	DFN1110D-3 (SOT8015)	DFN1006-3 (SOT883)	
					Leaded SMD		DFN			
Size (mm)					2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.4 x 1.2 x 0.47	1.1 x 1.0 x 0.47	1.0 x 0.6 x 0.5	
P <sub>tot</sub> (mW)					250	200	360	340	250	
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN					
50	100	R1 = R2	2.2	2.2	PDTC123ET (-Q)	PDTC123EU (-Q)			PDTC123EM	
			4.7	4.7	PDTC143ET (-Q)	PDTC143EU (-Q)	PDTC143EQC (-Q)	PDTC143EQB (-Q)	PDTC143EM	
			10	10	PDTC114ET (-Q)	PDTC114EU (-Q)	PDTC114EQC (-Q)	PDTC114EQB (-Q)	PDTC114EM (-Q)	
			22	22	PDTC124ET (-Q)	PDTC124EU (-Q)	PDTC124EQC (-Q)	PDTC124EQB (-Q)	PDTC124EM	
			47	47	PDTC144ET (-Q)	PDTC144EU (-Q)	PDTC144EQC (-Q)	PDTC144EQB (-Q)	PDTC144EM (-Q)	
			100	100	PDTC115ET (-Q)	PDTC115EU (-Q)			PDTC115EM (-Q)	
		R1 ≠ R2	2.2	10	PDTC123YT (-Q)	PDTC123YU (-Q)			<b>PDTC123YQB(-Q)</b>	PDTC123YM
			2.2	47	PDTC123JT (-Q)	PDTC123JU (-Q)	PDTC123JQC (-Q)	PDTC123JQB (-Q)	PDTC123JM	
			4.7	10	PDTC143XT (-Q)	PDTC143XU (-Q)	PDTC143XQC (-Q)	PDTC143XQB (-Q)	PDTC143XM	
			4.7	47	PDTC143ZT (-Q)	PDTC143ZU (-Q)	PDTC143ZQC (-Q)	PDTC143ZQB (-Q)	PDTC143ZM (-Q)	
			10	47	PDTC114YT (-Q)	PDTC114YU (-Q)	PDTC114YQC (-Q)	PDTC114YQB (-Q)	PDTC114YM (-Q)	
			22	47	PDTC124XT (-Q)	PDTC124XU (-Q)	PDTC124XQC (-Q)	PDTC124XQB (-Q)	PDTC124XM	
			47	10	PDTC144VT (-Q)	PDTC144VU (-Q)			PDTC144VM	
			47	22	PDTC144WT (-Q)	PDTC144WU (-Q)			PDTC144WM	
		Only R1	2.2	-	PDTC123TT (-Q)	PDTC123TU			PDTC123TM	
			4.7	-	PDTC143TT (-Q)	PDTC143TU (-Q)			PDTC143TM (-Q)	
			10	-	PDTC114TT (-Q)	PDTC114TU (-Q)			PDTC114TM	
			22	-	PDTC124TT	PDTC124TU			PDTC124TM	
			47	-	PDTC144TT	PDTC144TU (-Q)			PDTC144TM	
			100	-	PDTC115TT	PDTC115TU			PDTC115TM	

50 V/100 mA single PNP RETs

Types in **bold** represent new products

Package					Automotive-qualified						
					SOT23	SOT323 (SC-70)	DFN1412D-3 (SOT8009)	DFN1110D-3 (SOT8015)	DFN1006-3 (SOT883)		
					Leaded SMD		DFN				
											
Size (mm)					2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.4 x 1.2 x 0.47	1.1 x 1.0 x 0.47	1.0 x 0.6 x 0.5		
P <sub>tot</sub> (mW)					250	200	360	340	250		
V <sub>CE0</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	PNP						
50	100	R1 = R2	1	1	PDTA113ET	PDTA113EU				PDTA113EM	
			2.2	2.2	PDTA123ET (-Q)	PDTA123EU (-Q)				PDTA123EM	
			4.7	4.7	PDTA143ET (-Q)	PDTA143EU (-Q)	PDTA143EQC (-Q)	PDTA143EQB (-Q)		PDTA143EM	
			10	10	PDTA114ET (-Q)	PDTA114EU (-Q)	PDTA114EQC (-Q)	PDTA114EQB (-Q)		PDTA114EM	
			22	22	PDTA124ET (-Q)	PDTA124EU (-Q)	PDTA124EQC (-Q)	PDTA124EQB (-Q)		PDTA124EM	
			47	47	PDTA144ET (-Q)	PDTA144EU (-Q)	PDTA144EQC (-Q)	PDTA144EQB (-Q)		PDTA144EM	
			100	100	PDTA115ET (-Q)	PDTA115EU (-Q)				PDTA115EM	
		R1 ≠ R2	1	10	PDTA113ZT (-Q)	PDTA113ZU (-Q)					PDTA113ZM
			2.2	10	PDTA123YT (-Q)	PDTA123YU (-Q)			<b>PDTA123YQB(-Q)</b>		PDTA123YM
			2.2	47	PDTA123JT (-Q)	PDTA123JU (-Q)	PDTA123JQC (-Q)	PDTA123JQB (-Q)			PDTA123JM
			4.7	10	PDTA143XT (-Q)	PDTA143XU	PDTA143XQC (-Q)	PDTA143XQB (-Q)			PDTA143XM
			4.7	47	PDTA143ZT (-Q)	PDTA143ZU (-Q)	PDTA143ZQC (-Q)	PDTA143ZQB (-Q)			PDTA143ZM
			10	47	PDTA114YT (-Q)	PDTA114YU (-Q)	PDTA114YQC (-Q)	PDTA114YQB (-Q)			PDTA114YM
			22	47	PDTA124XT (-Q)	PDTA124XU (-Q)		PDTA124XQC (-Q)			PDTA124XM
			47	10	PDTA144VT (-Q)	PDTA144VU					PDTA144VM
		47	22	PDTA144WT (-Q)	PDTA144WU (-Q)					PDTA144WM	
		Only R1	2.2	-	PDTA123TT	PDTA123TU					PDTA123TM
			4.7	-	PDTA143TT	PDTA143TU (-Q)					PDTA143TM
			10	-	PDTA114TT	PDTA114TU (-Q)					PDTA114TM
			22	-	PDTA124TT	PDTA124TU					PDTA124TM
			47	-	PDTA144TT	PDTA144TU					PDTA144TM
			100	-	PDTA115TT	PDTA115TU					PDTA115TM

## Resistor equipped transistors (RETs)

### 50 V/100 mA double RETs

Package					Automotive-qualified										
					DFN1010B-6 (SOT1216)			DFN1412-6 (SOT1268)			SOT363 (SC-88)				
Size (mm)					1.1 x 1.0 x 0.37			1.4 x 1.2 x 0.5			2.0 x 1.25 x 0.95				
P <sub>tot</sub> (mW)					350			480			300				
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN / NPN	NPN / PNP	PNP / PNP	NPN / NPN	NPN / PNP	PNP / PNP	NPN / NPN	NPN / PNP	PNP / PNP		
50	100	R1 = R2	2.2	2.2								PUMH20 (-Q)	PUMD20 (-Q)	PUMB20	
			4.7	4.7									PUMH15 (-Q)	PUMD15 (-Q)	PUMB15
			10	10	PQMH11	PQMD3	PQMB11	PRMH11	PRMD3	PRMB11	PUMH11 (-Q)	PUMD3 (-Q)	PUMB11 (-Q)		
			22	22		PQMD2			PRMD2		PUMH1 (-Q)	PUMD2 (-Q)	PUMB1 (-Q)		
			47	47	PQMH2	PQMD12		PRMH2	PRMD12		PUMH2 (-Q)	PUMD12 (-Q)	PUMB2 (-Q)		
			100	100							PUMH24 (-Q)	PUMD24 (-Q)	PUMB24		
		R1 ≠ R2	2.2	47	PQMH10	PQMD10		PRMH10	PRMD10		PUMH10 (-Q)	PUMD10 (-Q)	PUMB10		
			4.7	10							PUMH18 (-Q)	PUMD18 (-Q)	PUMB18		
			4.7	47	PQMH13	PQMD13		PRMH13	PRMD13		PUMH13 (-Q)	PUMD13 (-Q)	PUMB13 (-Q)		
			10	47	PQMH9			PRMH9			PUMH9 (-Q)	PUMD9 (-Q)	PUMB9 (-Q)		
			22	47		PQMD16			PRMD16		PUMH16 (-Q)	PUMD16 (-Q)	PUMB16		
			47	22							PUMH17	PUMD17 (-Q)	PUMB17 (-Q)		
		Only R1	47 / 2.2	47 / 47									PUMD48 (-Q)		
			2.2	-									PUMH30 (-Q)	PUMD30	PUMB30
			4.7	-									PUMH7 (-Q)	PUMD6 (-Q)	PUMB3 (-Q)
			10	-									PUMH4 (-Q)	PUMD4 (-Q)	PUMB4 (-Q)
			22	-									PUMH19	PUMD19	PUMB19 (-Q)
		47	-									PUMH14 (-Q)	PUMD14	PUMB14	

### 80 V/100 mA single/double RETs

Package					Automotive-qualified							
					SOT23		SOT323 (SC-70)		SOT363 (SC-88)			
Size (mm)					2.9 x 1.3 x 1.0		2.0 x 1.25 x 0.95		2.0 x 1.25 x 0.95			
P <sub>tot</sub> (mW)					250		200		300			
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN	PNP	NPN	PNP	NPN / NPN	NPN / PNP	PNP / PNP	
80	100	R1 = R2	10	10	NHDTC114ET (-Q)	NHDTA114ET (-Q)	NHDTC114EU (-Q)	NHDTA114EU (-Q)	NHUMH11 (-Q)	NHUMD3 (-Q)	NHUMB11 (-Q)	
			22	22	NHDTC124ET (-Q)	NHDTA124ET (-Q)	NHDTC124EU (-Q)	NHDTA124EU (-Q)	NHUMH1 (-Q)	NHUMD2 (-Q)	NHUMB1 (-Q)	
			47	47	NHDTC144ET (-Q)	NHDTA144ET (-Q)	NHDTC144EU (-Q)	NHDTA144EU (-Q)	NHUMH2 (-Q)	NHUMD12 (-Q)	NHUMB2 (-Q)	
		R1 ≠ R2	2.2	47	NHDTC123JT (-Q)	NHDTA123JT (-Q)	NHDTC123JU (-Q)	NHDTA123JU (-Q)	NHUMH10 (-Q)	NHUMD10 (-Q)	NHUMB10 (-Q)	
			4.7	47	NHDTC143ZT (-Q)	NHDTA143ZT (-Q)	NHDTC143ZU (-Q)	NHDTA143ZU (-Q)	NHUMH13 (-Q)	NHUMD13 (-Q)	NHUMB13 (-Q)	
			10	47	NHDTC114YT (-Q)	NHDTA114YT (-Q)	NHDTC114YU (-Q)	NHDTA114YU (-Q)	NHUMH9 (-Q)	NHUMD9 (-Q)	NHUMB9 (-Q)	

### 50 V/500 mA single RETs

Package					Automotive-qualified						
					SOT23		SOT323 (SC-70)		DFN1010D-3 (SOT1215)		
Size (mm)					2.9 x 1.3 x 1.0		2.0 x 1.25 x 0.95		1.1 x 1.0 x 0.37		
P <sub>tot</sub> (mW)					250		200		750		
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN	PNP	NPN	PNP	NPN	PNP	
50	500	R1 = R2	1	1	PDTD113ET (-Q)	PDTB113ET (-Q)	PDTD113EU (-Q)	PDTB113EU (-Q)	PDTD113EQA	PDTB113EQA	
			2.2	2.2	PDTD123ET (-Q)	PDTB123ET (-Q)	PDTD123EU (-Q)	PDTB123EU (-Q)	PDTD123EQA	PDTB123EQA	
			4.7	4.7	PDTD143ET (-Q)	PDTB143ET (-Q)	PDTD143EU (-Q)	PDTB143EU (-Q)	PDTD143EQA	PDTB143EQA	
			10	10	PDTD114ET (-Q)	PDTB114ET (-Q)	PDTD114EU (-Q)	PDTB114EU (-Q)	PDTD114EQA	PDTB114EQA	
		R1 ≠ R2	1	10	PDTD113ZT (-Q)	PDTB113ZT (-Q)	PDTD113ZU (-Q)	PDTB113ZU (-Q)	PDTD113ZQA	PDTB113ZQA	
			2.2	10	PDTD123YT (-Q)	PDTB123YT (-Q)	PDTD123YU (-Q)	PDTB123YU (-Q)	PDTD123YQA	PDTB123YQA	
			4.7	10	PDTD143XT (-Q)	PDTB143XT (-Q)	PDTD143XU (-Q)	PDTB143XU (-Q)	PDTD143XQA	PDTB143XQA	
		Only R1		2.2	-	PDTD123TT (-Q)	PDTB123TT (-Q)				

### 50 V/500 mA double RETs

Types in **bold** represent new products


Package					Automotive-qualified								
					SOT457 (SC-74)			DFN2020D-6 (SOT1118D)			DFN2020-6 (SOT1118)		
Size (mm)					2.9 x 1.5 x 1.0			2.0 x 2.0 x 0.62			2.0 x 2.0 x 0.62		
P <sub>tot</sub> (mW)					750			500			500		
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN/NPN	NPN / PNP	PNP / PNP	NPN / NPN	NPN / PNP	PNP / PNP	NPN / NPN	NPN / PNP	PNP / PNP
50	500	R1 ≠ R2	1	10	PIMN31	PIMC31	PIMP31 (-Q)	<b>PIMN31PAS-Q</b>	<b>PIMC31PAS-Q</b>	<b>PIMP31PAS-Q</b>	PIMN31PA	PIMC31PA	PIMP31PA
			2.2	10	PIMN32 (-Q)	PIMC32 (-Q)	PIMP32 (-Q)	<b>PIMN32PAS-Q</b>	<b>PIMC32PAS-Q</b>	<b>PIMP32PAS-Q</b>	PIMN32PA	PIMC32PA	PIMP32PA

### 40V/600 mA Performance-based single RETs

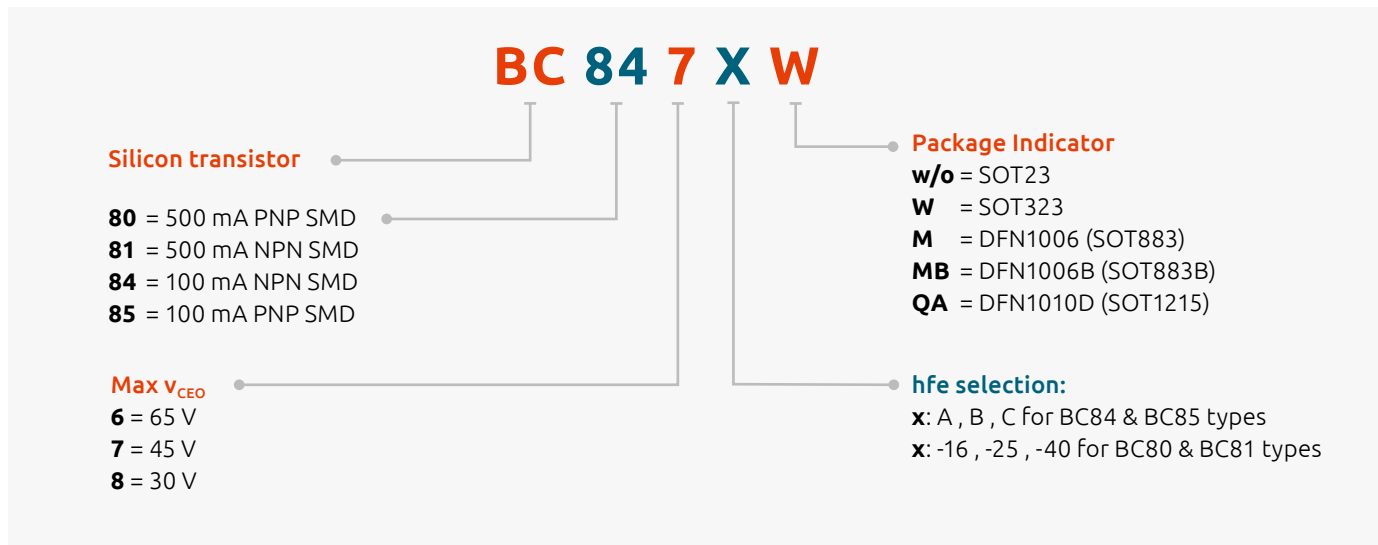
Package					Automotive-qualified	
					SOT23	
Size (mm)					2.9 x 1.3 x 1.0	
P <sub>tot</sub> (mW)					250	
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN	PNP
40	600	R1 = R2	1	1	PBRN113ET (-Q)	PBRP113ET (-Q)
			2.2	2.2	PBRN123ET (-Q)	PBRP123ET (-Q)
		R1 ≠ R2	1	10	PBRN113ZT (-Q)	PBRP113ZT (-Q)
			2.2	10	PBRN123YT (-Q)	PBRP123YT (-Q)

## 3-terminal adjustable shunt regulators

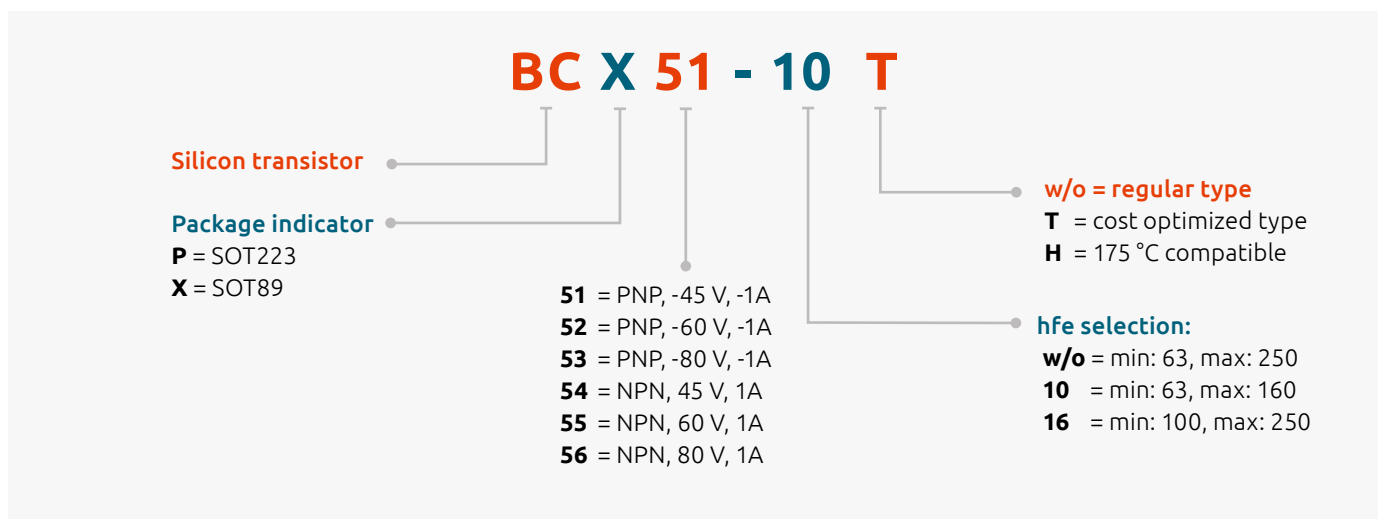
### 3-terminal adjustable shunt regulators

Automotive-qualified									
Type name	Pinning configuration	T <sub>amb</sub> (C°)	Vref		Package	Size(mm)	Ptot(mW)	VKA(V)	IK(mA)
TLVH431NCDBZR (-Q)	Normal pinning	0 to 70	1.5%	1.24	 SOT23	2.9 x 1.3 x 1.0	480	20	80
TLVH431NIDBZR (-Q)	Normal pinning	-40 to 85							
TLVH431NQDBZR (-Q)	Normal pinning	-40 to 125							
TLVH431NMQDBZR (-Q)	MIRrored pinning								
TLVH431NACDBZR (-Q)	Normal pinning	0 to 70	1%						
TLVH431NAIDBZR (-Q)	Normal pinning	-40 to 85							
TLVH431NAQDBZR (-Q)	Normal pinning	-40 to 125							
TLVH431NAMQDBZR (-Q)	MIRrored pinning								
TL431CDBZR (-Q)	Normal pinning	0 to 70	2%	2.495	 SOT23	2.9 x 1.3 x 1.0	580	36	100
TL431IDBZR (-Q)	Normal pinning	-40 to 85							
TL431QDBZR (-Q)	Normal pinning	-40 to 125							
TL431FDT (-Q)	Normal pinning								
TL431MFD (-Q)	MIRrored pinning								
TL431ACDBZR (-Q)	Normal pinning	0 to 70	1%						
TL431AIDBZR (-Q)	Normal pinning	-40 to 85							
TL431AQDBZR (-Q)	Normal pinning	-40 to 125							
TL431AFDT (-Q)	Normal pinning								
TL431AMFD (-Q)	MIRrored pinning								
TL431BCDBZR (-Q)	Normal pinning	0 to 70	0.5%						
TL431BIDBZR (-Q)	Normal pinning	-40 to 85							
TL431BQDBZR (-Q)	Normal pinning	-40 to 125							
TL431BFDT (-Q)	Normal pinning								
TL431BMFD (-Q)	MIRrored pinning								

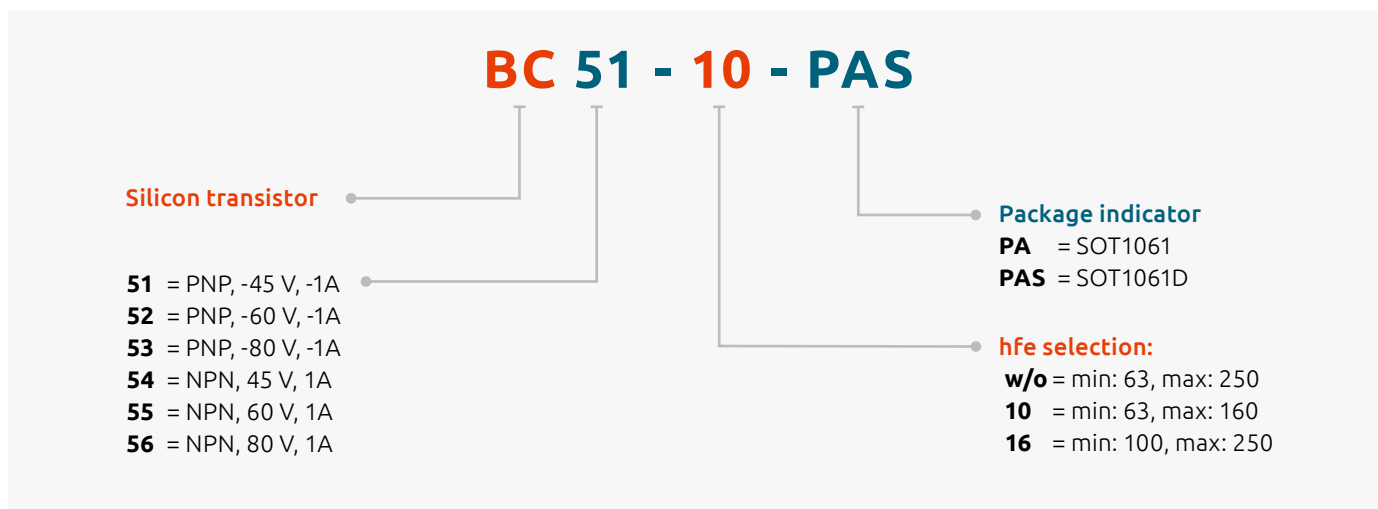
### General purpose bipolar transistors



### General purpose power transistors

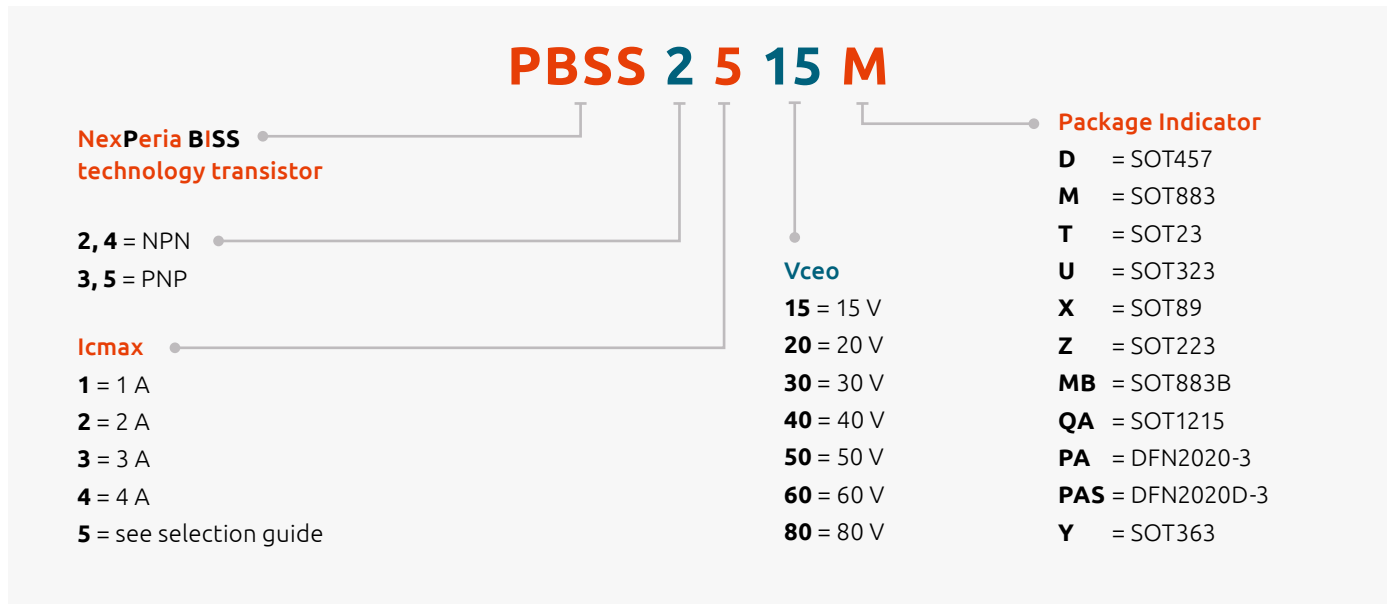


### General purpose power transistors

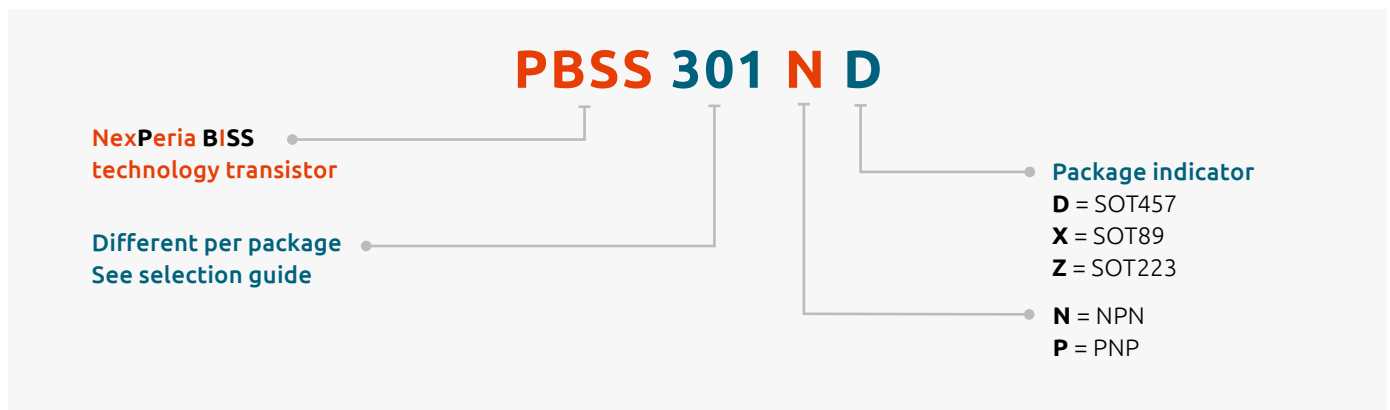


## Nomenclatures

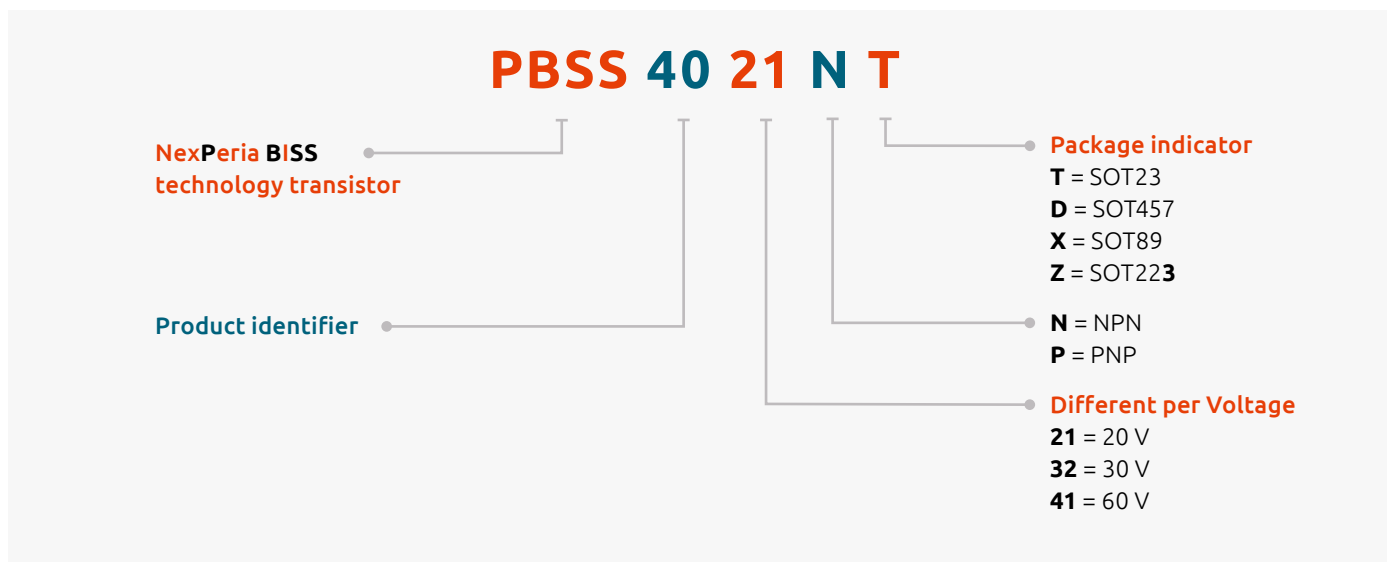
### Low $V_{CEsat}$ transistors



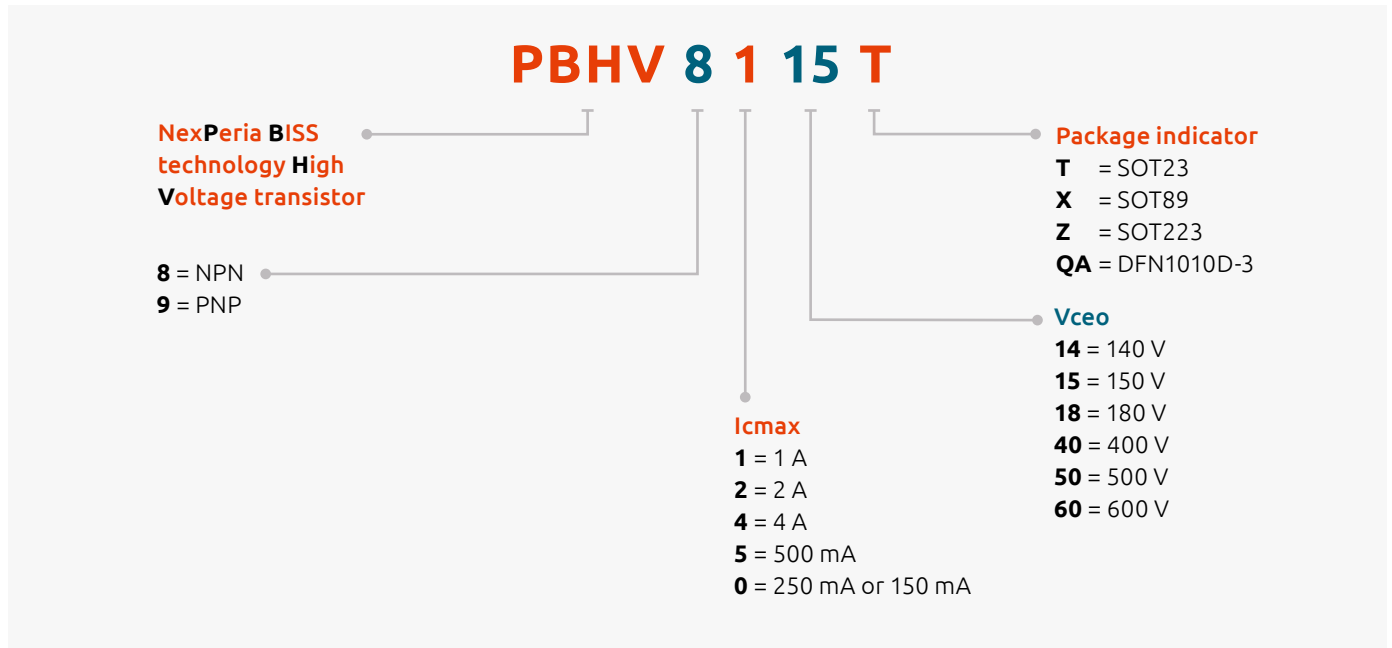
### 3rd generation Low $V_{CEsat}$ transistors



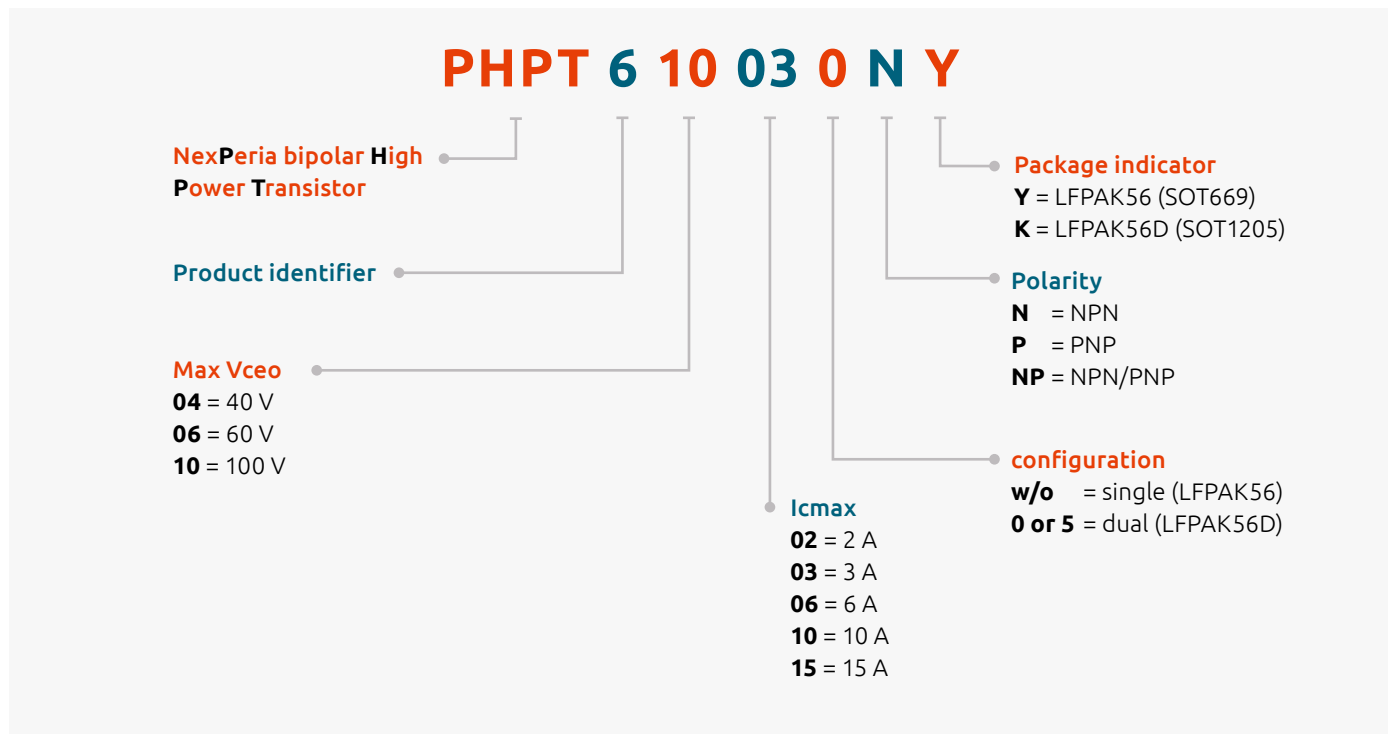
### 4th generation Low $V_{CEsat}$ transistors



## High-voltage Low $V_{CEsat}$ transistors



## Transistors in a LFPAK SMD package



























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# Zener diodes

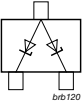


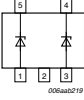



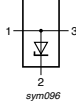



## General purpose Zener diodes Part 1

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration		Series	Package	Automotive-qualified	Size (mm)	$P_{tot}$ (mW)					
200	40	2.4~75	B, C	Europe	Single		BZX884S-Q series		Yes	1.0 x 0.6 x 0.47	365					
		BZX884S series	No													
		1.8"51	B, C	Japan			BZX8850S-Q series		Yes							
		1.8"51	B, C				PZU884LS-Q series		Yes							
200	40	2.4~75	B, C	Europe	Single		BZX884-Q series		Yes	1.0 x 0.6 x 0.48	250					
		2.4~75	B, C	Europe			BZX884 series		No		250					
		2.4~36	B, B2	Japan			PZUxBL series		No		550					
		2.4~36	B, B2	Japan			PZUxBL-Q series		Yes		550					
		1.8"51	B, C	Europe			BZX8850 series		No		250					
		2.4~75	B, C	Europe			Single				BZX585-Q series		Yes	1.2 x 0.8 x 0.6	300	
2.4~75	B, C	BZX585 series	No													
2.4~36	B	SZMM5Z series	Yes													
2.4~36	B	MMSZ series	No													
1.8"51	B, C	BZX58550-Q series	Yes													
1.8"51	B, C	BZX58550 series	No													
200	30	100	C	Europe	Back-to-back		BZB100A		Yes	1.7 x 1.25 x 0.95	830					
		40	2.4~51	B, B2	Japan	Single			PZUxBA-Q series		Yes	320				
			2.4~51	B, B2					PZUxBA series		No	400				
	2.4~36		B	PDZ-B series					Yes		300					
	250	40	2.4~75	B	Europe				SZMM3Z series			Yes				
									MM3Z series			No				
			1.8"51	B, C					BZX384-Q series			Yes				
			1.8"51	B, C					BZX384 series			No				
	1.8"51	B, C	BZX38450-Q series	Yes												
	1.8"51	B, C	BZX38450 series	No												
200	60	100	C	Europe	Single				BZX100A		Yes	1.7 x 1.25 x 0.7	1000			
		2.4~51	B, B2	Japan		PZUxB-Q series	Yes									
		2.4~51	B, B2			PZUxB series	No									
250	40	2.4~75	B, C	Europe	Single		BZX84J-Q series		Yes	1.7 x 1.25 x 0.7	550					
		2.4~75	B, C	Europe			BZX84J series		No							
		2.4~30	B	Europe			TDZxJ series		Yes		500					
250	40	2.4~75	B, C	Europe	Single		BZT52-Q series		Yes	2.7 x 1.6 x 1.2	590					
		2.4~75	B, C	Europe			BZT52 series		No							
200	40	2.4~36	B	Japan	Single		PDZ-GW series	SOD123	Yes		625					
250	-	3.0~30	About 2.5%	Special	Single		NZH series		Yes	2.6 x 1.6 x 1.1	1000					
		2.4~75	A, B, C	Europe			BZT52H-Q series		Yes							
		2.4~75	A, B, C				BZT52H series		No		830					
		1.8"51	B, C				BZT5250H-Q series		Yes		830					
		1.8"51	B, C				BZT5250H series		No		830					
200	40	2.4~75	B, C	Europe	Dual c.a.		BZB84-Q series		Yes	2.9 x 1.3 x 1.0	300					
		2.4~75	B, C				BZB84 series		No							
		2.4~75	A, B, C		Single	BZX84-Q series	Yes									
		2.4~75	A, B, C			BZX84 series	No									
		1.8"51	B, C	BZX8450-Q series		Yes										
		1.8"51	B, C	BZX8450 series		No										
		250	30	2.4~51	B, C	Japan	Single					PZU84-Q series		Yes	2.9 x 1.3 x 1.0	250
				2.4~51	B, C							PZU84 series		No		
2.4~51	B, C			Ave	PLVA600A series	Yes										
5~6.8	0.2 V															







Notes:  
 Japan: B selection: app. 5%  $V_Z$  tolerance, B1, B2, B3 selections: app. 2%  $V_Z$  tolerance in sequential intervals Europe: A selection: app. 1%  $V_Z$  tolerance, B selection: app. 2%  $V_Z$  tolerance, C selection: app. 5%  $V_Z$  tolerance; the selections are in overlapping intervals

Ave: low-voltage avalanche regulator diodes Dual c.a.: dual common anode

## General purpose Zener diodes Part 2















$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration		Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)	
200	40	2.4~15	C	Europe	Dual c.a.		BZB784 series		Yes	2.0 x 1.25 x 0.95	350	
		2.4~75	B, C		Single		n.c.		BZX84W-Q series			Yes
		2.4~75	B, C		Single				BZX84W series			No
200	40	10	B2	Japan	Dual isolated		PZU10DB2		Yes	2.0 x 1.25 x 0.95	275	
400	40	2.4~75	C	Europe	Single		BZV90 series		Yes	6.5 x 3.5 x 1.65	1500	
250	40	2.4~75	C	Europe	Single		BZV49 series		Yes	4.5 x 2.5 x 1.5	1000	
400	800	3.0~75	C	Europe	Single		HPZR-Q series		Yes	2.6 x 1.7 x 1.0	4100	
		3.0~75	C	Europe	Single		HPZR series		No	2.6 x 1.7 x 1.0	5500	

A-Selection Zener Diodes (1%  $V_Z$  tolerance)

















$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration		Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)
250	40	2.4~75	A	Europe	Single		BZX384-A (-Q) series		No	1.7 x 1.25 x 0.95	300
250	40	2.4~75	A	Europe	Single		BZT52H-A (-Q) series		Yes	2.6 x 1.6 x 1.1	830
200	40	2.4~75	A	Europe	Single		BZX84-A (-Q) series		Yes	2.9 x 1.3 x 1.0	250

## Zener diodes







### Low leakage (low $I_r$ ) Zener diodes

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration	Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)	
200	40	5.1~10	B, B2	Japan	Single	 D80118	PZUxBL (-Q) series	 DFN1006-2 (SOD882)	Yes	1.0 x 0.6 x 0.48	250
200	40	5.1~10	B, C	Japan	Single	 D80118	PZU884LS (-Q)	 DFN1006BD-2 (SOD882BD)	Yes	"1.0 x 0.6 x 0.47"	365
200	40	5.1~10	B, B2	Japan	Single	 D80118	PZUxBA (-Q) series	 SOD323 (SC-76)	Yes	1.7 x 1.25 x 0.95	300
200	40	5.1~10	B, B2	Japan	Single	 D80118	PZUxB (-Q) series	 SOD323F (SC-90)	Yes	1.7 x 1.25 x 0.7	550
200	40	10	B2	Japan	Dual isolated	 D80118	PZU10DB2 series	 SOT353 (SC-88A)	Yes	2.0 x 1.25 x 0.95	300
200	40	5.1~10	B, C	Japan	Single	 D80118	PZU84 (-Q)	 SOT23	Yes	2.9 x 1.3 x 1.0	250
250	30	5~6.8	0.2 V	Ave	Single	 D80118	PLVA600A series	 SOT23	Yes	2.9 x 1.3 x 1.0	250



### Low differential resistance (low $R_z$ ) Zener diodes

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration	Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)	
200	40	2.4~51	B, C	Japan	Single	 D80118	PZU884LS (-Q)	 DFN1006BD-2 (SOD882BD)	Yes	1.0 x 0.6 x 0.47	365
200	40	2.4~51	B, B2	Japan	Single	 D80118	PZUxBA (-Q) series	 SOD323 (SC-76)	Yes	1.7 x 1.25 x 0.95	300
200	40	2.4~51	B, B2	Japan	Single	 D80118	PZUxB (-Q) series	 SOD323F (SC-90)	Yes	1.7 x 1.25 x 0.95	300
200	40	2.4~51	B, B2	Japan	Single	 D80118	PZUxBL (-Q) series	 DFN1006-2 (SOD882)	Yes	1.0 x 0.6 x 0.48	250
200	40	2.4~36	B	Japan	Single	 D80118	PDZ-GW series	 SOD123	Yes	2.7 x 1.6 x 1.2	625
200	40	2.4~36	B	Japan	Single	 D80118	PDZ-B series	 SOD323F (SC-90)	Yes	1.7 x 1.25 x 0.95	300
200	40	2.4~51	B, B2	Japan	Single	 D80118	PZU84 (-Q)	 SOT23	Yes	2.9 x 1.3 x 1.0	250
250	30	5~6.8	0.2 V	Ave	Single	 D80118	PLVA600A series	 SOT23	Yes	2.9 x 1.3 x 1.0	250


50µA Zener diodes ( $V_z$  @ 50µA)

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_z$ nom (V)	$V_z$ tolerance	Note	Configuration	Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)
200	40	1.8"51	B,C	Europe	Single	 BZX8850s-Q series	DFN1006BD-2 (SOD882BD)	Yes No	1.0 x 0.6 x 0.47	365
200	40	1.8"51	B,C	Europe	Single	 BZX8850-Q series BZX8850 series	DFN1006-2 (SOD882)	Yes No	1.0 x 0.6 x 0.47	365
200	40	1.8"51	B,C	Europe	Single	 BZX58550-Q series BZX58550 series	SOD523 (SC-79)	Yes No	1.2 x 0.8 x 0.6	300
250	40	1.8"51	B,C	Europe	Single	 BZX38450-Q series BZX38450 series	SOD323 (SC-76)	Yes No	1.7 x 1.25 x 0.95	300
200	40	1.8"51	B,C	Europe	Single	 BZT5250H-Q series BZT5250H series	SOD123F	Yes No	2.9 x 1.3 x 1.0	250
200	40	1.8"51	B,C	Europe	Single	 BZX8450-Q series BZX8450 series	SOT23	Yes No	2.9 x 1.3 x 1.0	250

High non-repetitive peak reverse power dissipation ( $P_{ZSM}$ ) ZenerTypes in **bold** represent new products

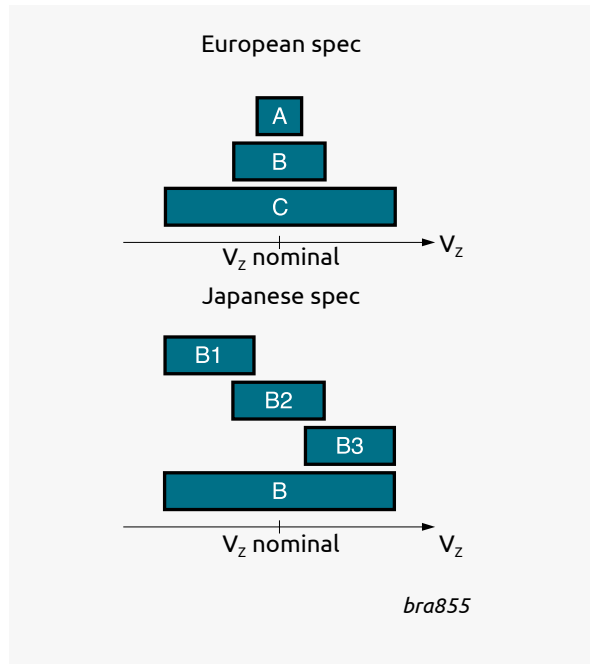
$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_z$ nom (V)	$V_z$ tolerance	Note	Configuration	Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)
250	100-180	2.4~6.8	B	Europe	Single	TDZxJ series	 SOD323F (SC-90)	Yes	1.7 x 1.25 x 0.7	500
	100		B, C			BZX84J series				
400	800	3.0"75	C	Europe	Single	<b>HPZR-Q series</b>	 CFP3 (SOD123W)	Yes	2.6 x 1.7 x 1.0	5500
		3.0"75	C	Europe	Single	<b>HPZR series</b>		No		4100

High power voltage regulator Zener diodes (high  $P_{tot}$ )Types in **bold** represent new products

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_z$ nom (V)	$V_z$ tolerance	Note	Configuration	Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)
400	800	3.0"75	C	Europe	Single	<b>HPZR-Q series</b>	 CFP3 (SOD123W)	Yes	2.6 x 1.7 x 1.0	5500
		3.0"75	C	Europe	Single	<b>HPZR series</b>		No		4100

# Zener diodes specifications

## Differences in Zener specifications



## Japanese spec (PZU, PDZ)





















y =		C-   B-series ± 5%	B-   B2-series ± 2%
	$V_z$	$V_z$ (V)	$V_z$ (V)
PZU	2.4V	2.3 - 2.6	-
PZU	2.7V	2.5 - 2.9	2.65 - 2.9
PZU	3.0V	2.8 - 3.2	2.95 - 3.2
PZU	3.3V	3.1 - 3.5	3.25 - 3.5
PZU	3.6V	3.4 - 3.8	3.55 - 3.8
PZU	3.9V	3.7 - 4.1	3.87 - 4.1
PZU	4.3V	4.01 - 4.48	4.15 - 4.34
PZU	4.7V	4.42 - 4.9	4.55 - 4.75
PZU	5.1V	4.84 - 5.37	4.98 - 5.2
PZU	5.6V	5.31 - 5.92	5.49 - 5.73
PZU	6.2V	5.86 - 6.53	6.06 - 6.33
PZU	6.8V	6.47 - 7.14	6.65 - 6.93
PZU	7.5V	7.06 - 7.84	7.28 - 7.6
PZU	8.2V	7.76 - 8.64	8.02 - 8.36
PZU	9.1V	8.56 - 9.55	8.85 - 9.23
PZU	10V	9.45 - 10.55	9.77 - 10.21
PZU	11V	10.44 - 11.56	10.76 - 11.22
PZU	12V	11.42 - 12.6	11.74 - 12.24
PZU	13V	12.47 - 13.96	12.91 - 13.49
PZU	14V	-	13.7 - 14.3
PZU	15V	13.84 - 15.52	14.34 - 14.98
PZU	16V	15.37 - 17.09	15.85 - 16.51
PZU	18V	16.94 - 19.03	17.56 - 18.35
PZU	20V	18.86 - 21.08	19.52 - 20.39
PZU	22V	20.88 - 23.17	21.54 - 22.47
PZU	24V	22.93 - 25.57	23.72 - 24.78
PZU	27V	25.1 - 28.9	26.50-27.50
PZU	30V	28 - 32	29.4-20.6
PZU	33V	31 - 35	32.34-33.66
PZU	36V	34 - 38	35.3-36.7
PZU	39V	37-41	38.2-39.8
PZU	43V	40-46	42.1-43.9
PZU	47V	44-50	46.1-47.9
PZU	51V	48-54	50-52

## European spec (BZV, BZX, BZB, 1N47)

y =		C-series ±5%	B-series ±2%	A-series ±1%
	$V_z$	$V_z$ (V)	$V_z$ (V)	$V_z$ (V)
BZX	2.4V	2.2 - 2.6	2.35 - 2.45	2.37 - 2.43
BZX	2.7V	2.5 - 2.9	2.65 - 2.75	2.67 - 2.73
BZX	3.0V	2.8 - 3.2	2.94 - 3.06	2.97 - 3.03
BZX	3.3V	3.1 - 3.5	3.23 - 3.37	3.26 - 3.34
BZX	3.6V	3.4 - 3.8	3.53 - 3.67	3.56 - 3.64
BZX	3.9V	3.7 - 4.1	3.82 - 3.98	3.86 - 3.94
BZX	4.3V	4 - 4.6	4.21 - 4.39	4.25 - 4.35
BZX	4.7V	4.4 - 5	4.61 - 4.79	4.65 - 4.75
BZX	5.1V	4.8 - 5.4	5 - 5.2	5.04 - 5.16
BZX	5.6V	5.2 - 6	5.49 - 5.71	5.54 - 5.66
BZX	6.2V	5.8 - 6.6	6.08 - 6.32	6.13 - 6.27
BZX	6.8V	6.4 - 7.2	6.66 - 6.94	6.73 - 6.87
BZX	7.5V	7 - 7.9	7.35 - 7.65	7.42 - 7.58
BZX	8.2V	7.7 - 8.7	8.04 - 8.36	8.11 - 8.29
BZX	9.1V	8.5 - 9.6	8.92 - 9.28	9 - 9.2
BZX	10V	9.4 - 10.6	9.8 - 10.2	9.9 - 10.1
BZX	11V	10.4 - 11.6	10.8 - 11.2	10.8 - 11.11
BZX	12V	11.4 - 12.7	11.8 - 12.2	11.88 - 12.12
BZX	13V	12.4 - 14.1	12.7 - 13.3	12.87 - 13.13
BZX	15V	13.8 - 15.6	14.7 - 15.3	14.85 - 15.15
BZX	16V	15.3 - 17.1	15.7 - 16.3	15.84 - 16.16
BZX	18V	16.8 - 19.1	17.6 - 18.4	17.82 - 18.18
BZX	20V	18.8 - 21.2	19.6 - 20.4	19.8 - 20.2
BZX	22V	20.8 - 23.3	21.6 - 22.4	21.78 - 22.22
BZX	24V	22.8 - 25.6	23.5 - 24.5	23.76 - 24.24
BZX	27V	25.1 - 28.9	26.5 - 27.5	26.73 - 27.27
BZX	30V	28 - 32	29.4 - 30.6	29.70 - 30.30
BZX	33V	31 - 35	32.3 - 33.7	32.67 - 33.33
BZX	36V	34 - 38	35.3 - 36.7	35.64 - 36.36
BZX	39V	37 - 41	38.2 - 39.8	38.61 - 39.39
BZX	43V	40 - 46	42.1 - 43.9	42.57 - 43.43
BZX	47V	44 - 50	46.1 - 47.9	-
BZX	51V	48 - 54	50 - 52	50.49 - 51.51
BZX	56V	52 - 60	54.9 - 57.1	-
BZX	62V	58 - 66	60.8 - 63.2	-
BZX	68V	64 - 72	66.6 - 69.4	-
BZX	75V	70 - 79	73.5 - 76.5	74.25 - 75.75

y =		C-series ±5%	B-series ±2%
	$V_z$	$V_z$ (V)	$V_z$ (V)
BZX*50*	1.8V	1.71-1.89	1.764-1.836
BZX*50*	2.0V	1.89-2.12	1.96-2.04
BZX*50*	2.2V	2.09-2.31	2.156-2.244
BZX*50*	2.4V	2.28-2.52	2.35-2.45
BZX*50*	2.7V	2.565-2.835	2.65-2.75
BZX*50*	3.0V	2.85-3.15	2.94-3.06
BZX*50*	3.3V	3.13-3.47	3.23-3.37
BZX*50*	3.6V	3.42-3.78	3.53-3.67
BZX*50*	3.9V	3.7-4.1	3.82-3.98
BZX*50*	4.3V	4.09-4.52	4.21-4.39
BZX*50*	4.7V	4.47-4.94	4.61-4.79
BZX*50*	5.1V	4.85-5.36	5-5.2
BZX*50*	5.6V	5.32-5.88	5.49-5.71
BZX*50*	6.2V	5.89-6.51	6.08-6.32
BZX*50*	6.8V	6.46-7.14	6.66-6.94
BZX*50*	7.5V	7.13-7.88	7.35-7.65
BZX*50*	8.2V	7.79-8.61	8.04-8.36
BZX*50*	9.1V	8.65-9.56	8.92-9.28
BZX*50*	10V	9.5-10.5	9.8-10.2
BZX*50*	11V	10.45-11.55	10.8-11.2
BZX*50*	12V	11.4-12.6	11.8-12.2
BZX*50*	13V	12.35-13.65	12.7-13.3
BZX*50*	15V	14.25-15.75	14.7-15.3
BZX*50*	16V	15.2-16.8	15.7-16.3
BZX*50*	18V	17.1-18.9	17.6-18.4
BZX*50*	20V	19-21	19.6-20.4
BZX*50*	22V	20.9-23.1	21.6-22.4
BZX*50*	24V	22.8-25.2	23.5-24.5
BZX*50*	27V	25.65-28.35	26.5-27.5
BZX*50*	30V	28.5-31.5	29.4-30.6
BZX*50*	33V	31.35-34.65	32.3-33.7
BZX*50*	36V	34.2-37.8	35.3-36.7
BZX*50*	39V	37.05-40.95	38.2-39.8
BZX*50*	43V	40.85-45.15	42.1-43.86
BZX*50*	47V	44-50	46.1-47.9
BZX*50*	51V	48-54	50-52





















General purpose, high speed switching diodes <= 90 V

V <sub>R</sub> max (V)	V <sub>F</sub> max (V)	I <sub>F</sub> (mA)	I <sub>R</sub> max (nA)	t <sub>rr</sub> max (ns)	Package	Automotive-qualified									
						SOD80C (MiniMelf)	SOT23	SOT143B	SOT323 (SC-70)	SOT363 (SC-88)	DFN1110D-3 (SOT8015)	DFN1412-6 (SOT1268)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	
															
						Size (mm)	3.5 x 1.5 x 1.5	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.1x1.0x0.48	1.4 x 1.2 x 0.5	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48
P <sub>tot</sub> (mW)	400	250	250	200	350		480	325	250						
50	1	50	100	50	4			BAL74 (-Q)							
								BAV74 (-Q)							
70	1	50	1000	70	4			BAL99 (-Q)							
75	1	50	1000	75	4				BAS28						
		100	5000	75	4		BAS32L								
80	1	50	500	80	4					1PS300 (-Q)					
										1PS301 (-Q)					
										1PS302 (-Q)					
90	1	50	500	80	4			BAW56 (-Q)		BAW56W(-Q)		BAW56QB (-Q)		BAW56QA (-Q)	BAW56M (-Q)
										BAW56S (-Q)		BAW56SRA			
										BAV756S (-Q)					















Diodes

## Switching diodes

### General purpose, high speed switching diodes 100 V (Leaded SMD)

							Automotive-qualified										
$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_R$ max (mA)	@ $V_R$ (V)	$t_{rr}$ max (ns)	Package	SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOT363 (SC-88)	SOD323 (SC-76)	SOD323F (SC-90)	SOD523 (SC-79)	DFN1006BD-2 (SOD882BD)	DFN1110D-3 (SOT8015)	DFN1412D-3 (SOT8009)
100	1	50	500	80	4												
						Size (mm)	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.2 x 0.8 x 0.6	1 x 0.6 x 0.47	1.1x1.0x0.48	1.4 x 1.2 x 0.47
						$P_{tot}$ (mW)	250	380	375	200	300	300	300	250	345		345
								BAS16GW (-Q)	BAS16H (-Q)			BAS316 (-Q)	BAS16J (-Q)	BAS516 (-Q)			
							BAS16 (-Q)			BAS16W (-Q)							
											BAS16VY (-Q)						
							BAV70 (-Q)			BAV70W (-Q)							
											BAV70S (-Q)						
							BAV99 (-Q)			BAV99W (-Q)							
											BAV99S						
															BAS16LS (-Q)		
																BAV99QB (-Q)	BAV99QC (-Q)

### General purpose, high speed switching diodes 100 V (Leadless DFN)

							Automotive-qualified						
$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_R$ max (mA)	@ $V_R$ (V)	$t_{rr}$ max (ns)	Package	DFN1412-6 (SOT1268)	DFN1010D-3 (SOT1215)	DFN1006-2 (SOD882)	DFN1006-3 (SOT883)	DFN1006D-2 (SOD882D)	DFN1006BD-2 (SOD882BD)	DFN1110D-3 (SOT8015)
100	1	50	500	80	4								
						Size (mm)	1.4 x 1.2 x 0.5	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.0 x 0.6 x 0.47	1.1 x 1.0 x 0.48
						$P_{tot}$ (mW)	480	325	250	250	250	250	
									BAS16L (-Q)		BAS16LD (-Q)	BAS16LS	
								BAS16QA (-Q)					
													
								BAV70QA (-Q)		BAV70M (-Q)			BAV70QB (-Q)
							BAV70SRA (-Q)						
								BAV99QA (-Q)					
													



General purpose, switching diodes >= 100 V

						Automotive-qualified																		
$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_R$ max (nA)	@ $V_R$ (V)	$t_{rr}$ max (ns)	Package	SOD80C (MiniMelf)	SOT457 (SC-74)	SOT23	SOT143B	SOD123	SOD123F	SOT323 (SC-70)	SOT353 (SC-88A)	SOT363 (SC-88)	SOD323 (SC-76)	SOD323F (SC-90)	SOD523 (SC-79)	DFN1006D-2 (SOD882 (D))	DFN1010D-3 (SOT1215)	DFN1006BD-2 (SOD882BD)	DFN1110D-3 (SOT8015)	DFN1412D-3 (SOT8009)	
							3.5 x 1.5 x 1.5	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.2 x 0.8 x 0.6	1.0 x 0.6 x 0.48 (1.0 x 0.6 x 0.37)	1.1 x 1.0 x 0.37	1 x 0.6 x 0.47	1.1 x 1 x 0.47	1.4 x 1.2 x 0.47	
							400	250	250	250	380	375	200	255	300	300	300	250	250	325	610	745	750	
100	1	100	100	100	50				BAS19 (-Q)															
150	1	100	100	150	50		BAV102																	
									BAS20 (-Q)															
					150	50		BAV103			BAS-21GW (-Q)	BAS 21H (-Q)				BAS 321 (-Q)	BAS 321J (-Q)	BAS 521B (-Q)	BAS 21LL(LD) (-Q)	BAV 21QA (-Q)				
									BAS21 (-Q)				BAS 21W (-Q)											
										BAV23 (-Q)														
														BAS 21PG (-Q)										
					200	50			BAV23A (-Q)				BA-521AW (-Q)											
									BAV23C (-Q)												BAV 23QA (-Q)			
									BAV23S (-Q)				BAS 21SW (-Q)											
							BS21 AVD (-Q)																	
							BAS-21VD (-Q)																	
200	1	250	100	200	50																BAS 21LS (-Q)	BAS 21QB (-Q)	BAS 21QC (-Q)	
																BAS21J (-Q)	BAS521 (-Q)							
									BAS101 (-Q)															
									BAS 101S (-Q)															
										BAW101 (-Q)														
																BAW 101S (-Q)						BAS 30LS (-Q)		







Diodes

## Switching diodes

### High performance switching diodes (175 °C capable & superior power dissipation)





















$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_{R1}$ max (nA)	@ $V_R$ (V)	$t_{rr}$ max (ns)	Automotive-qualified	
						Package	
						SOT23	
							
						Size (mm)	2.9 X 1.3 X 1.0
						$P_{tot}$ (mW)	300
100	1	50	500	80	4		BAS16TH (-Q)
200	1	100	100	200	50		BAS21TH (-Q)

### Controlled avalanche switching diodes

$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_{R1}$ max (nA) @ $V_R$ max	$I_{FSM}$ max (A)	$I_{FRM}$ max (mA)	$C_d$ max (pF)	$t_{rr}$ max (ns)	Automotive-qualified		
								Package		
								SOT23	SOT143B	
										
								Size (mm)	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0
								$P_{tot}$ (mW)	250	250
60	1	200	100	9	600	2.5	6			BAS56
90	1	200	100	10	600	35	50		BAS29	
									BAS31	
									BAS35	





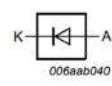
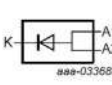
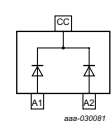
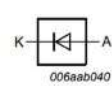
### Low leakage current switching diodes

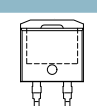
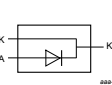
Types in **bold** represent new products

$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_{R1}$ max (nA) @ $V_R$ max	$t_{rr}$ max (μs)	Automotive-qualified																		
					Package																		
					SOD80C (MiniMelf)	SOD68 (DO-34)	SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOD323 (SC-76)	SOD523 (SC-79)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	DFN1006-2 (SOD882)	DFN1006BD-2 (SOD882BD)	DFN1412D-3 (SOT8009)						
																							
					Size (mm)	3.5 x 1.5 x 1.5	3.04 x 1.6 x 0.55	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.95	1.2 x 0.8 x 0.6	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.47	1.4 x 1.2 x 0.47					
					$P_{tot}$ (mW)	400	300	250	380	375	250	250	250	305	250	250		345					
75	1	10	5	3																			
								BAS116GW (-Q)	BAS116H (-Q)		BAS416 (-Q)	BAS716 (-Q)						BAS116L (-Q)	<b>BAS116LS (-Q)</b>				
							BAS116 (-Q)							BAS116QA (-Q)									
								BAV199 (-Q)					BAV199W (-Q)										BAV199QC (-Q)
								BAW156 (-Q)															
125	1	100	1	1.5 typ		BAS45AL	BAS45A																
																							

# Recovery rectifiers

Types in **bold** represent new products

V <sub>r</sub> max (V)	V <sub>F</sub> max (V)	I <sub>F</sub> (A)	I <sub>R</sub> max (μA)	t <sub>rr</sub> max (ns)	Package	Automotive-qualified						
						CFP2-HP (SOD323HP)	CFP3 (SOD123W)	CFP5 (SOD128)	CFP15B (SOT1289B)			
												
					Size (mm)	2.2 x 1.3 x 0.68	2.6 x 1.7 x 1.0	3.8 x 2.5 x 1.0	5.8 x 4.3 x 0.95			
					P <sub>tot</sub> (mW) @ 1cm <sup>2</sup>	1200	1150	1200	2150			
200	1.02	1	0.075	200		PNE20010EXD (-Q)						
	1.09	2	0.075	200		<b>PNE20020EXD (-Q)</b>						
	0.93	1	0.2	200			PNE20010ER (-Q)					
	0.98	2	0.2	200			PNE20020ER (-Q)					
	0.95	2	1	200				PNE20020EP (-Q)				
	0.98	3	1	200				PNE20030EP (-Q)				
	0.93	4	1	200				<b>PNE20040EP (-Q)</b>				
	0.95	5	1	200				<b>PNE20050EP (-Q)</b>				
	0.93	4	1	200						PNE20040EPE (-Q)		
	0.94	6	1	200							PNE20060EPE (-Q)	
	0.95	8	1	200							PNE20080EPE (-Q)	
	0.96	10	1	200							PNE200100EPE (-Q)	
	0.98	2x2	1	200								PNE20040CPE (-Q)
	0.94	2x3	1	200								PNE20060CPE (-Q)
0.93	2x4	1	200							PNE20080CPE (-Q)		
0.95	2x5	1	200							PNE200100CPE (-Q)		
400	1.1	1	1	400	1800				PNS40010ER			
650	1.2	1	1	650					PNU65010ER			
	1.2	1	1	650				<b>PNU65010ER (-Q)</b>				
	1.2	2	1	650				<b>PNU65010EP (-Q)</b>				
	1.2	3	1	650				<b>PNU65020EP (-Q)</b>				
								<b>PNU65030EP (-Q)</b>				

V <sub>r</sub> max (V)	V <sub>F</sub> max (V)	I <sub>F</sub> (A)	I <sub>R</sub> max (μA)	t <sub>rr</sub> max (ns)	Package	Automotive-qualified			
						D2PAK (R2P) (SOT8018)			
							Size (mm)	8.8 x 10.35 x 4.46	P <sub>tot</sub> (mW) @ 6cm <sup>2</sup> cathode pad
650	1.55	10	5	650		<b>PNU650100EJ (-Q)</b>			
	2.40	10	5	650		<b>PNE650100EJ (-Q)</b>			
	1.55	15	5	650		<b>PNU650150EJ (-Q)</b>			
	2.40	15	5	650		<b>PNE650150EJ (-Q)</b>			
	1.55	20	5	650		<b>PNU650200EJ (-Q)</b>			
	2.40	20	5	650		<b>PNE650200EJ (-Q)</b>			
	1.68	15	5	650		<b>PNU650150AEJ (-Q)</b>			
	1.70	20	5	650		<b>PNU650200AEJ (-Q)</b>			
	1.80	30	5	650		<b>PNU650300AEJ (-Q)</b>			

Diodes

## Nomenclature recovery rectifiers automotive grade types

### PNE 200 10 E R

**Recovery time indicator:**

**PNE** = hyperfast recovery time

**PNU** = ultrafast recovery time

**PNS** = standard recovery time

**Max. reverse voltage:**

**200** = 200 V

**400** = 400 V

**650** = 650 V

**Cont. Forward current:**

**10** = 1.0 A

**20** = 2.0 A

**50** = 5.0 A

**100** = 10.0 A

**Package indicator:**

**R** = CFP3 (SOD123W)

**P** = CFP5 (SOD128)

**PE** = CFP15B (SOT1289B)

**XD** = CFP2-HP (SOD323HP)

**Configuration:**

**E** = single

**C** = dual common cathode

## SiC Schottky diodes

### Key features

- › Zero forward and reverse recovery
- › Temperature independent switching performance
- › Fast and smooth switching performance
- › High  $I_{FSM}$  capability
- › Low leakage current
- › Easy to parallel / positive temperature coefficient
- › Outstanding figure-of-merit ( $Q_C \times V_F$ )
- › Thermal stability up to 175 °C junction temperature
- › AEC-Q101 qualification

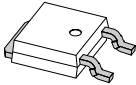
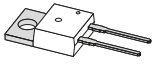
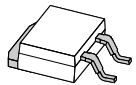
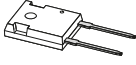
### Key benefits

- › High power density
- › Reduced system cost
- › System miniaturization
- › High temperature operation
- › Reduced EMI
- › Increased ruggedness and reliability

### Key applications






- › Consumer and industrial power supplies / PFC
- › DC-DC-converter
- › High frequency AC-DC converter
- › Battery charging systems
- › Base station power supply (5G)
- › Photovoltaic power converter
- › Traction inverter
- › On board charger

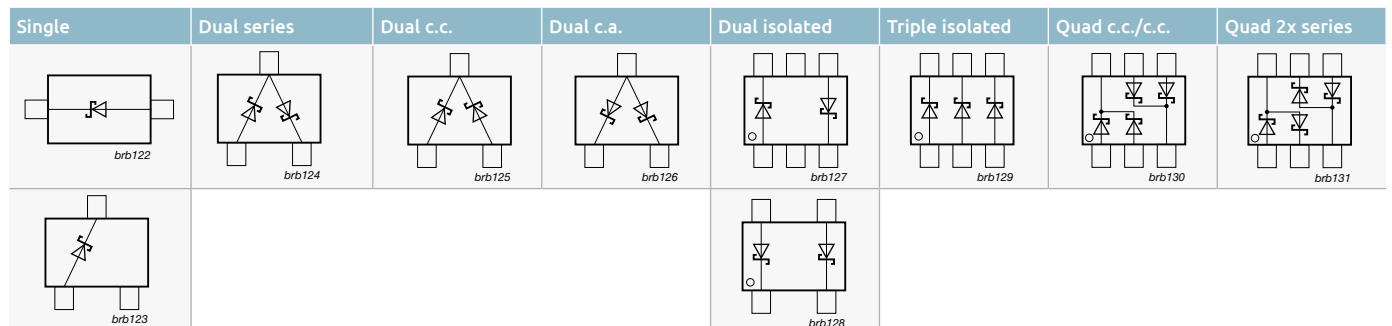
types in **bold** represent new products

Type name	Package	$V_R$ max (V)	$I_F$ max	$I_{FSM}$ max	$P_{tot}$ max
PSC1065H	 DPAK (TO-252-2)	650	10	440	58
<b>PSC1065H-Q</b>					
<b>PSC0665K</b>	 TO-220-2	650	6	300	37
PSC1065K					
<b>PSC1665J</b>	 D2PAK (TO-263-2)	650	16	650	90
<b>PSC2065J</b>					
<b>PSC1665L</b>	 TO-247-2	650	16	650	95
<b>PSC2065L</b>					











# Schottky diodes and rectifiers

## General purpose Schottky diodes <= 250 mA

I <sub>F</sub> max (mA)	V <sub>R</sub> max (V)	V <sub>F</sub> max (mV)	@ I <sub>F</sub> (mA)	I <sub>RR</sub> max (µA)	@ V <sub>R</sub> (V)	Package	SOD80C (MiniMelf)	SOD68 (DO-34)	SOT23	SOT143B	SOD123		
													
							Size (mm)	3.5 x 1.5 x 1.5	3.04 x 1.6 x 0.55	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	
P <sub>tot</sub> (mW)	300	500	250	250	357								
70	70	750	10	0.1	50	Single			BAS70 (-Q)				
						Dual series			BAS70-04 (-Q)				
						Dual c.c.			BAS70-05 (-Q)				
						Dual c.a.			BAS70-06 (-Q)				
						Dual isolated				BAS70-07 (-Q)			
						Triple isolated							
100	30	350	10	10	10	Single							
		450	10	0.5	10	Single							
120	40	500	10	1	30	Single							
						Single							
						Single						BAS40(-Q)	
						Dual series					BAS40-04(-Q)		
						Dual c.c.					BAS40-05(-Q)		
						Dual c.a.					BAS40-06(-Q)		
						Dual isolated						BAS40-07(-Q)	
						Triple isolated							
						Quad 2x series							
						Single							
200	30	300	10	30	10	Single							
						Single							
						Dual series					BAT754 (-Q)		
						Dual c.c.					BAT754S (-Q)		
		Dual c.a.					BAT754C (-Q)						
		Triple isolated					BAT754A (-Q)						
		400	10	200	2	25	25	Single	BAS85	BAT85	BAT54 (-Q)		BAT54GW
								Dual series					BAT54S (-Q)
								Dual c.c.					BAT54C (-Q)
								Dual c.a.					BAT54A (-Q)
	Single												
	Single												
	800	100	200	1	25	25	Single						
							Dual series						
							Dual c.c.						BAT74
							Dual c.a.						
	40	300	100	10	15	30	Single						
							Dual series						BAT721 (-Q)
							Dual c.c.						BAT721S (-Q)
							Dual c.a.						BAT721C (-Q)
550		100	200	0.5	25	25	Single						
							Single						
							Dual series						
							Dual c.c.						
							Dual c.a.						BAT721A (-Q)
							Single						
600	200	150	10	40	40	Single							
						Single							
						Single							
						Single							
250	100	350	10	0.5	1.5	Single							
		850	250	0.5	1.5	Single					BAT46GW (-Q)		
		960	150	9	100	Single							
420	40	500	100	0.5	25	Single							
500	40	550	0.5	100	35	Single							









Types in **bold** represent new products




Automotive-qualified										
SOD123F	SOT323 (SC-70)	SOT363 (SC-88)	SOD323F (SC-90)	SOD323 (SC-76)	SOD523 (SC-79)	DFN1006-2 (SOD882) / DFN1006-3 (SOT883)	DFN1006 BD-2 (SOD882BD)	DFN1110 D-3 (SOT8015)	DFN1412 D-3 (SOT8009)	
										
2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.7 x 1.25 x 0.95	1.2 x 0.8 x 0.6	1.0 x 0.6 x 0.48	1 x 0.6 x 0.47	1.1 x 1 x 0.47	1.4 x 1.2 x 0.47	
375	250	300	385	400	275	250	640	400	415	
BAS70H <b>(-Q)</b>	BAS70W <b>(-Q)</b> BAS70-04W <b>(-Q)</b> BAS70-05W <b>(-Q)</b> BAS70-06W <b>(-Q)</b>	BAS70-07S <b>(-Q)</b> BAS70VY <b>(-Q)</b> BAS70XY <b>(-Q)</b>		1PS76SB70 <b>(-Q)</b>	1PS79SB70 <b>(-Q)</b>	BAS70L <b>(-Q)</b>	BAS70LS <b>(-Q)</b>			
						RB521CS30L <b>(-Q)</b> RB520CS30L <b>(-Q)</b> RB751CS40 <b>(-Q)</b>				
				RB751V40 <b>(-Q)</b> RB751V45 <b>(-Q)</b> 1PS76SB40 <b>(-Q)</b>	RB751S40 <b>(-Q)</b> 1PS79SB40 <b>(-Q)</b>	BAS40L <b>(-Q)</b>	BAS40LS <b>(-Q)</b>			
BAS40H <b>(-Q)</b>	BAS40W <b>(-Q)</b> BAS40-04W <b>(-Q)</b> BAS40-05W <b>(-Q)</b> BAS40-06W <b>(-Q)</b>	BAS40DY <b>(-Q)</b> 1PS88SB48 <b>(-Q)</b>								
		BAS40VY <b>(-Q)</b> BAS40XY <b>(-Q)</b>								
					1PS79SB31 <b>(-Q)</b>					
		BAT754L								
			BAT54J <b>(-Q)</b>	1PS76SB10 <b>(-Q)</b> BAT54HGW <b>(-Q)</b>	1PS79SB10 <b>(-Q)</b>	BAT54L <b>(-Q)</b>				
			BAT54CY <b>(-Q)</b>				BAT54CM <b>(-Q)</b>			
								<b>BAT32ALS (-Q)</b>		
					RB521S30 <b>(-Q)</b> RB520S30 <b>(-Q)</b>					
								<b>BAT32LS (-Q)</b>		
BAT54H <b>(-Q)</b>	BAT54W <b>(-Q)</b> BAT54SW <b>(-Q)</b>						BAT54LS <b>(-Q)</b>	BAT54QB <b>(-Q)</b>	BAT54QC <b>(-Q)</b>	
	BAT54CW <b>(-Q)</b> BAT54AW <b>(-Q)</b>	BAT74S <b>(-Q)</b> BAT54VY <b>(-Q)</b> BAT54XY <b>(-Q)</b>								
				1PS76SB21 <b>(-Q)</b>						
					1PS79SB30 <b>(-Q)</b>					
	BAT854W <b>(-Q)</b> BAT854SW <b>(-Q)</b> BAT854CW <b>(-Q)</b> BAT854AW <b>(-Q)</b>									
				1PS76SB21 <b>(-Q)</b>						
							BAT42LS <b>(-Q)</b>			
BAT46WH <b>(-Q)</b>			BAT46WJ <b>(-Q)</b>							
							BAT46LS <b>(-Q)</b>			
						RB530S40 <b>(-Q)</b>				

Diodes

## Low capacitance Schottky diodes

						Automotive-qualified						
I <sub>F</sub> max (mA)	V <sub>a</sub> max (V)	V <sub>F</sub> max (mV) @ I <sub>F</sub> (mA)		C <sub>j</sub> max (pF) @ V <sub>r</sub> = 0 V		Package	SOT23	SOT323 (SC-70)	SOT363 (SC-88)	SOD323 (SC-76)	SOD523 (SC-79)	DFN1006-2 (SOD882)
												
						Size (mm)	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.95	1.2 x 0.8 x 0.6	1.0 x 0.6 x 0.48
						P <sub>tot</sub> (mW)	250	250	300	400	500	250
30	4	450	1	1	Single	BAT17				1PS76SB17	1PS79SB17	
					Triple isolated							
					Dual series	PMBD353 PMBD354 <sup>1)</sup>						
	15	340	1	1	Single		1PS70SB82					1PS10SB82
					Triple isolated			1PS88SB82				
					Dual series		1PS70SB84					
					Dual c.c.		1PS70SB85					
Dual c.a.		1PS70SB86										







Schottky rectifiers - leadless DSN/DFN packages

$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Package	DSN0603-2 (SOD962)	DSN1006-2 (SOD993)	DSN1006U-2 (SOD995)
							
					0.6 x 0.3 x 0.3	1.0 x 0.6 x 0.28	1.0 x 0.6 x 0.28
					525	1.000	1.190
					Optimization		
0.1	30	840	0.0008	Low $I_R$			
0.2	20	420	0.045	Low $V_F$	PMEG2002AESF		
		490	0.0035	Low $I_R$	PMEG2002ESF		
	30	470	0.08	Low $V_F$	PMEG3002AESF		
		480	0.05	low $V_F$			
		520	0.015	Low $I_R$			
		535	0.009	Low $I_R$	PMEG3002ESF		
	40	525	0.08	Low $V_F$	PMEG4002AESF		
		600	0.0065	Low $I_R$	PMEG4002ESF		
		600	0.01	low $I_R$			
		600	0.1	low $V_F$			
0.5	20	390	0.2	low $V_F$			
		410	0.3	low $V_F$			
		440	1.5	low $V_F$			
		500	0.03	low $I_R$			
		550	0.045	Low $V_F$	PMEG2005AESF		
		620	0.0035	Low $I_R$	PMEG2005ESF		
	30	500	0.5	low $V_F$			
		630	0.08	Low $V_F$	PMEG3005AESF		
		670	0.015	Low $I_R$			
		720	0.009	Low $I_R$	PMEG3005ESF		
	40	590	0.01	low $I_R$			
		820	0.08	Low $V_F$	PMEG4005AESF		
		880	0.0065	Low $I_R$	PMEG4005ESF		
1	20	375	1.9	low $V_F$			
		415	0.6	low $V_F$			
		490	0.2	low $V_F$			
	30	480	1.25	Low $V_F$		PMEG3010AESB	PMEG3010AESA
		565	0.045	Low $I_R$		PMEG3010ESB	
	40	505	0.115	Low $V_F$		PMEG4010AESB	
		600	0.02	low $I_R$			
		610	0.04	Low $I_R$		PMEG4010ESB	
	60	625	0.65	Low $V_F$		PMEG6010AESB	
		730	0.03	Low $I_R$		PMEG6010ESB	
1.5	20	420	0.9	low $V_F$			
	40	610	0.03	low $I_R$			
2	20	420	1.9	low $V_F$			
		450	0.9	low $V_F$			
	30	470	2.5	low $V_F$			
	40	535	0.1	low $V_F$			
	60	530	0.2	low $V_F$			
		575	0.25	low $V_F$			

Automotive-qualified						
DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)	DFN1608D-2 (SOD1608)	DFN1006-2 (SOD882)	DFN1006D-2 (SOD882D)	DFN1006BD-2 (SOD882BD)	DFN0603-2 (SOD972E)
						
2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62	1.6 x 0.8 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.0 x 0.6 x 0.47	0.63 x 0.33 x 0.25
960	960	780	565	660	640	570
						PMEG3001EEF
			PMEG3002AEL (-Q)	PMEG3002AELD (-Q)		PMEG3002EEF
			PMEG4002EL (-Q)	PMEG4002ELD (-Q)		
			PMEG6002EL (-Q)	PMEG6002ELD (-Q)		
		PMEG2005EPK (-Q)		PMEG2005BELD (-Q)		
			PMEG2005AEL (-Q)	PMEG2005AELD (-Q)		
			PMEG2005EL (-Q)	PMEG2005ELD (-Q)		
			PMEG3005EL (-Q)	PMEG3005ELD (-Q)	PMEG3005ELS (-Q)	
						PMEG3005EEF
		PMEG4005EPK (-Q)				
PMEG2010EPA (-Q)	PMEG2010EPAS (-Q)					
		PMEG2010EPK (-Q)		PMEG2010BELD (-Q)		
		PMEG4010EPK (-Q)				
		PMEG2015EPK (-Q)				
		PMEG4015EPK (-Q)				
PMEG2020EPA (-Q)	PMEG2020EPAS (-Q)					
		PMEG2020EPK (-Q)				
PMEG3020EPA (-Q)	PMEG3020EPAS (-Q)					
PMEG4020EPA (-Q)	PMEG4020EPAS (-Q)					
		PMEG4020EPK (-Q)				
PMEG6020EPA (-Q)	PMEG6020EPAS (-Q)					







Power Schottky rectifiers - clip-bond packages

Types in **bold** represent new products









				Automotive-qualified						
$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Package	CFP15 (SOT1289)	CFP15B (SOT1289B)	CFP5 (SOD128)	CFP3-HP (SOD123HP)	CFP3 (SOD123W)	CFP2-HP (SOD323HP)
				Size (mm)						
				P <sub>tot</sub> (mW) @ 1 cm <sup>2</sup>	2150	2150	1200	1300	1150	1200
				Optimization						
1	20	340	1	Low $V_F$					PMEG2010ER (-Q)	
		450	0.05	Low $I_R$					PMEG2010BER (-Q)	
	30	360	1.5	Low $V_F$			PMEG3010EP (-Q)		PMEG3010ER (-Q)	
		450	0.05	Low $I_R$			PMEG3010BEP (-Q)	<b>PMEG3010EXE (-Q)</b>	PMEG3010BER (-Q)	
	40	490	0.05	Low $V_F$			PMEG4010EP (-Q)	<b>PMEG4010EXE (-Q)</b>	PMEG4010ER (-Q)	
				Low $V_F$			PMEG4010ETP (-Q)		PMEG4010ETR (-Q)	
		460	0.022	Low $V_F$ , Low $Q_{rr}$					PMEG40T10ER (-Q) <sup>1)</sup>	
	45	520	0.02	Low $V_F$ , Low $Q_{rr}$						PMEG45T10EXD (-Q) <sup>1)</sup>
	60	530	0.06	Low $V_F$			PMEG6010EP (-Q)	<b>PMEG6010EXE (-Q)</b>	PMEG6010ER (-Q)	
				Low $V_F$					PMEG6010ETR (-Q)	
		590	0.0008	Low $I_R$ , Low $Q_{rr}$			PMEG60T10ELP (-Q) <sup>1)</sup>			
		600	0.00065	Low $I_R$ , Low $Q_{rr}$					PMEG60T10ELR (-Q) <sup>1)</sup>	
		640	0.0004	Low $I_R$ , Low $Q_{rr}$						PMEG60T10ELXD (-Q) <sup>1)</sup>
		660	0.0003	Low $I_R$					PMEG6010ELR (-Q)	
100	750	0.0009	Low $I_R$ , Low $Q_{rr}$					PMEG100T10ELR (-Q) <sup>1)</sup>		
	770	0.00015	Low $I_R$					PMEG10010ELR (-Q)		
	780	0.00015	Low $I_R$				<b>PMEG10010ELXE (-Q)</b>			
	795	0.0005	Low $I_R$ , Low $Q_{rr}$						PMEG100T10ELXD (-Q) <sup>1)</sup>	
2	20	520	0.05	Low $I_R$					<b>PMEG2020CER (-Q)</b>	
		360	3	Low $V_F$			PMEG3020EP (-Q)			
	30	420	1.5	Low $V_F$			PMEG3020CEP (-Q)		PMEG3020ER (-Q)	
		450	0.1	Low $I_R$			PMEG3020BEP (-Q)			
		520	0.05	Low $I_R$			PMEG3020DEP (-Q)	<b>PMEG3020EXE (-Q)</b>	PMEG3020BER (-Q)	
	40	490	0.1	Low $V_F$			PMEG4020EP (-Q)		PMEG4020ER (-Q)	
				Low $V_F$			PMEG4020ETP (-Q)	<b>PMEG4020EXE (-Q)</b>	PMEG4020ETR (-Q)	
		570	0.05	Low $I_R$					PMEG4020CER (-Q)	
		515	0.022	Low $V_F$ , Low $Q_{rr}$			PMEG40T20EP (-Q) <sup>1)</sup>		PMEG40T20ER (-Q) <sup>1)</sup>	
	45	560	0.025	Low $V_F$ , Low $Q_{rr}$						PMEG45T20EXD (-Q) <sup>1)</sup>
	60	530	0.2	Low $V_F$			PMEG6020EP (-Q)		PMEG6020ER (-Q)	
				Low $V_F$			PMEG6020ETP (-Q)		PMEG6020ETR (-Q)	
		620	0.0012	Low $I_R$ , Low $Q_{rr}$			PMEG60T20ELP (-Q) <sup>1)</sup>		PMEG60T20ELR (-Q) <sup>1)</sup>	
		650	0.06	Low $I_R$				<b>PMEG6020EXE (-Q)</b>	<b>PMEG6020CER (-Q)</b>	
	670	0.0007	Low $I_R$			PMEG6020AELP (-Q)		PMEG6020AELR (-Q)		
	700	0.00047	Low $I_R$ , Low $Q_{rr}$						PMEG60T20ELXD (-Q) <sup>1)</sup>	
	760	0.0003	Low $I_R$					PMEG6020ELR (-Q)		
100	800	0.00125	Low $I_R$ , Low $Q_{rr}$			PMEG100T20ELP (-Q) <sup>1)</sup>		PMEG100T20ELR (-Q) <sup>1)</sup>		
	770	0.0003	Low $I_R$			PMEG10020AELP (-Q)		PMEG10020AELR (-Q)		
	830	0.00015	Low $I_R$					PMEG10020ELR (-Q)		
	840	0.00015	Low $I_R$				<b>PMEG10020ELXE (-Q)</b>			
	880	0.0006	Low $I_R$ , Low $Q_{rr}$						PMEG100T20ELXD (-Q) <sup>1)</sup>	
3	20	580	0.05	Low $I_R$					<b>PMEG2030CER (-Q)</b>	
		580	0.05	Low $I_R$				<b>PMEG3030EXE (-Q)</b>	<b>PMEG3030CER (-Q)</b>	
	30	360	5	Low $V_F$			PMEG3030EP (-Q)			
		450	0.15	Low $I_R$		PMEG030V030EPE (-Q)	PMEG3030BEP (-Q)			
		490	0.12	Low $V_F$		PMEG040V030EPE (-Q)				
	40			Low $V_F$			PMEG4030EP (-Q)			
				Low $V_F$			PMEG4030ETP (-Q)			
		525	0.028	Low $V_F$ , Low $Q_{rr}$			PMEG40T30EP (-Q) <sup>1)</sup>		PMEG40T30ER (-Q) <sup>1)</sup>	
		540	0.1	Low $V_F$					PMEG4030ER (-Q)	
		630	0.05	Low $I_R$					PMEG4030ETR (-Q)	
		520	0.12	Low $V_F$				<b>PMEG4030EXE (-Q)</b>	<b>PMEG4030CER (-Q)</b>	
	45	480	0.044	Low $V_F$ , Low $Q_{rr}$	PMEG045T030EPD <sup>1)</sup>					
	50	530	0.1	Low $V_F$			PMEG050V030EPE (-Q)			
		475	0.4	Low $V_F$						
60	530	0.2	Low $V_F$			PMEG060V030EPE (-Q)				
			Low $V_F$							
	760	0.06	Low $I_R$					<b>PMEG6030EXE (-Q)</b>	<b>PMEG6030CER (-Q)</b>	
	560	0.18	Low $V_F$							
	620	0.0018				PMEG060T030ELPE (-Q) <sup>1)</sup>	PMEG60T30ELP (-Q) <sup>1)</sup>	PMEG60T30ELR (-Q) <sup>1)</sup>		
	670	0.001	Low $I_R$				PMEG6030ELP (-Q)			
100	800	0.00175	Low $I_R$ , Low $Q_{rr}$				PMEG100T30ELP (-Q) <sup>1)</sup>	PMEG100T30ELR (-Q) <sup>1)</sup>		
	770	0.00045	Low $I_R$				PMEG10030ELP (-Q)			
	710	0.0025	Low $I_R$ , Low $Q_{rr}$			PMEG100T030ELPE (-Q) <sup>1)</sup>				
2x2	60	620	0.0012	Low $I_R$ , Low $Q_{rr}$			PMEG060T040CLPE (-Q) <sup>1)</sup>			
4.5	60	530	0.4	Low $V_F$			PMEG6045ETP (-Q)			

<sup>1)</sup> Trench Schottky technology

## Power Schottky rectifiers - clip-bond packages









				Automotive-qualified						
$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Package	CFP15 (SOT1289)	CFP15B (SOT1289B)	CFP5 (SOD128)	CFP3-HP (SOD123HP)	CFP3 (SOD123W)	CFP2-HP (SOD323HP)
										
				Size (mm)	5.8 x 4.3 x 0.78	5.8 x 4.3 x 0.95	3.8 x 2.5 x 1.0	2.8 x 1.8 x 0.9	2.6 x 1.7 x 1.0	2.2 x 1.3 x 0.68
				$P_{tot}$ (mW) @ 1 cm <sup>2</sup>	2150	2150	1200	1300	1150	1200
				Optimization						
5	30	360	8	Low $V_F$			PMEG3050EP (-Q)			
		450	0.25	Low $I_R$			PMEG3050BEP (-Q)			
		500	0.15	Low $V_F$		PMEG030V050EPE (-Q)				
5	40	490	0.3	Low $V_F$			PMEG4050EP (-Q)			
			0.3	Low $V_F$			PMEG4050ETP (-Q)			
		520	0.12	Low $V_F$		PMEG040V050EPE (-Q)				
	525	0.041	Low $V_F$ , Low $Q_{rr}$			PMEG40T50EP (-Q) <sup>1)</sup>				
	490	0.3	Low $V_F$		PMEG045V050EPE (-Q)					
	525	0.044	Low $V_F$ , Low $Q_{rr}$	PMEG045T050EPD <sup>1)</sup>						
5	60	560	0.4	Low $V_F$		PMEG060V050EPE (-Q)				
		690	0.0018	Low $I_R$ , Low $Q_{rr}$		PMEG060T050ELPE (-Q) <sup>1)</sup>	PMEG60T50ELP (-Q) <sup>1)</sup>			
	895	0.00175	Low $I_R$ , Low $Q_{rr}$			PMEG100T50ELP (-Q) <sup>1)</sup>				
	100	810	0.0025	Low $I_R$ , Low $Q_{rr}$		PMEG100T050ELPE (-Q) <sup>1)</sup>				
2x3	60	620	0.0018	Low $I_R$ , Low $Q_{rr}$		PMEG060T060CLPE (-Q) <sup>1)</sup>				
6	100	840	0.00045	Low $I_R$		PMEG100V060EPE (-Q)				
2x4	60	660	0.0018	Low $I_R$ , Low $Q_{rr}$		PMEG060T080CLPE (-Q) <sup>1)</sup>				
8	100	850	0.0005	Low $I_R$		PMEG100V080EPE (-Q)				
		810	0.004	Low $I_R$ , Low $Q_{rr}$		PMEG100T080ELPE (-Q) <sup>1)</sup>				
2x5	60	690	0.0018	Low $I_R$ , Low $Q_{rr}$		PMEG060T100CLPE (-Q) <sup>1)</sup>				
10	45	490	0.6	Low $V_F$		PMEG045V100EPE (-Q)				
		540	0.5	Low $V_F$		PMEG045V100EPE (-Q)				
		545	0.08	Low $V_F$ , Low $Q_{rr}$		PMEG045T100EPE (-Q) <sup>1)</sup>				
	60	560	0.7	Low $V_F$		PMEG060V100EPE (-Q)				
	850	0.0008	Low $I_R$		PMEG100V100EPE (-Q)					
	100	810	0.005	Low $I_R$ , Low $Q_{rr}$		PMEG100T100ELPE (-Q) <sup>1)</sup>				
12	100	810	0.006	Low $I_R$ , Low $Q_{rr}$		PMEG100T120ELPE <sup>1)</sup>				
		570	1	Low $V_F$		PMEG045V150EPE (-Q)				
15	45	550	0.1	Low $V_F$ , Low $Q_{rr}$	PMEG045T150EPD <sup>1)</sup>					
		580		Low $V_F$ , Low $Q_{rr}$	PMEG45T15EPD <sup>1)</sup>					
		570	0.098	Low $V_F$ , Low $Q_{rr}$	PMEG045T150EIPD <sup>1)</sup>					
	570	1	Low $V_F$		PMEG050V150EPE (-Q)					
	50	550	0.1	Low $V_F$ , Low $Q_{rr}$	PMEG050T150EPD <sup>1)</sup>					
	570	0.2	Low $V_F$ , Low $Q_{rr}$	PMEG050T150EIPD <sup>1)</sup>						
100	820	0.008	Low $I_R$ , Low $Q_{rr}$		PMEG100T150ELPE <sup>1)</sup>					
20	100	830	0.01	Low $I_R$ , Low $Q_{rr}$		PMEG100T200ELPE <sup>1)</sup>				

## Schottky rectifiers - leaded packages
















				Automotive-qualified								
$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Package	SOT457 (SC-74)	SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOD323F (SC-90)	SOD323 (SC-76)	SOD523 (SC-79)
												
				Size (mm)	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.7 x 1.25 x 0.95	1.2 x 0.8 x 0.6
				$P_{tot}$ (mW) @ 1 cm <sup>2</sup>	540	420	660	830	400	830	570	500
				Optimization								
0.2	30	480	0.05	Low $V_F$						PMEG3002EJ (-Q)		
		600	0.01	Low $I_R$						PMEG4002EJ		
		600	0.1	Low $V_F$						PMEG6002EJ (-Q)	PMEG3010BEA (-Q)	
0.5	20	390	0.2	Low $V_F$		PMEG2005ET (-Q)	PMEG2005EGW (-Q)	PMEG2005EH (-Q)		PMEG2005EJ (-Q)		
		480	0.03	Low $I_R$								
		430	0.15	Low $V_F$		PMEG3005ET (-Q)	PMEG3005EGW (-Q)	PMEG3005EH (-Q)		PMEG3005EJ (-Q)	PMEG4010BEA (-Q)	
	500	0.5	Low $V_F$								PMEG4010CEA	
	470	0.1	Low $V_F$		PMEG4005ET (-Q)	PMEG4005EGW (-Q)	PMEG4005EH (-Q)		PMEG4005EJ (-Q)			
	40	550	1.1	Low $V_F$		BAT720 (-Q)			1PS70SB20		PMEG2015EA (-Q)	
0.75	40	640	0.008	Low $I_R$						PMEG4005CEJ		
		740	0.008	Low $I_R$							PMEG1020EA (-Q)	

<sup>1)</sup>Trench Schottky technology

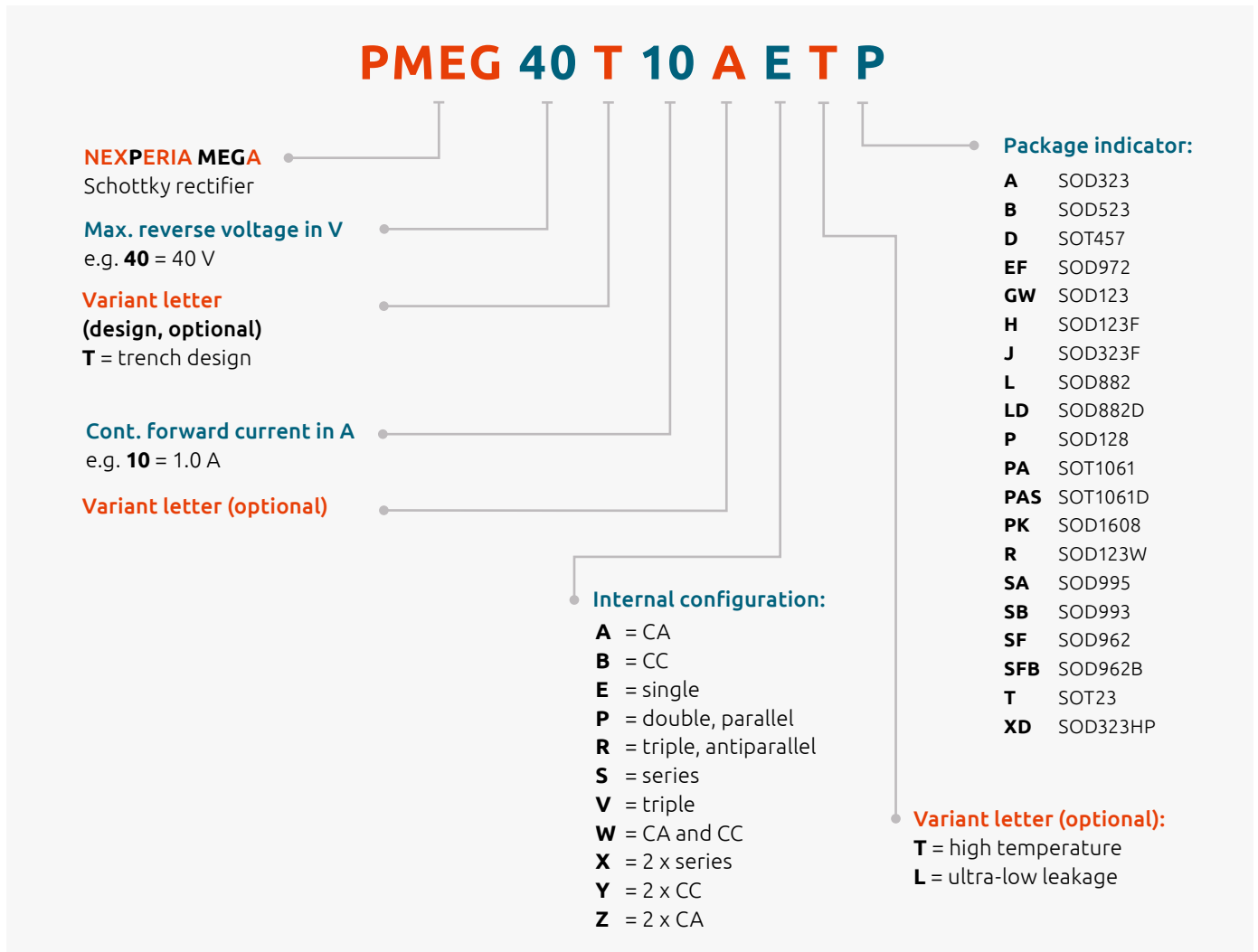
## Schottky rectifiers - leaded packages

					Automotive-qualified								
$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Package	SOT457 (SC-74)	SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOD323F (SC-90)	SOD323 (SC-76)	SOD523 (SC-79)	
													
					Size (mm)	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.7 x 1.25 x 0.95	1.2 x 0.8 x 0.6
					$P_{tot}$ (mW) @ 1 cm <sup>2</sup>	540	420	660	830	400	830	570	500
					Optimization								
1	20	430	0.2	Low $V_F$		PMEG2010AET		PMEG2010AEH (-Q)			PMEG2020AEA (-Q)		
		500	0.2	Low $V_F$		PMEG2010ET (-Q)		PMEG2010EH (-Q)		PMEG2010EJ (-Q)			
		550	0.07	Low $I_R$						PMEG2010AEJ (-Q)			
		620	1.5	Low $V_F$								PMEG2010AEB (-Q)	
1	30	450	1	Low $V_F$	1PS74SB23								
		520	0.1	Low $I_R$				PMEG3010CEH (-Q)		PMEG3010CEJ (-Q)			
		560	0.15	Low $V_F$		PMEG3010ET (-Q)	PMEG3010EGW (-Q)	PMEG3010EH (-Q)			PMEG3010BEA (-Q)		
		680	0.5	Low $V_F$								PMEG3010EB (-Q)	
	40	570	0.05	Low $I_R$			PMEG4010CEGW (-Q)	PMEG4010CEH (-Q)		PMEG4010CEJ (-Q)			
		640	0.05	Low $V_F$		PMEG4010ET (-Q)	PMEG4010EGW (-Q)	PMEG4010EH (-Q)		PMEG4010EJ (-Q)	PMEG4010BEA (-Q)		
		840	0.008	Low $I_R$							PMEG4010CEA (-Q)		
		60	660	0.05	Low $I_R$		PMEG6010CEGW (-Q)	PMEG6010CEH (-Q)		PMEG6010CEJ (-Q)			
1.5	20	660	0.2	Low $I_R$			PMEG2015EH (-Q)		PMEG2015EJ (-Q)	PMEG2015EA (-Q)			
	30	500	1	Low $V_F$			PMEG3015EH (-Q)		PMEG3015EJ (-Q)				
2	10	460	3	Low $V_F$			PMEG1020EH (-Q)		PMEG1020EJ (-Q)	PMEG1020EA (-Q)			
	20	525	0.2	Low $V_F$			PMEG2020EH (-Q)		PMEG2020EJ (-Q)	PMEG2020AEA (-Q)			
	30	620	1	Low $V_F$		PMEG3020EGW (-Q)	PMEG3020EH (-Q)		PMEG3020EJ (-Q)				
3	10	530	3	Low $V_F$			PMEG1030EH (-Q)		PMEG1030EJ (-Q)				

## Dual Schottky rectifiers - leaded/leadless DFN packages

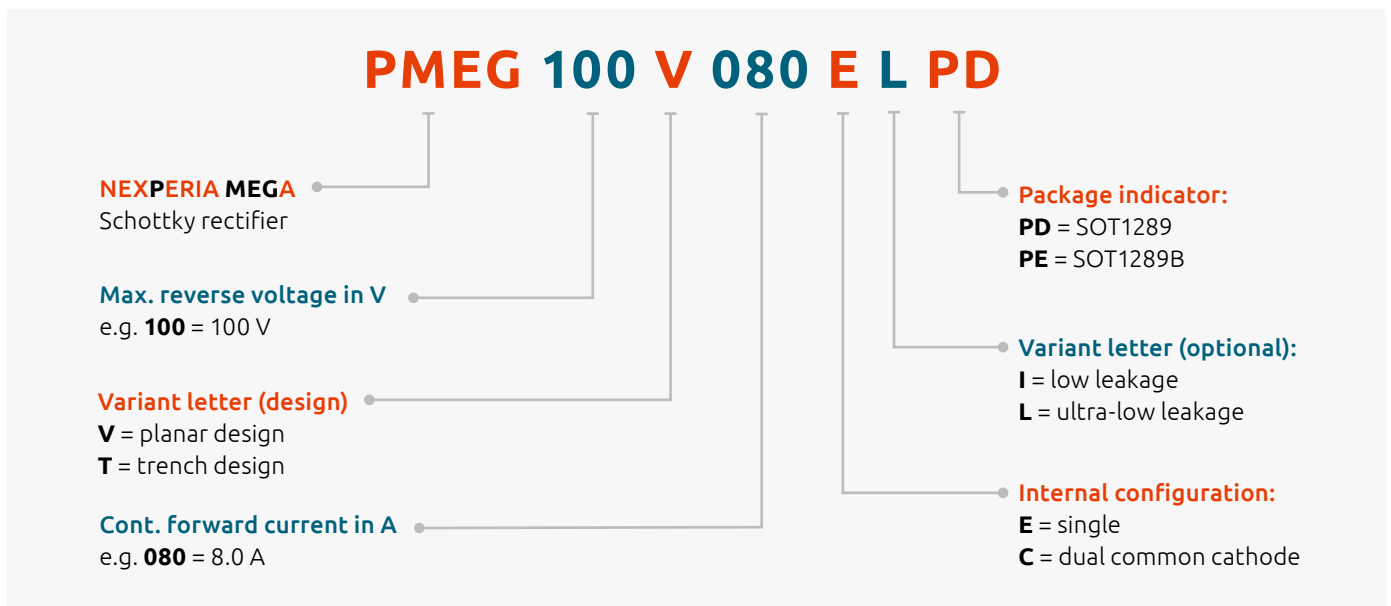
					Automotive-qualified					
$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Optimization	Package	SOT223 (SC-73)	SOT23	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)	
										
						Size (mm)	6.5 x 3.5 x 1.65	2.9 x 1.3 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.63
						$P_{tot}$ (mW) @ 1 cm <sup>2</sup>	1500	400	1000	1000
0.5	20	390	0.2	Low $V_F$			PMEG2005CT (-Q)			
	30	430	0.15	Low $V_F$			PMEG3005CT (-Q)			
	40	470	0.1	Low $V_F$			PMEG4005CT (-Q)			
1.0	25	450	1.0	Low $V_F$		BAT120S (-Q)				
				Low $V_F$		BAT120C (-Q)				
				Low $V_F$		BAT120A (-Q)				
	40	500	0.05	Low $V_F$				PMEG4010CPA (-Q)	PMEG4010CPAS (-Q)	
				Low $V_F$				PMEG6010CPA (-Q)	PMEG6010CPAS (-Q)	
	60	540	0.06	Low $V_F$		BAT160S (-Q)				
				Low $V_F$		BAT160C (-Q)				
				Low $V_F$		BAT160A (-Q)				
2.0	20	420	1.0	Low $V_F$				PMEG2020CPA (-Q)	PMEG2020CPAS (-Q)	
	30	440	2.0	Low $V_F$				PMEG3020CPA (-Q)	PMEG3020CPAS (-Q)	

## Nomenclature of Schottky rectifiers



Diodes

## Nomenclature of Schottky rectifiers in CFP15 and CFP15B power packages




















# ESD protection, TVS, filtering and signal conditioning

3

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Classic In-Vehicle Networks

Types in **bold** represent new products

Main Application	number of protected lines, bidirectional	$V_{RWM}$ (V)	ESD rating max (kV) [1]	$C_{line}$ typ (pF)	$C_{line}$ max (pF)	$I_{PPM}$ 8/20µs (A)	$V_{CL}$ 8/20µs @ $I_{PPM}$ (V)	Configuration	Type	Package	Size(mm)	
LIN	1	24	30	14	17	3.5	42		PESD1IVN24A-Q	 SOD323 (SC-76)	1.7 x 1.25 x 0.95	
		27	30	14	17	3	45		PESD1IVN27A-Q			
		24	30	14	17	3.5	42		PESD1IVN24L-Q	 DFN1006-2 (SOD882)	1.0 x 0.6 x 0.47	
		27	30	14	17	3	45		PESD1IVN27L-Q			
		24	30	14	17	3.5	42		PESD1IVN24LS-Q	 DFN1006BD-2 (SOD882BD)	1.0 x 0.6 x 0.47	
		27	30	14	17	3	45		PESD1IVN27LS-Q			
Classic IVNs single line protection devices	2	24	30	10	12	3.8	31		<b>PESD1CANFD24LS-Q</b>	 DFN1006BD-2 (SOD882BD)	1.0 x 0.6 x 0.47	
		30	30	9.8	11.3	3.8	34		<b>PESD1CANFD30LS-Q</b>			
		33	27	9.5	11.0	3.5	36		<b>PESD1CANFD33LS-Q</b>			
		36	20	8.7	10	2.9	42		<b>PESD1CANFD36LS-Q</b>			
		24	30	10.0	11.5	3.8	31		<b>PESD1CANFD24L-Q</b>	 DFN1006-2 (SOD882)	1.0 x 0.6 x 0.47	
		30	30	9.8	11.3	3.9	34		<b>PESD1CANFD30L-Q</b>			
		33	27	9.5	11.0	3.8	36		<b>PESD1CANFD33L-Q</b>			
		36	20	8.7	10.0	2.9	42		<b>PESD1CANFD36L-Q</b>			
CAN FlexRay	2	24	30	14	17	3.5	42		PESD2IVN24T-Q	 SOT23	2.9 x 1.3 x 1.0	
		27	30	14	17	3	45		PESD2IVN27-T			
		24	30	14	17	3.5	42		PESD2IVN24-U	 SOT323	2.0 x 1.25 x 0.95	
		27	30	14	17	3	45					PESD2IVN27-U
		24	30	13.6	16	5.3	35		<b>PESD2CAN24T-Q</b>	 SOT23	2.9 x 1.3 x 1.0	
		24	30	25	30	9	33.5		<b>PESD2CAN24LT-Q</b>			
		24	30	31	37	12	33.0		<b>PESD2CAN24XLT-Q</b>			
CAN-FD CAN FlexRay	2	24	15	3.2	3.5	1.9	43		PESD2CANFD24U-T	 SOT23	2.9 x 1.3 x 1.0	
			23	5.2	6	2.6	42		PESD2CANFD24VT-Q			
			30	9	10	4.0	41		PESD2CANFD24LT-Q			
		27	15	3.6	4	1.8	45		PESD2CANFD27U-T			
			20	5.2	6	2.5	44		PESD2CANFD27V-T			
			30	9	10	3.9	42		PESD2CANFD27L-T			
		36	15	3.6	4	2	45		PESD2CANFD36UT-Q			
			23	5.2	6	2	45		PESD2CANFD36VT-Q			
			30	9	10	2	45		PESD2CANFD36LT-Q			
			24	15	3.2	3.5	1.9		43			PESD2CANFD24U-U
		23		5.2	6	2.6	42		PESD2CANFD24V-U			
		30		9	10	4.0	41		PESD2CANFD24LU-Q			
		27		15	3.6	4	1.8		45	PESD2CANFD27U-U		
				20	5.2	6	2.5		44	PESD2CANFD27V-U		
				30	9	10	4.0		41	PESD2CANFD27L-U		
		36		15	3.6	4	2		45	PESD2CANFD36UU-Q		
			23	5.2	6	2	45		PESD2CANFD36VU-Q			
			30	9	10	2	45		PESD2CANFD36LU-Q			
		48	30	7.1	8.6	3.5	67		PESD2IVN48T-Q	 SOT23	2.9 x 1.3 x 1.0	

## Classic In-Vehicle Networks

Types in **bold** represent new products

Main Application	number of protected lines, bidirectional	$V_{RWM}$ (V)	ESD rating max (kV) [1]	$C_{line}$ typ (pF)	$C_{line}$ max (pF)	$I_{PPM}$ 8/20µs (A)	$V_{CL}$ 8/20µs @ $I_{PPM}$ (V)	Configuration	Type	Package	Size(mm)
<b>CAN-FD</b> CAN FlexRay	2	24	15	3.2	3.5	1.9	43		PESD2CANFD24UQB-Q	 DFN1110D-3 (SOT8015)	1.1 x 1.0 x 0.48
			23	5.2	6	2.6	42		PESD2CANFD24VQB-Q		
		27	15	3.6	4	1.8	45		PESD2CANFD27UQB-Q		
			20	5.2	6	2.5	44		PESD2CANFD27VQB-Q		
		33	17	4.1	4.5	2	38		<b>PESD2CANFD33UQB-Q</b>		
		36	12	3.9	4.3	1.6	44		<b>PESD2CANFD36UQB-Q</b>		
		36	20	5.4	6	2.3	43		<b>PESD2CANFD36VQB-Q</b>		
			20	8.7	10	2.9	42		<b>PESD2CANFD36LQB-Q</b>		
		24	15	3.2	3.5	1.9	43		PESD2CANFD24U-QC	 DFN1412D-3 (SOT8009)	1.4 x 1.2 x 0.48
			23	5.2	6	2.6	42		PESD2CANFD24V-QC		
		27	15	3.6	4	1.8	45		PESD2CANFD27U-QC		
			20	5.2	6	2.5	44		PESD2CANFD27V-QC		
		36	12	3.9	4.3	1.6	44		<b>PESD2CANFD36U-QC</b>		
			20	5.4	6.0	2.3	42		<b>PESD2CANFD36V-QC</b>		
			20	8.7	10.0	2.9	42		<b>PESD2CANFD36L-QC</b>		

ESD protection, TVS, filtering and signal conditioning

## Automotive Ethernet

Types in **bold** represent new products

Main Application	Number of protected lines	$V_{RWM}$ (V)	$V_{trigger}$ min(V)	ESD rating max (kV) [1]	$C_{line}$ typ (pF)	$C_{line}$ max (pF)	$I_{PPM}$ max (µA)	Configuration	Type	Package	Size (mm)
100BASE-T1 1000BASE-T1	1	24	100	30	1.5	1.8	2.3		PESD1ETH1GLS-Q	 DFN1006BD-2 (SOD882BD)	1.0 x 0.6 x 0.48
					0.9	1.2	2.3		PESD1ETH1GXLS-Q		
100BASE-T1	2	24	100	30	-	-	-		PESD2ETH1GT-Q	 SOT23	2.9 x 1.3 x 1.0
					1.1	1.3	2.3		PESD2ETH1GXT-Q		
					-	-	-	PESD2ETH100T-Q			
10BASE-T1s	1	24	100	18	0.35	0.4	2.3		<b>PESD1ETH10LS-Q</b>	 DFN1006D-2 (SOD882D)	1.0 x 0.6 x 0.37
					0.35	0.4			<b>PESD1ETH10L-Q</b>		
10/100/1000 Mbit/s Ethernet at the PHY	2	5	-	8	-	-	-		PESD2ETHX-Q	 SOT143B	2.9 x 1.3 x 1.0
				12	1.8	-	-		PESD2ETHAX-Q		
				8	1.3	1.5	-		PESD2ETHD-Q	 SOT457	2.9 x 1.5 x 1.0
				12	2	2.3	-		PESD2ETHAD-Q		
	1	5.5	-	10	0.4	0.55	2.5		PESD5V0F1BL-Q	 DFN1006-2 (SOD882)	1.0 x 0.6 x 0.48
					0.4	0.55	2.5		PESD5V0F1BLD-Q	 DFN1006D-2 (SOD882D)	1.0 x 0.6 x 0.37


Infotainment/SerDes

Types in **bold** represent new products

Main Application	Number of Protected lines	V <sub>FWHM</sub> (V)	ESD rating max (kV) [1]	C <sub>line</sub> typ (pF)	C <sub>line</sub> max (pF)	I <sub>PPM</sub> 8/20µs (A)	V <sub>CL</sub> 8/20µs typ (V)	Configuration	Type	Package	Size (mm)		
USBx HDMI LVDS SerDes GSM/L FPD Link Mgbit Ethernet	2	3.3	18	0.83	1	8	2.6 V @ 8 A		PESD2USB3UVT-Q		2.9 x 1.3 x 1.0		
		3.3	8	0.56	0.7	4	3.3 V @ 8 A		PESD2USB3UXT-Q				
		5	22	0.76	0.9	10	2.4 V @ 8 A		PESD2USB5UVT-Q				
		5	8	0.47	0.6	4	3.3 V @ 8 A		PESD2USB5UXT-Q				
	4	3.3	15	0.29	0.34	7	3 V @ 5 A		PESD4USB3UTBR-Q		2.5 x 1.0 x 0.5		
			5	15	0.29	0.34	7		3 V @ 5 A			PESD4USB5UTBR-Q	
		3.3	15	0.17	0.23	7	5 V @ 5 A		PESD4USB3BTBR-Q				
			5	15	0.17	0.23	7		5 V @ 5 A			PESD4USB5BTBR-Q	
		3.3	15	0.17	0.2	6.5	5.4		<b>PESD4USB3BBTBR-Q</b>				
			3.3	15	0.19	0.23	6.5		5.4			<b>PESD4USB3BCTBR-Q</b>	
		5	15	0.19	0.23	6.5	5.4		<b>PESD4USB5BBTBR-Q</b>				
			3.3	15	0.29	0.34	6.5		2.9			<b>PESD4USB3UCTBR-Q</b>	
		5	15	0.29	0.34	6.5	2.9		<b>PESD4USB5UBTBR-Q</b>				
			3.3	15	0.29	0.34	7		3 V @ 5 A			PESD4USB3UTBS-Q	
		5	15	0.29	0.34	7	3 V @ 5 A		PESD4USB5UTBS-Q				
			3.3	15	0.17	0.23	7		5 V @ 5 A			PESD4USB3BTBS-Q	
		5	15	0.17	0.23	7	5 V @ 5 A		PESD4USB5BTBS-Q				
			3.3	15	0.23	0.3	6.5		5			<b>PESD4USB3BBTBS-Q</b>	
		5	15	0.23	0.3	6.5	5		<b>PESD4USB5BBTBS-Q</b>				
			3.3	15	0.4	0.5	6.5		3			<b>PESD4USB3UBTBS-Q</b>	
		5	15	0.4	0.5	6.5	3		<b>PESD4USB5UBTBS-Q</b>				
			3.3	15	0.29	0.34	7		3 V @ 5 A			PESD4USB3UTTS-Q	
		5	15	0.29	0.34	7	3 V @ 5 A		PESD4USB5UTTS-Q				
			3.3	15	0.17	0.23	7		5 V @ 5 A			PESD4USB3BTTS-Q	
		5	15	0.17	0.23	7	5 V @ 5 A		PESD4USB5BTTS-Q				
			3.3	15	0.23	0.3	6.5		5.2			<b>PESD4USB3BBTTS-Q</b>	
		5	15	0.23	0.3	6.5	5.2		<b>PESD4USB5BBTTS-Q</b>				
			3.3	15	0.4	0.5	6.5		2.9			<b>PESD4USB3UBTTS-Q</b>	
		5	15	0.4	0.5	6.5	2.9		<b>PESD4USB5UBTTS-Q</b>				
			5	15		0.6	6.5		3.5V@8A TLP				<b>PESD5V0C1ULS-Q</b>
		5	15		0.3	6.5	5.4V@8A TLP		<b>PESD5V0C1BLS-Q</b>				
		5.5	15		0.6	6.5	3.5V@8A TLP		<b>PESD5V5C1UL-Q</b>				
5.5	15		0.3	6.5	5.4V@8A TLP		<b>PESD5V5C1BL-Q</b>						
5	15	0.5	0.6	5	3.4@6.5A		<b>PESD5V0C2UM-Q</b>						
		5	15	0.25	6.5	6		<b>PESD5V0H1BLL-Q</b>		1.0 x 0.6 x 0.45			

Infotainment/SerDes

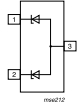
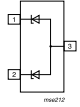
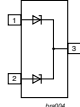
Types in **bold** represent new products

Main Application	Number of protected lines	$V_{RWM}$ (V)	ESD rating max (kV) [1]	$C_{line}$ typ (pF)	$C_{line}$ max (pF)	$I_{PPM}$ 8/20 $\mu$ s (A)	$V_{CL}$ 8/20 $\mu$ s typ (V)	Configuration	Type	Package	Size (mm)
Audio Interface Charger Port Antenna (NFC, WiFi) LVDS	1	4.5	30	65	78	34	13.2		PTVS4V5D1BL	DFN1006-2 (SOD882)	1.0 x 0.6 x 0.48
		5.5	30	70	84	35	12.2		PTVS5V5D1BL		
		18	10	0.35	0.5		17		PESD18VF1BBL-Q		
		24	10	0.3	0.45		17		PESD24VF1BBL-Q		
		30	10	0.27	0.4		17		PESD30VF1BBL-Q		
		18	10	0.31	0.45	1	17		<b>PESD18VF1BLS-Q</b>	DFN1006BD-2 (SOD882BD)	1.0 x 0.6 x 0.47
		24	10	0.28	0.4	1	17		<b>PESD24VF1BLS-Q</b>		
		30	10	0.28	0.4	1	17		<b>PESD30VF1BLS-Q</b>		
		32	10	0.28	0.4	1	17		<b>PESD32VF1BLS-Q</b>		
		5	30	35	45	12	14		PESD5V0S1BLD-Q	DFN1006D-2 (SOD882D)	1.0 x 0.6 x 0.37
		5	30	11	13	4.8	12.5		PESD5V0V1BLD-Q		
		5.5	10	0.4	0.55	2.5	15		PESD5V0F1BLD-Q		
			10	0.4	0.55	2.5	15		PESD5V0F1BRLD-Q		

ESD protection, TVS, filtering and signal conditioning

[1] According to IEC 61000-4-2

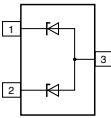

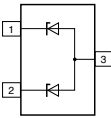

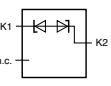

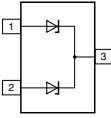

TVS diodes, 24 W/40 W

Power (W) (10 / 1000 $\mu$ s waveform) [1]	$V_{RWM}$ (V)	$V_{min}$ (V) @ I	$V_{typ}$ (V) @ I	$V_{BR}$ max (V) @ $I_R$	$I_R$ (mA)	ESD rating max (kV)	C typ (pF)	$V_{CL}$ max (V) @ $I_{PP}$ [1]	$I_{PP}$ (A) [1]	$I_{RM}$ max ( $\mu$ A) @ $V_{RWM}$	Configuration	Type	Package	Size (mm)	
24	3	5.32	5.6	5.88	20	30	210	8	3	5		MMBZ5V6AL-Q	SOT23	2.9 x 1.3 x 1.0	
		5.89	6.2	6.51	1	30	175	8.7	2.76	0.2		MMBZ6V2AL-Q			
	4.5	6.48	6.8	7.14	1	30	150	9.6	2.5	0.3		MMBZ6V8AL-Q			
	6	8.65	9.1	9.56	1	30	155	14	1.7	0.1		MMBZ9V1AL-Q			
	6.5	9.5	10	10.5	1	30	130	14.2	1.7	0.02		MMBZ10VAL-Q			
40	8.5	11.4	12	12.6	1	30	110	17	2.35	0.005		MMBZ12VAL-Q			
		12	14.25	15	15.75	1	30	85	21	1.9		0.005			MMBZ15VAL-Q
		13	15.2	16	16.8	1	30	76	23	1.9		0.005			MMBZ16VAL-Q
		13	15.68	16	16.32	1	30	76	23	1.9		0.005			MMBZ16VTAL-Q
		14.5	17.1	18	18.9	1	30	70	25	1.6		0.005			MMBZ18VAL-Q
		17	19	20	21	1	30	65	28	1.4		0.005			MMBZ20VAL-Q
		22	25.65	27	28.35	1	30	48	40	1		0.005			MMBZ27VAL-Q
	26	31.35	33	34.65	1	30	45	46	0.87	0.005	MMBZ33VAL-Q				
	8.5	12.8	11.4	12	12.6	1	30	110	17	2.35	0.005				MMBZ12VDL-Q
			14.3	15	15.8	1	30	85	21.2	1.9	0.005		MMBZ15VDL-Q		
			14.5	17.1	18	18.9	1	30	70	25	1.6		0.005	MMBZ18VCL-Q	
			17	19	20	21	1	30	65	28	1.4		0.005	MMBZ20VCL-Q	
			22	25.65	27	28.35	1	30	48	38	1		0.005	MMBZ27VCL-Q	
			26	31.35	33	34.65	1	30	45	46	0.87		0.005	MMBZ33VCL-Q	

[1] 10/1000 $\mu$ s according to IEC 61643-3:21

New MMBZ TVS diodes, lightning pulse

Types in **bold** represent new products

$V_{RWM}$ (V)	$V_{BR}$ min (V) @ I	$V_{BR}$ typ (V) @ I	$V_{BR}$ max (V) @ $I_R$	ESD rating max (kV)	C typ (pF)	$V_{CL}$ typ (V) @ $I_{PPM}$	$I_{PPM}$ 8/20 $\mu$ s (A) <sup>1/2</sup>	$I_{RM}$ max ( $\mu$ A) @ $V_{RWM}$	Configuration	Type	Package	Size (mm)			
3	5.1	5.6	6.1	30	200	13	18	0.5		<b>MMBZ5V6A-T</b>	 SOT23	2.9 x 1.3 x 1.0			
	5.7	6.2	6.7	30	88	12	8.8	0.2		<b>MMBZ6V2A-T</b>					
4.5	6.3	6.8	7.3	30	150	13.6	15	0.3		<b>MMBZ6V8A-T</b>					
6	8.65	9.1	9.56	30	60	20	10.5	0.05		<b>MMBZ9V1A-T</b>					
6.5	9.5	10	10.5	30	55	18	8	0.05		<b>MMBZ10VA-T</b>					
8.5	11.4	12	12.6	30	45	21	7	0.05		<b>MMBZ12VA-T</b>					
12	14.25	15	15.75	30	36	24	6	0.05		<b>MMBZ15VA-T</b>					
13	15.2	16	16.8	30	30	27	4.8	0.05		<b>MMBZ16VA-T</b>					
15	17.1	18	18.9	30	30	28	4.8	0.05		<b>MMBZ18VA-T</b>					
17	19	20	21	30	26	32	3.8	0.05		<b>MMBZ20VA-T</b>					
22	25.65	27	28.35	30	22	46	4.2	0.05		<b>MMBZ27VA-T</b>					
26	31.3	33	34.7	30	20	49	2.8	0.05		<b>MMBZ33VA-T</b>					
3	5.1	5.6	6.1	30	200	13	18	0.5					<b>MMBZ5V6AT-Q</b>	 SOT23	2.9 x 1.3 x 1.0
3	5.7	6.2	6.7	30	88	12	8.8	0.2					<b>MMBZ6V2AT-Q</b>		
4.5	6.3	6.8	7.3	30	150	13.6	15	0.3					<b>MMBZ6V8AT-Q</b>		
6	8.65	9.1	9.56	30	60	20	10.5	0.05					<b>MMBZ9V1AT-Q</b>		
6.5	9.5	10	10.5	30	55	18	8	0.05					<b>MMBZ10VAT-Q</b>		
8.5	11.4	12	12.6	30	45	21	7	0.05					<b>MMBZ12VAT-Q</b>		
12	14.25	15	15.75	30	36	24	6	0.05					<b>MMBZ15VAT-Q</b>		
13	15.2	16	16.8	30	30	27	4.8	0.05					<b>MMBZ16VAT-Q</b>		
15	17.1	18	18.9	30	30	28	4.8	0.05	<b>MMBZ18VAT-Q</b>						
17	19	20	21	30	26	32	3.8	0.05	<b>MMBZ20VAT-Q</b>						
22	25.65	27	28.35	30	22	46	4.2	0.05	<b>MMBZ27VAT-Q</b>						
26	31.3	33	34.7	30	20	49	2.8	0.05	<b>MMBZ33VAT-Q</b>						
24	25	-	35	30	14	33	3.5	0.05			<b>MMBZ27VS-T</b>	 SOT23	2.9 x 1.3 x 1.0		
27	38	33	38	30	13	36	3.5	0.05			<b>MMBZ33VS-T</b>				
24	25	-	35	30	14	33	3.5	0.05			<b>MMBZ27VST-Q</b>				
27	38	33	38	30	13	36	3.5	0.05			<b>MMBZ33VST-Q</b>				
22	25.65	27	28.35	30	22	40	3.2	0.05			<b>MMBZ27VC-T</b>	 SOT23	2.9 x 1.3 x 1.0		
26	31.4	33	34.7	20	20	49	2.8	0.05			<b>MMBZ33VC-T</b>				
22	25.65	27	28.35	30	22	40	3.2	0.05			<b>MMBZ27VCT-Q</b>				
26	31.4	33	34.7	20	20	49	2.8	0.05			<b>MMBZ33VCT-Q</b>				

New MMBZ TVS diodes, lightning pulse

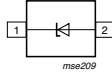



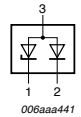

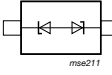

Types in **bold** represent new products

$V_{RWM}$ (V)	$V_{BR}$ min (V) @ I	$V_{BR}$ typ (V) @ I	$V_{BR}$ max (V) @ $I_r$	ESD rating max (kV)	C typ (pF)	$V_{CL}$ typ (V) @ $I_{PPM}$	$I_{PPM}$ 8/20 $\mu$ s (A) <sup>1</sup>	$I_{RM}$ max ( $\mu$ A) @ $V_{RWM}$	Configuration	Type	Package	Size (mm)
24	25.5	-	35.5	30	9	31	4	0.05		<b>MMBZ27VB-U</b>	 SOT323	2.0 x 1.25 x 0.95
27	28	33	38	30	9	31	3.9	0.05		<b>MMBZ33VB-U</b>		
24	25.5	-	35.5	30	9	31	4	0.05		<b>MMBZ27VB-U-Q</b>		
27	28	33	38	30	9	31	3.9	0.05		<b>MMBZ33VB-U-Q</b>		
24	25.5	-	35.5	30	14	33	3.5	0.05		<b>MMBZ27VZ-LS</b>	 DFN1006BD-2 (SOD882BD)	1.0 x 0.6 x 0.47
27	38	33	38	30	14	36	3	0.05		<b>MMBZ33VZ-LS</b>		
24	25.5	-	35.5	30	14	33	3.5	0.05		<b>MMBZ27VZLS-Q</b>		
27	38	33	38	30	14	36	3	0.05		<b>MMBZ33VZLS-Q</b>		
24	25.5	-	35.5	20	6	33	2.6	0.05		<b>MMBZ27VB-QC</b>	 DFN1412D-3 (SOT8009)	1.1 x 1.0 x 0.48
27	28	-	38	17	6	33	2.5	305		<b>MMBZ33VB-QC</b>		
24	25.5	-	35.5	20	6	33	2.6	0.05		<b>MMBZ27VBQC-Q</b>		
27	28	-	38	17	6	33	2.5	0.05		<b>MMBZ33VBQC-Q</b>		
24	25.5	-	30.5	20	6	33	2.6	0.05		<b>MMBZ27VB-QB</b>	 DFN1110D-3 (SOT8015)	1.4 x 1.2 x 0.48
27	28	-	38	17	6	33	2.5	0.05		<b>MMBZ33VB-QB</b>		
24	25.5	-	30.5	20	6	33	2.6	0.05		<b>MMBZ27VBQB-Q</b>		
27	28	-	38	17	6	33	2.5	0.05		<b>MMBZ33VBQB-Q</b>		

ESD protection, TVS, filtering and signal conditioning

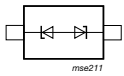













Low capacitance ESD protection for high-speed interfaces

Types in **bold red** are in development, types in **bold** represent new products

Unidirectional	Bidirectional	$V_{RWM}$ (V)	$C_{line, typ}$ (pF)	ESD rating max (kV) <sup>(1)</sup>	Configuration	Type	Package	Size (mm)			
1	0	5	0.45	20		PESD5V0C1USF	 DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3			
		6.5	0.45	20		PESD6V5C1USF					
		5	0.6	10		PESD5V0F1USF					
		5.5	0.5	18		<b>PESD5V5C1UBSF</b>					
		15	1	30		<b>PESD15VW1UCSF</b>					
		15	0.5	15		<b>PESD5V5C1UL</b>	 DFN1006D-2 (SOD882D)	1.0 x 0.6 x 0.37			
		5	0.95	8		PESD5V0X1ULD					
			1.55	15		PESD5V0X1UALD					
		5	0.95	8		PESD5V0X1UB			 SOD523 (SC-79)	1.2 x 0.8 x 0.6	
			1.55	15		PESD5V0X1UAB					
		3.3	0.6	30		PESD3V3U1UT	 SOT23	2.9 x 1.3 x 1.0			
		3.3	1	18		<b>PESD3V3X2UT</b>					
		3.3	0.8	8		<b>PESD3V3F2UT</b>					
		5	0.9	22		<b>PESD5V0X2UT</b>					
		5	0.6	8		<b>PESD5V0F2UT</b>					
		5	0.6	30		PESD5V0U1UT					
		12	0.6	30		PESD12VU1UT					
		15	0.6	30		PESD15VU1UT					
		24	0.6	23		PESD24VU1UT					
		0	1	2		0.7			20		<b>PESD2V0Y1BXM</b>
1	0.1			8		<b>PESD1V0R1BCSF</b>			 DSN0603-2 (SOD962)		0.6 x 0.3 x 0.3
	0.13			10		<b>PESD1V0R1BDSF</b>					
	0.15			13		<b>PESD1V0H1BSF</b>					
	0.16			14	<b>PESD1V0Y1BBSF</b>						
	0.18			15	<b>PESD1V0C1BSF</b>						
	0.2			15	<b>PESD1V0R1BESF</b>						
0.24	19			<b>PESD1V0R1BFSF</b>							
1.2	0.26			15	<b>PESD1V2Y1BSF</b>						
2.0	0.69			20	PESD2V0Y1BSF						
2.5	0.25			15	PESD2V5Y1BSF						
2.5	2			25	PESD2V5X1BSF						
2.8	0.1			10	PESD2V8R1BSF						
1	0.16			14	<b>PESD2V8Y1BSF</b>						
3.3	0.24			15	PESD3V3Y1BSF						
	0.2			20	PESD3V3C1BSF						
	0.28			20	PESD3V3Z1BSF						
	0.45			30	PESD3V3Z1BCSF						
	0.55			30	PESD3V3W1BCSF						
3.3	0.78			20	PESD3V3F1BSF						
4.0	0.24			15	PESD4V0Y1BSF						
	0.7			30	<b>PESD4V0Y1BBSF</b>						
	0.16			14	<b>PESD4V0Y1BCSF</b>						
	0.28			20	PESD4V0Z1BSF						
	0.37			13	<b>PESD4V0Y1BHSF</b>						
	0.45			30	PESD4V0Z1BCSF						
	0.55			30	PESD4V0W1BCSF						
	5			0.09	8	<b>PESD5V0R1BCSF</b>					
5	0.1			12	<b>PESD5V0R1BDSF</b>						
5	0.1			10	PESD5V0R1BSF						
	0.15			15	PESD5V0H1BSF						
	0.2			20	PESD5V0C1BSF						
	0.32			30	PESD5V0Z1BDSF						
	0.49			30	PESD5V0W1BDSF						
5.5	0.27			18	<b>PESD5V5C1BBSF</b>						

# Low capacitance ESD protection for high-speed interfaces

Types in **bold red** are in development, types in **bold** represent new products

Unid/Rectional	Bid/Rectional	V <sub>RWM</sub> (V)	C <sub>line, typ</sub> (pF)	ESD rating max (kV) [1]	Configuration	Type	Package	Size (mm)					
0	1	7	0.1	10		PESD7V0R1BSF		0.6 x 0.3 x 0.3					
			0.15	15		PESD7V0H1BSF							
			0.2	20		PESD7V0C1BSF							
		7.1	0.11	8		<b>PESD7V1R1BCSF</b>							
			0.13	12		<b>PESD7V1R1BDSF</b>							
		5.5	0.25	10		PESD5V0F1BSF							
						PESD5V0F1BRSF							
		3.3	-	20		PESD3V3X1BCSF							
		5.0	-			PESD5V0X1BCSF							
		9	0.2	18		<b>PESD9V0C1BSF</b>							
		9	0.32	30		<b>PESD9V0Z1BDSF</b>							
		9	0.49	30		<b>PESD9V0W1BDSF</b>							
		12	0.37	13		<b>PESD12VY1BSF</b>							
		12	0.45	30		<b>PESD12VW1BCSF</b>							
		15	0.18	10		<b>PESD15VY1BSF</b>							
		15	0.45	30		<b>PESD15VW1BCSF</b>							
		15	0.5	30		<b>PESD15VW1ACSF</b>							
		18	0.23	10		<b>PESD18VF1BBSF</b>							
		24	0.18	10		<b>PESD24VY1BSF</b>							
		24	0.23	10		<b>PESD24VF1BBSF</b>							
		30	0.24	10		<b>PESD30VF1BSF</b>							
		1	0.18	15		<b>PESD1V0Y1BIF</b>							
		18	0.15	10		<b>PESD18VY1BBIF</b>							
		0	1	5		0.4			10	PESD5V0F1BLD		1.0 x 0.6 x 0.48	
										PESD5V0F1BRLD			
				3.3		1.3			9	PESD3V3X1BL			
				5.5		0.4			10	PESD5V0F1BL			
										0.49	8		PESD5V0X1BCL
										0.85	15		PESD5V0X1BCAL
				5.5		0.9			9	PESD5V0X1BL			
										<b>PESD5V5C1BL</b>			
				18		0.31			10	<b>PESD18VF1BBL</b>			
24	0.28			10	<b>PESD24VF1BBL</b>								
30	0.27			10	<b>PESD30VF1BBL</b>								
2	1			3.3	0.5	15		<b>PESD3V3C2UM</b>		1.0 x 0.6 x 0.46			
								<b>PESD4V0X2UM</b>					
								<b>PESD5V0C2UM</b>					
				4	0.8	20		PESD5V0X2UMB		1.0 x 0.6 x 0.37			
		PESD5V0X2UM						1.0 x 0.6 x 0.48					
		PESD5V0X2UAMB						1.0 x 0.6 x 0.37					
		5	0.5	10	PESD5V0X2UAM			1.0 x 0.6 x 0.48					
					0.8	15		PESD5V0X1BT		2.9 x 1.3 x 1.0			
					0.9	9		NUP1301U		2.0 x 1.25 x 0.95			
		0	80	0.6	30			NUP1301		2.9 x 1.3 x 1.0			
								NUP1301QA		1.0 x 1.0 x 0.4			

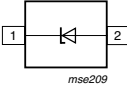




ESD protection, TVS, filtering and signal conditioning

# Low capacitance ESD protection for high-speed interfaces

Types in **bold** represent new products

Unid/Rectional	Bid/Rectional	V <sub>rev</sub> (V)	C <sub>line typ</sub> (pF)	ESD rating max (kV) [1]	Configuration	Type	Package	Size (mm)
0	2	5	0.21	20		<b>PESD5V0C2BDF</b>	 DFN0603-3 (SOT8013)	0.62 x 0.32 x 0.25
0	2	4	0.26	20		PUSB3BB2DF		
0	2	4	0.31	25		<b>PESD4V0Z2BCDF</b>		
3	0	5.5	1	8		PRTR5V0U2X	 SOT143B	2.9 x 1.3 x 1.0
			1.8	12		PRTR5V0U2AX		
			1	8		PRTR5V0U2F	 DFN1410-6 (SOT886)	1.45 x 1.0 x 0.48
4	0	3.3	0.75	25		PESD3V3X4UHC	 DFN1308-6 (SOT8006)	1.3 x 0.8 x 0.4
						5.5	1	8
		PRTR5V0U4D	2.9 x 1.5 x 1.0					
		0.6	8	IP4283CZ10-TBR	 DFN2510A-10 (SOT1176)	2.5 x 1.0 x 0.48		
4	0	3.3	0.29	15		PUSB3FC4	 SOT1165-3 (DFN2510-10)	2.5 x 1 x 0.5
4	0		<b>PHDMI2FC4</b>					
4	0		PUSB3FR4					
4	0		<b>PUSB3FS4</b>			 DFN2510A-10 (SOT1176-1)	2.5 x 1 x 0.5	
0	4		PUSB3AB4					
0	4		<b>PUSB3BB4</b>					
0	4		<b>PUSB3CB4</b>					
4	0		PHDMI2FR4					
4	0		<b>PHDMI2FS4</b>					
0	4		PHDMI2AB4					
0	4	<b>PHDMI2BB4</b>						
0	4	<b>PHDMI2CB4</b>						
6	0	3.3	0.35	15		PUSB3FR6	 XSON7 (SOT1358-1)	2.1 x 1.1 x 0.5
0	6		0.15			PUSB3AB6		

# General purpose ESD protection devices

Number of protected lines		V <sub>RWM</sub> (V)	C <sub>line typ</sub> (pF)	C <sub>line max</sub> (pF)	I <sub>PPM</sub> (A) @ 8/20µs	ESD rating max (kV) [1]	I <sub>R</sub> max (µA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)
Unid/Rectional	Bid/Rectional										
1	0	5	35	42	3.5	30	0.1		PESD5V0S1USF	 DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3
		5.5	12	15.4	1.2	30	0.1		PESD5V0L1USF		
		3.3	2.6	3.1	-	9	0.1 (@ 3 V)		PESD3V3U1UL		
			34	40	4.5	30	0.3			PESD3V3L1UL	
			207	300	15	30	2			PESD3V3S1UL	
		5	2	2.6	-	9	0.1		PESD5V0U1UL		
			25	30	3.5	26	0.1		PESD5V0L1UL		
		5	152	200	15	30	1		PESD5V0S1UL	 DFN1006-2 (SOD882)	1.0 x 0.6 x 0.5
		6	82	105	10	30	0.3		PESD6V3S1UL		
		8	70	90	9	30	0.5		PESD8V0S1UL		
		12	38	75	5	30	0.05		PESD12VS1UL		
		15	32	70	5	30	0.05		PESD15VS1UL		
		24	23	50	3	23	0.05		PESD24VS1UL		
		36	18	2.5	2.5	30	0.01		PESD36VS1UL		
		5	25	30	3.5	26	0.1		PESD5V0L1ULD		
			152	200	15	30	1		PESD5V0S1ULD		
		8	70	90	13	30	0.5		PESD8V0S1ULD		
		12	38	75	5	30	0.05		PESD12VS1ULD		
		15	32	70	5	30	0.05		PESD15VS1ULD		
		24	23	50	3	23	0.05		PESD24VS1ULD		
		3.3	207	300	15	30	2		PESD3V3S1ULS		
		5	152	200	15	30	1		PESD5V0S1ULS	 DFN1006BD-2 (SOD882BD)	1.0 x 0.6 x 0.48
		8	70	90	13	30	0.5		PESD8V0S1ULS		
		12	38	75	5	30	0.05		PESD12VS1ULS		
		15	32	70	5	30	0.05		PESD15VS1ULS		
		24	23	50	3	23	0.05		PESD24VS1ULS		
		36	18	2.5	2.5	30	0.01		PESD36VS1ULS		
		2.5	229	300	20	30	6		PESD5Z2.5		
		3.3	2.6	3.1	-	9	0.1 (@ 3 V)		PESD3V3U1UB		
			34	40	4.5	30	0.3		PESD3V3L1UB		
			172	200	20	30	0.05		PESD5Z3.3		
			207	300	18	30	2		PESD3V3S1UB		
		5	2	2.6	-	9	0.1		PESD5V0U1UB		
			25	30	3.5	26	0.1		PESD5V0L1UB		
			89	150	10	30	0.05		PESD5Z5.0		
			152	200	15	30	1		PESD5V0S1UB		
		6	78	150	10	30	0.01		PESD5Z6.0		
		7	69	150	10	30	0.01		PESD5Z7.0		
		12	35	75	6	30	0.01		PESD5Z12		
			38	75	5	30	0.05		PESD12VS1UB		
		15	32	70	5	30	0.05		PESD15VS1UB		
		24	23	50	3	23	0.05		PESD24VS1UB	 SOD523 (SC-79)	1.2 x 0.8 x 0.6

ESD protection, TVS, filtering and signal conditioning

## General purpose ESD protection devices

types in **bold** represent new products

Number of protected lines		V <sub>RWM</sub> (V)	C <sub>line</sub> typ (pF)	C <sub>line</sub> max (pF)	I <sub>PPM</sub> (A) @ 20µs	ESD rating max (kV) [1]	I <sub>R</sub> max (µA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)		
Unid/Rectional	Bid/Rectional												
1	0	3.3	2.6	3.1	-	9	0.1 (@ 3 V)		PESD3V3U1UA	 SOD323 (SC-76)	1.7 x 1.25 x 0.95		
		5	2	2.6	-	9	0.1		PESD5V0U1UA				
			25	30	3.5	26	0.1					PESD5V0L1UA	
			480	530	47	30	4					PESD5V0S1UA	
		12	160	180	22.5	30	0.1		PESD12V51UA				
		24	23	50	3	23	0.05		PESD24V51UA				
		5	480	530	47	30	4		PESD5V0S1UJ				
		12	160	180	22.5	30	0.1		PESD12V51UJ				
		36	18	30	2.5	30	0.01		PESD36V51UJ			SOD323F (SC-90)	1.7 x 1.25 x 0.7
				3.3	5.5	6	5.4		20			0.1	
8.5	10				7.1	30	0.1	PESD3V3V1BCSF					
11	14				12	30	0.05	PESD3V3S1BSF					
24	-				20	30	0.05	PESD3V3L1BBSF					
33	-				20	30	0.05	PESD3V3L1BSF					
5	5.3			6	1	20	0.1	PESD5V0V1BCSF					
					2	20	0.1	PESD5V0V1BDSF					
	4.5			1	15	0.1	PESD5V0V1BSF						
	12			15.4	3	30	0.1	PESD5V0L1BSF					
	35			45	8	30	0.1	PESD5V0S1BSF					
5.5	5.3			6	5.4	20	0.1	PESD5V5U1BCSF					
	6.2			7.5	11	22	0.05	PESD5V5S1BSF					
12	17			19	6.1	30	0.05	PESD12VA-SF					
16	5.7			6.5	1.3	12	0.05	PESD16VV1BSF					
18	4			6	3	25	0.1	PESD18VV1BBSF					
12	17			19	10	30	0.05	<b>PESD12VV1BSF</b>					
15	15			17	9	30	0.05	<b>PESD15VV1BSF</b>					
18	12.7			15	7.1	30	0.05	<b>PESD18VV1BASF</b>					
20	11.2			13.5	6.5	30	0.05	<b>PESD20VV1BSF</b>					
22	10.2			12.2	5.1	30	0.05	<b>PESD22VV1BSF</b>					
24	9.3			11.2	4.7	30	0.05	<b>PESD24VV1BSF</b>					
24	5			6	2.6	20	0.05	<b>PESD24VV1BBSF</b>					
27	5			6	2.4	18	0.05	<b>PESD27VV1BSF</b>					
30	4.8			5.8	2.1	15	0.05	<b>PESD30VV1BSF</b>					
-30/+33	4.8			5.8	1.9	13	0.05	<b>PESD33VV1ASF</b>					
-30/+36	4.5			5.4	1.8	12	0.05	<b>PESD36VV1ASF</b>					
5	75			-	15	30	1	PESD5V0L1BA					
12	19			-	5	30	0.05	PESD12VL1BA					
15	16			-	5	30	0.05	PESD15VL1BA					
24	11			-	3	23	0.05	PESD24VL1BA					
32	9			12	2.5	23	0.05	PESD32VL1BA					
36	9			12	2	18	0.05	PESD36VL1BA					
24	14			17	3.5	30	0.05	PESD24VV1BA					
27	13			17	3	30	0.05	PESD27VV1BA					
3.3	11			13	5	30	0.01	PESD3V3V1BL					
	22			30	10	30	0.05	PESD3V3T1BL					
	35			40	15	30	0.1	PESD3V3S1BL					
	65			78	34	30	0.05	PTVS3V3D1BAL					
4.5	65			78	34	30	0.05	PTVS4V5D1BL					
5	11			13	4.8	30	0.01	PESD5V0V1BL					

# General purpose ESD protection devices

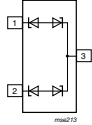

















Types in **bold** represent new products

Number of protected lines		V <sub>RWM</sub> (V)	C <sub>line typ</sub> (pF)	C <sub>line max</sub> (pF)	I <sub>PPM</sub> (A) @ 20µs	ESD rating max (kV) <sup>[1]</sup>	I <sub>R</sub> max (µA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)									
Unid/Rectional	Bid/Rectional																			
0	1	5	35	45	12	30	0.1		PESD5V0S1BL		1.0 x 0.6 x 0.5									
		5.5	70	84	35	30	0.1		PTV55V5D1BL											
		12	17	25	7.8	30	0.01		PESD12VV1BL											
		24	14	17	3.5	30	0.05		<b>PESD24VV1BL</b>											
		27	14	17	3	30	0.05		<b>PESD27VV1BL</b>											
		3	20	25	10	30	0.1		PESD3V3T1BLD		1.0 x 0.6 x 0.37									
		5	11	13	4.8	30	0.01		PESD5V0V1BLD											
			35	45	12	30	0.1		PESD5V0S1BLD											
		3.3	20	25	10	30	0.1		PESD3V3T1BLS				1.0 x 0.6 x 0.48							
		5	11	13	4.8	30	0.01		PESD5V0V1BLS											
		12	17	25	7.8	30	0.01		PESD12VV1BLS											
		3.3	15.5	18	7.5	25	0.1		PESD3V3L1BSL		1 x 0.6 x 0.4									
		5	15.5	18	7.5	25	0.1		PESD5V0L1BSL											
		7	15	20	7	30	0.1		PESD7V0L1BSL											
		12	7.7	9	7.3	30	0.1		PESD12VL1BSL											
		0	5	11	13	4.8	30		0.01		PESD5V0V1BB		1.2 x 0.8 x 0.6							
				35	45	12	30		0.1		PESD5V0S1BB									
				11	13	4.8	30		0.01			1.7 x 1.25 x 0.95								
				35	45	12	12		0.1				PESD5V0S1BA							
				0	5	2.9	3.5		-		10	0.1		PESD5V0U1BL		1.0 x 0.6 x 0.5				
														PESD5V0U1BLD				1 x 0.6 x 0.4		
														PESD5V0U1BB		1.2 x 0.8 x 0.6				
														PESD5V0U1BA						1.7 x 1.25 x 0.95
														3.3	22	28				
5	16							19						2.5	15	0.025	PESD5V0L2UM			
				2.5	15	0.025	PESD5V0L2UMB				1 x 0.6 x 0.37									
3.3	207			300	18	30	2					PESD3V3S2UT		2.9 x 1.3 x 1						
5.2	152	200	15	30	1	PESD5V2S2UT														
12	38	75	5	30	1	PESD12VS2UT														
15	32	70	5	30	1	PESD15VS2UT														
24	23	50	3	23	1	PESD24VS2UT														
36	17	35	2.5	30	1 (@ 30 V)	PESD36VS2UT														
42	17	20	1.8	23	0.05	PESD42VS2UT														
3.3	207	300	18	30	2		PESD3V3S2UAT			2.9 x 1.3 x 1										
5	152	200	15	30	1		PESD5V0S2UAT													
15	32	70	5	30	0.05		PESD15VS2UAT													
24	23	50	3	23	0.05		PESD24VS2UAT													
0	6	5	38	46	6.5	30	0.09 (@ 4 V)				2 x 1.25 x 0.95									
		6	34	40	5.5	30	0.018 (@ 4.3 V)	PESD5V0L2UU												
							0.018 (@ 4.3 V)	PESD6V0L2UU												
0	2	3.3	101	-	15	30	0.05			2.9 x 1.3 x 1										
		5	75	-	13	30	0.05				PESD3V3L2BT									
		12	19	-	5	30	0.1				PESD12VL2BT									

ESD protection, TVS, filtering and signal conditioning























# General purpose ESD protection devices

Types in **bold** represent new products

Number of protected lines		V <sub>RWM</sub> (V)	C <sub>line</sub> typ (pF)	C <sub>line</sub> max (pF)	I <sub>PPM</sub> (A) 8/20µs	ESD rating max (kV) [1]	I <sub>R</sub> max (µA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)
Unid/Rectional	Bid/Rectional										
0	2	15	16	-	5	30	0.05		PESD15VL2BT	 SOT23	2.9 x 1.3 x 1
		24	11	-	3	23	0.05		PESD24VL2BT		
		24	14	17	3.5	30	0.05		PESD24VV2BT		
		27	13	17	3	30	0.05		PESD27VV2BT		
		48	7	9	4	30	0.05		<b>PESD48VV2BT</b>		
		35	45	12	30	0.1			PESD5V0S2BT		
		2.9	3.5	-	10	0.1			PESD5V0U2BT		
		18	20	9	30	0.01			PESD5V0U2BM	 DFN1006-3 (SOT883)	1.0 x 0.6 x 0.5
		2.9	3.5	-	10	0.1			PESD5V0V2BM		
		18	20	9	30	0.01			PESD5V0U2BMB	 DFN1006B-3 (SOT883B)	1 x 0.6 x 0.37
		35	45	35	30	0.1			PESD5V0V2BMB		
										PESD5V0S2BQA	 DFN1010D-3 (SOT1215)
4	3	3.3	22	28	3	20	0.3		PESD3V3L4UF	 DFN1410-6 (SOT886)	1.45 x 1 x 0.5
			110	300	10	30	1 (@ 3 V)		PESD3V3S4UF		
		5	16	19	2.5	20	0.025		PESD5V0L4UF		
			85	220	10	30	0.1 (@ 4.3 V)		PESD5V0S4UF		
		3	200	240	-	8	2		BZA856A	 SOT353 (SC-88A)	2 x 1.25 x 0.95
		3.3	22	28	3	20	0.3	PESD3V3L4UG			
		5	16	19	2.5	20	0.025		PESD5V0L4UG		
		3	200	240	-	8	2		BZA456A	 SOT457 (SC-74)	2.9 x 1.5 x 1
		3.3	215	300	20	30	0.8	PESD3V3S4UD			
		5	165	220	20	30	0.2	PESD5V0S4UD			
		15	37	48	-	8	0.1	BZA420A			
		24	40	70	4	23	0.01	PESD24VS4UD			
0	4	3.3		9.9	6	20	0.1		<b>PESD3V3L4BHC</b>	 DFN1308-6 (SOT8006)	1.3 x 0.8 x 0.4
		2.9	3.5	-	10	0.1			PESD5V0U4BF	 DFN1410-6 (SOT886)	1.45 x 1 x 0.5
		5	45	75	-	15	0.1			BZA408B	 SOT457 (SC-74)
0	5	3.3	22	28	2.5	20	0.3		PESD3V3L5UF	 DFN1410-6 (SOT886)	1.45 x 1 x 0.5
		5	16	19	2.5	20	0.025		PESD5V0L5UF		
		3.3	22	28	2.5	20	0.3		PESD3V3L5UY	 SOT363 (SC-88)	2 x 1.25 x 0.95
		5	16	19	2.5	20	0.025	PESD5V0L5UY			
		3.3	215	300	20	30	0.8		PESD3V3S5UD	 SOT457 (SC-74)	2.9 x 1.5 x 1.0
		5	165	220	20	30	0.2	PESD5V0S5UD			
		12	73	100	10	30	0.015	PESD12V5SUD			
		15	60	90	6	30	0.015	PESD15VS5UD			
		24	45	70	4	23	0.015	PESD24VS5UD			
		5	2.9	3.5	-	10	0.1		PESD5V0U5BF	 DFN1410-6 (SOT886)	1.45 x 1 x 0.5

## Common mode filters with integrated protection

Types in **bold** represent new products






Interface	Number of protected line pairs	Type	Differential Mode 3 dB frequency (typ.)	range of CM rejection > -10 dB	V <sub>RWM</sub> (V)	IEC61000-4-2 ESD rating (kV)	IPP (A) 8/20 μs	Channel series resistance (Ω)	Package	Size (mm)
USB2.0	1	IP3319CX6	1.5	0.14 - 5.8	5.5	15	6	6	WLCSP6 	0.95 x 1.34 x 0.6
USB3.2	1	PCMF1USB3BA/C	10 GHz	1.85 - 8.9	4	15	7.5	2.2	WLCSP5 	0.8 x 1.2 x 0.5
	2	PCMF2USB3BA/C							WLCSP10 	1.6 x 1.2 x 0.5
	3	PCMF3USB3BA/C							WLCSP15 	2.4 x 1.2 x 0.5
	1	PCMF1USB3B/C	8.1 GHz	1.24 - 10	4	20	9.5	2.6	WLCSP5 	0.8 x 1.2 x 0.5
	2	PCMF2USB3B/C							WLCSP10 	1.6 x 1.2 x 0.5
	3	PCMF3USB3B/C							WLCSP15 	2.4 x 1.2 x 0.5
	1	PCMF1USB3S	6 GHz	0.63 - 8.3	5	15	7	3	WLCSP5 	0.8 x 1.2 x 0.5
	2	PCMF2USB3S							WLCSP10 	1.6 x 1.2 x 0.5
	3	PCMF3USB3S							WLCSP15 	2.4 x 1.2 x 0.5
	1	PESD1USB3B	16.1 GHz	-	4	20	9.5	-	WLCSP5 	0.8 x 1.2 x 0.5
	2	PESD2USB3B							WLCSP10 	1.6 x 1.2 x 0.5
	3	PESD3USB3B							WLCSP15 	2.4 x 1.2 x 0.5
	1	PESD1USB3S	17 GHz	-	5	15	8	-	WLCSP5 	0.8 x 1.2 x 0.5
	2	PESD2USB3S							WLCSP10 	1.6 x 1.2 x 0.5
	3	PESD3USB3S							WLCSP15 	2.4 x 1.2 x 0.5
HDMI2.0	1	PCMF1HDMI2S	>6 GHz	0.63-8.3	5	15	7	3	WLCSP5 	0.8 x 1.2 x 0.5
	2	PCMF2HDMI2S							WLCSP10 	1.6 x 1.2 x 0.5
	3	PCMF3HDMI2S							WLCSP15 	2.4 x 1.2 x 0.5
HDMI2.1	1	<b>PCMF1HDMI2BA-C</b>	10 GHz	1.85 - 8.9	4	15	7.5	2.2	WLCSP5 	0.8 x 1.2 x 0.5
	2	<b>PCMF2HDMI2BA-C</b>							WLCSP10 	1.6 x 1.2 x 0.5
	3	<b>PCMF3HDMI2BA-C</b>							WLCSP15 	2.4 x 1.2 x 0.5


ESD protection, TVS, filtering and signal conditioning


# Transient Voltage Surge Suppressor (TVS)

## TVS diodes for mobile applications

Types in **bold** represent new products

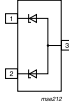

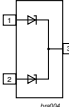
$V_{RWM}$	$V_{BR\ min}$	$V_{BR\ max}$	$I_{PPM\ 8/20\mu s}$	$V_{CL\ 8/20\mu s}$	Type	Package	Size
3.3	4.7	-	34	13.2	PTVS3V3D1BAL	 DFN1006-2 (SOD882)	1.0 x 0.6 x 0.48
4.5	4.7	-	34	13.2	PTVS4V5D1BL		
5.5	5.6	7.6	35	12.2	PTVS5V5D1BL		
3.3	3.8	6.8	70	11	PTVS3V3Z1BSC	 DSN1006-2 (SOD993B)	1.0 x 0.6 x 0.27
5	5.5	8.3	60	12	PTVS5V0Z1BSC		
5	5.1	7	44	7.3	<b>PTVS5V0Z1UCL</b>	 DFN1006-2 (SOD882P-1)	1.02 x 0.62 x 0.45
5	5.1	7	65	7.5	<b>PTVS5V0D1UCL</b>		
6.3	6.4	9	40	9.3	<b>PTVS6V3Z1UCL</b>		
6.3	6.4	9	56	9.3	<b>PTVS6V3D1UCL</b>		
20	22	26	30	28.5	<b>PTVS20VD1UL</b>		
4.8	5.1	7	150	8.5	PTVS4V8Z1UPC	 DFN1610-2 (SOD1610)	1.6 x 1.0 x 0.55
5	5.1	7	150	8.5	PTVS5V0Z1UPC		
6.3	6.4	9	140	9.9	<b>PTVS6V3Z1UPC</b>		
24	25	29	150	28	PTVS24VZ1UPA	 DFN2020-3 (SOT1061-3)	2.0 x 2.0 x 0.55
30	31	34.5	150	33.5	<b>PTVS30VZ1UPA</b>		

$P_{PPM\ 10/1000\mu s}$	$V_{RWM}$	$V_{BR\ min}$	$V_{BR\ max}$	$I_{PPM\ 8/20\mu s}$	$V_{CL\ 8/20\mu s}$	$I_{PPM\ 10/1000\mu s}$	$V_{CL\ 10/1000\mu s}$	Type	Package	Size
300	7.5	8.33	9.21	178	19.7	23.3	12.9	PTVS7V5U1UPA	 DFN2020-3 (SOT1061)	2.0 x 2.0 x 0.62
	10	11.1	12.3	148	23	17.6	17	PTVS10VU1UPA		
	12	13.3	14.7	131	25.2	15.1	19.9	PTVS12VU1UPA		
	15	16.7	18.5	111	28.8	12.3	24.4	PTVS15VU1UPA		
	18	20	22.1	97	32	10.3	29.2	PTVS18VU1UPA		
	20	22.2	24.5	98.5	38.7	9.2	32.5	PTVS20VU1UPA		
	22	24.4	26.9	88.5	41	8.4	35.5	PTVS22VU1UPA		
	24	26.7	29.5	79	44.2	7.7	38.8	PTVS24VU1UPA		
	26	28.9	31.9	69	43.5	7	43	PTVS26VU1UPA		

V <sub>RWM</sub> (V)	V <sub>br</sub> min (V)	V <sub>br</sub> max (V)	8/20µs pulse		10/1000µs pulse		I <sub>Rm</sub> typ @ V <sub>RWM</sub> (nA)	I <sub>Rm</sub> max @ V <sub>RWM</sub> (nA)	R <sub>dyn</sub> (TLP)	Type	Package	Size
			V <sub>cl</sub> @ I <sub>ppm</sub> (V)max	V <sub>cl</sub> @ I <sub>ppm</sub> (A)	V <sub>cl</sub> @ I <sub>ppm</sub> (V)max	I <sub>ppm</sub> (A)						
5	6.4	7.8	19.4	100	12	20	25	1000	0.1	PTVS5V0Z1USKP	 DSN1608-2 (SOD964)	1.6 x 0.8 x 0.27
			18	80	12	20	25	1000	0.06	PTVS5V0Z1USK		
7.5	8.33	9.65	22	100	13.5	17	1	200	0.08	PTVS7V5Z1USK		
10	11.1	12.9	27	75	18.2	12.5	0.1	200	0.11	PTVS10VZ1USK		
12	13.1	15.4	29	65	21.8	10.5	0.1	200	0.11	PTVS12VZ1USK		
15	16.7	19.4	26	52	27.4	7.5	0.1	200	0.13	PTVS15VZ1USK		
18	20	23.2	44	41	32.8	6.4	0.1	200	0.17	PTVS18VZ1USK		
20	22.2	25.4	48.3	41	36.9	6	1	200	0.2	PTVS20VZ1USK		
22	24.4	26.9	51	39	40	5	0.1	200	0.2	PTVS22VZ1USK		
26	28.9	33.4	57.5	32	46	4.5	0.1	200	0.15	PTVS26VZ1USK		

ESD protection, TVS, filtering and signal conditioning


## TVS diodes, 24 W/40 W

Power (W) (10 / 1000 µs waveform) [1]	V <sub>RWM</sub> (V)	V <sub>min</sub> (V) @ I	V <sub>typ</sub> (V) @ I	V <sub>br</sub> max (V) @ I <sub>r</sub>	I <sub>r</sub> (mA)	ESD rating max (kV)	C <sub>typ</sub> (pF)	V <sub>cl</sub> max (V) @ I <sub>pp</sub> [1]	I <sub>pp</sub> (A) [1]	I <sub>RM</sub> max (µA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)			
24	3	5.32	5.6	5.88	20	30	210	8	3	5		MMBZ5V6AL(-Q)	 SOT23	2.9 x 1.3 x 1.0			
		5.89	6.2	6.51	1	30	175	8.7	2.76	0.2		MMBZ6V2AL(-Q)					
	4.5	6.48	6.8	7.14	1	30	150	9.6	2.5	0.3		MMBZ6V8AL(-Q)					
	6	8.65	9.1	9.56	1	30	155	14	1.7	0.1		MMBZ9V1AL(-Q)					
	6.5	9.5	10	10.5	1	30	130	14.2	1.7	0.02		MMBZ10VAL(-Q)					
40	8.5	11.4	12	12.6	1	30	110	17	2.35	0.005					MMBZ12VAL(-Q)		
	12	14.25	15	15.75	1	30	85	21	1.9	0.005					MMBZ15VAL(-Q)		
	13	15.2	16	16.8	1	30	76	23	1.9	0.005					MMBZ16VAL(-Q)		
	13	15.68	16	16.32	1	30	76	23	1.9	0.005					MMBZ16VTAL(-Q)		
	14.5	17.1	18	18.9	1	30	70	25	1.6	0.005					MMBZ18VAL(-Q)		
	17	19	20	21	1	30	65	28	1.4	0.005					MMBZ20VAL(-Q)		
	22	25.65	27	28.35	1	30	48	40	1	0.005					MMBZ27VAL(-Q)		
	26	31.35	33	34.65	1	30	45	46	0.87	0.005	MMBZ33VAL(-Q)						
	8.5	11.4	12	12.6	1	30	110	17	2.35	0.005	MMBZ12VDL(-Q)						
	12.8	14.3	15	15.8	1	30	85	21.2	1.9	0.005	MMBZ15VDL(-Q)						
	14.5	17.1	18	18.9	1	30	70	25	1.6	0.005	MMBZ18VCL(-Q)						
	17	19	20	21	1	30	65	28	1.4	0.005	MMBZ20VCL(-Q)						
	22	25.65	27	28.35	1	30	48	38	1	0.005	MMBZ27VCL(-Q)						
	26	31.35	33	34.65	1	30	45	46	0.87	0.005	MMBZ33VCL(-Q)						

[1] 10/1000µs according to IEC 61643-321


# Transient Voltage Surge Suppressor (TVS)

## TVS 400 W

Power (W) (10/1000 µs waveform) [1]	$V_{RWM}$ (V)	$V_{BR\ min}$ (V) @ $I_R$	$V_{BR\ typ}$ (V) @ $I_R$	$V_{BR\ max}$ (V) @ $I_R$	$V_{CL\ max}$ (V) @ $I_{PP}$ [1]	$V_{CL\ max}$ (V) @ $I_{PPM}$ [1]	$I_{PP}$ (A) [1]	$I_{RM\ typ}$ (µA) @ $V_{RWM}$	$I_{RM\ max}$ (µA) @ $V_{RWM}$	Type (Tj max = 150 °C)	Type (Tj max = 185 °C)	Package	Size (mm)
350	3.5	5.20	5.60	6.00	10	8.0	43.8	5	600	PTVS3V3S1UR(-Q)	PTVS3V3S1UTR(-Q)		
400	5.0	6.40	6.70	7.00	10	9.2	43.5	5	400	PTVS5V0S1UR(-Q)	PTVS5V0S1UTR(-Q)		
	6.0	6.67	7.02	7.37	10	10.3	38.8	5	400	PTVS6V0S1UR(-Q)	PTVS6V0S1UTR(-Q)		
	6.5	7.22	7.60	7.98	10	11.2	35.7	5	250	PTVS6V5S1UR(-Q)	PTVS6V5S1UTR(-Q)		
	7.0	7.78	8.20	8.60	10	12.0	33.3	3	100	PTVS7V0S1UR(-Q)	PTVS7V0S1UTR(-Q)		
	7.5	8.33	8.77	9.21	1	12.9	31.0	0.2	50	PTVS7V5S1UR(-Q)	PTVS7V5S1UTR(-Q)		
	8.0	8.89	9.36	9.83	1	13.6	29.4	0.03	25	PTVS8V0S1UR(-Q)	PTVS8V0S1UTR(-Q)		
	8.5	9.44	9.92	10.40	1	14.4	27.8	0.01	10	PTVS8V5S1UR(-Q)	PTVS8V5S1UTR(-Q)		
	9.0	10.00	10.55	11.10	1	15.4	26.0	0.005	5	PTVS9V0S1UR(-Q)	PTVS9V0S1UTR(-Q)		
	10	11.10	11.70	12.30	1	17.0	23.5	0.005	2.5	PTVS10VS1UR(-Q)	PTVS10VS1UTR(-Q)		
	11	12.20	12.85	13.50	1	18.2	22.0	0.005	2.5	PTVS11VS1UR(-Q)	PTVS11VS1UTR(-Q)		
	12	13.30	14.00	14.70	1	19.9	20.1	0.005	2.5	PTVS12VS1UR(-Q)	PTVS12VS1UTR(-Q)		
	13	14.40	15.15	15.90	1	21.5	18.6	0.001	0.1	PTVS13VS1UR(-Q)	PTVS13VS1UTR(-Q)		
	14	15.60	16.40	17.20	1	23.2	17.2	0.001	0.1	PTVS14VS1UR(-Q)	PTVS14VS1UTR(-Q)		
	15	16.70	17.60	18.50	1	24.4	16.4	0.001	0.1	PTVS15VS1UR(-Q)	PTVS15VS1UTR(-Q)		
	16	17.80	18.75	19.70	1	26.0	15.4	0.001	0.1	PTVS16VS1UR(-Q)	PTVS16VS1UTR(-Q)		
	17	18.90	19.90	20.90	1	27.6	14.5	0.001	0.1	PTVS17VS1UR(-Q)	PTVS17VS1UTR(-Q)		
	18	20.00	21.00	22.10	1	29.2	13.7	0.001	0.1	PTVS18VS1UR(-Q)	PTVS18VS1UTR(-Q)		2.6 x 1.7 x 1.0
	20	22.20	23.35	24.50	1	32.4	12.3	0.001	0.1	PTVS20VS1UR(-Q)	PTVS20VS1UTR(-Q)		
	22	24.40	25.60	26.90	1	35.5	11.3	0.001	0.1	PTVS22VS1UR(-Q)	PTVS22VS1UTR(-Q)		
	24	26.70	28.10	29.50	1	38.9	10.3	0.001	0.1	PTVS24VS1UR(-Q)	PTVS24VS1UTR(-Q)		
	26	28.90	30.40	31.90	1	42.1	9.5	0.001	0.1	PTVS26VS1UR(-Q)	PTVS26VS1UTR(-Q)		
	28	31.10	32.80	34.40	1	45.4	8.8	0.001	0.1	PTVS28VS1UR(-Q)	PTVS28VS1UTR(-Q)		
	30	33.30	35.10	36.80	1	48.4	8.3	0.001	0.1	PTVS30VS1UR(-Q)	PTVS30VS1UTR(-Q)		
	33	36.70	38.70	40.60	1	53.3	7.5	0.001	0.1	PTVS33VS1UR(-Q)	PTVS33VS1UTR(-Q)		
	36	40.00	42.10	44.20	1	58.1	6.9	0.001	0.1	PTVS36VS1UR(-Q)	PTVS36VS1UTR(-Q)		
	40	44.40	46.80	49.10	1	64.5	6.2	0.001	0.1	PTVS40VS1UR(-Q)	PTVS40VS1UTR(-Q)		
43	47.80	50.30	52.80	1	69.4	5.8	0.001	0.1	PTVS43VS1UR(-Q)	PTVS43VS1UTR(-Q)			
45	50.00	52.65	55.30	1	72.7	5.5	0.001	0.1	PTVS45VS1UR(-Q)	PTVS45VS1UTR(-Q)			
48	53.30	56.10	58.90	1	77.4	5.2	0.001	0.1	PTVS48VS1UR(-Q)	PTVS48VS1UTR(-Q)			
51	56.70	59.70	62.70	1	82.4	4.9	0.001	0.1	PTVS51VS1UR(-Q)	PTVS51VS1UTR(-Q)			
54	60.00	63.15	66.30	1	87.1	4.6	0.001	0.1	PTVS54VS1UR(-Q)	PTVS54VS1UTR(-Q)			
58	64.40	67.80	71.20	1	93.6	4.3	0.001	0.1	PTVS58VS1UR(-Q)	PTVS58VS1UTR(-Q)			
60	66.70	70.20	73.70	1	96.8	4.1	0.001	0.1	PTVS60VS1UR(-Q)	PTVS60VS1UTR(-Q)			
64	71.10	74.85	78.60	1	103.0	3.9	0.001	0.1	PTVS64VS1UR(-Q)	PTVS64VS1UTR(-Q)			

[1] 10/1000µs according to IEC 61643-321

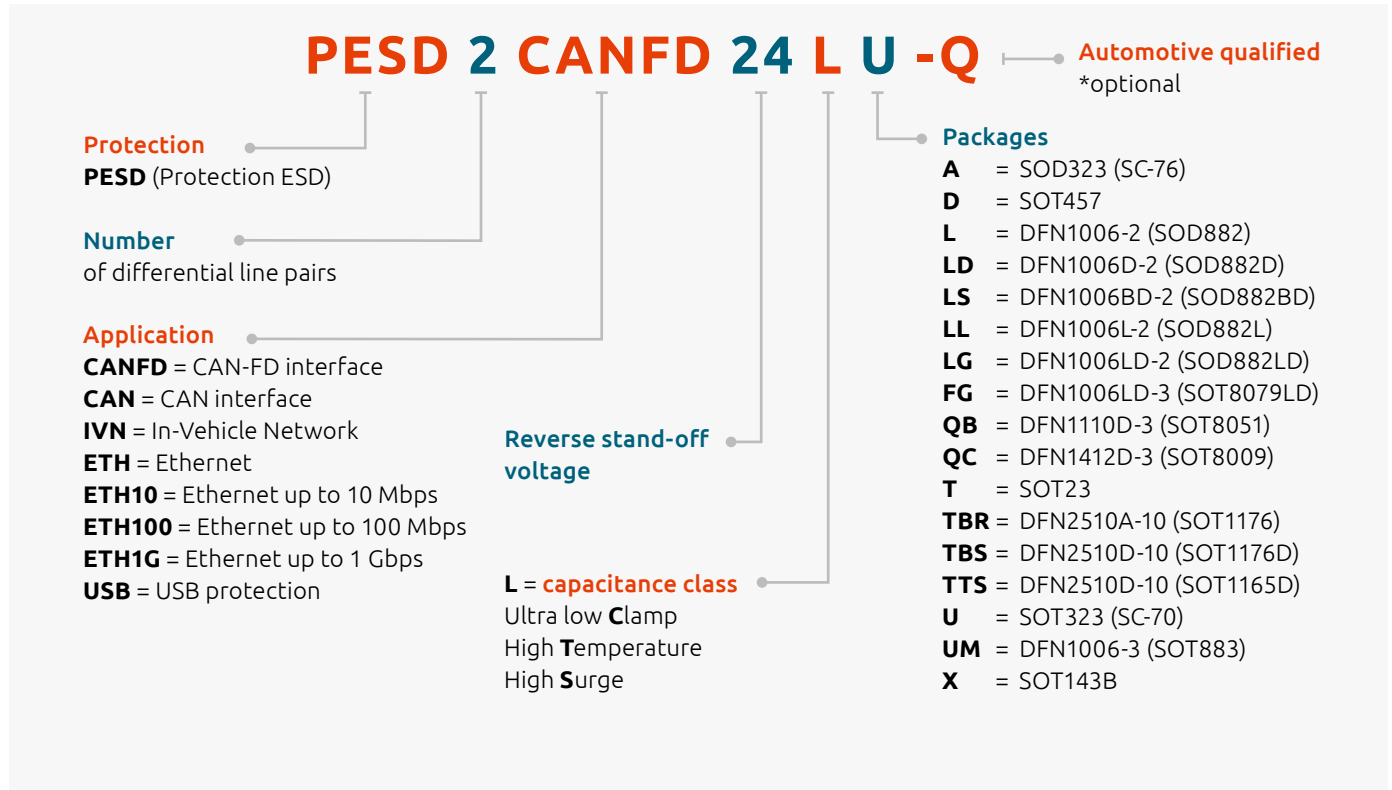
TVS 600 W

Power (W) (10/1000 µs waveform) [1]	$V_{RWM}$ (V)	$V_{BR}$ min (V) @ $I_R$	$V_{BR}$ typ (V) @ $I_R$	$V_{BR}$ max (V) @ $I_R$	$I_R$ (mA)	$V_{CL}$ max (V) @ $I_{PP}[1]$	$I_{PP}$ (A) [1]	$I_{RM}$ typ (µA) @ $V_{RWM}$	$I_{RM}$ max (µA) @ $V_{RWH}$	Type ( $T_j$ max = 150 °C)	Type ( $T_j$ max = 185 °C)	Package	Size (mm)
600	3.5	5.20	5.60	6.00	10	8	75	5	600	PTVS3V3P1UP(-Q)	PTVS3V3P1UTP(-Q)	 SOD128	3.8 x 2.6 x 1.0
	5	6.40	6.70	7.00	10	9.2	65.2	5	400	PTVS5V0P1UP(-Q)	PTVS5V0P1UTP(-Q)		
	6	6.67	7.02	7.37	10	10.3	58.3	5	400	PTVS6V0P1UP(-Q)	PTVS6V0P1UTP(-Q)		
	6.5	7.22	7.60	7.98	10	11.2	53.6	5	250	PTVS6V5P1UP(-Q)	PTVS6V5P1UTP(-Q)		
	7	7.78	8.20	8.60	10	12	50	3	100	PTVS7V0P1UP(-Q)	PTVS7V0P1UTP(-Q)		
	7.5	8.33	8.77	9.21	1	12.9	46.5	0.2	50	PTVS7V5P1UP(-Q)	PTVS7V5P1UTP(-Q)		
	8	8.89	9.36	9.83	1	13.6	44.1	0.03	25	PTVS8V0P1UP(-Q)	PTVS8V0P1UTP(-Q)		
	8.5	9.44	9.92	10.40	1	14.4	41.7	0.01	10	PTVS8V5P1UP(-Q)	PTVS8V5P1UTP(-Q)		
	9	10.00	10.55	11.10	1	15.4	39	0.005	5	PTVS9V0P1UP(-Q)	PTVS9V0P1UTP(-Q)		
	10	11.10	11.70	12.30	1	17	35.3	0.005	2.5	PTVS10VP1UP(-Q)	PTVS10VP1UTP(-Q)		
	11	12.20	12.85	13.50	1	18.2	33	0.005	2.5	PTVS11VP1UP(-Q)	PTVS11VP1UTP(-Q)		
	12	13.30	14.00	14.70	1	19.9	30.2	0.005	2.5	PTVS12VP1UP(-Q)	PTVS12VP1UTP(-Q)		
	13	14.40	15.15	15.90	1	21.5	27.9	0.001	0.1	PTVS13VP1UP(-Q)	PTVS13VP1UTP(-Q)		
	14	15.60	16.40	17.20	1	23.2	25.9	0.001	0.1	PTVS14VP1UP(-Q)	PTVS14VP1UTP(-Q)		
	15	16.70	17.60	18.50	1	24.4	24.6	0.001	0.1	PTVS15VP1UP(-Q)	PTVS15VP1UTP(-Q)		
	16	17.80	18.75	19.70	1	26	23.1	0.001	0.1	PTVS16VP1UP(-Q)	PTVS16VP1UTP(-Q)		
	17	18.90	19.90	20.90	1	27.6	21.7	0.001	0.1	PTVS17VP1UP(-Q)	PTVS17VP1UTP(-Q)		
	18	20.00	21.00	22.10	1	29.2	20.5	0.001	0.1	PTVS18VP1UP(-Q)	PTVS18VP1UTP(-Q)		
	20	22.20	23.35	24.50	1	32.4	18.5	0.001	0.1	PTVS20VP1UP(-Q)	PTVS20VP1UTP(-Q)		
	22	24.40	25.60	26.90	1	35.5	16.9	0.001	0.1	PTVS22VP1UP(-Q)	PTVS22VP1UTP(-Q)		
	24	26.70	28.10	29.50	1	38.9	15.4	0.001	0.1	PTVS24VP1UP(-Q)	PTVS24VP1UTP(-Q)		
	26	28.90	30.40	31.90	1	42.1	14.2	0.001	0.1	PTVS26VP1UP(-Q)	PTVS26VP1UTP(-Q)		
	28	31.10	32.80	34.40	1	45.4	13.2	0.001	0.1	PTVS28VP1UP(-Q)	PTVS28VP1UTP(-Q)		
	30	33.30	35.10	36.80	1	48.4	12.4	0.001	0.1	PTVS30VP1UP(-Q)	PTVS30VP1UTP(-Q)		
	33	36.70	38.70	40.60	1	53.3	11.3	0.001	0.1	PTVS33VP1UP(-Q)	PTVS33VP1UTP(-Q)		
	36	40.00	42.10	44.20	1	58.1	10.3	0.001	0.1	PTVS36VP1UP(-Q)	PTVS36VP1UTP(-Q)		
	40	44.40	46.80	49.10	1	64.5	9.3	0.001	0.1	PTVS40VP1UP(-Q)	PTVS40VP1UTP(-Q)		
	43	47.80	50.30	52.80	1	69.4	8.6	0.001	0.1	PTVS43VP1UP(-Q)	PTVS43VP1UTP(-Q)		
45	50.00	52.65	55.30	1	72.7	8.3	0.001	0.1	PTVS45VP1UP(-Q)	PTVS45VP1UTP(-Q)			
48	53.30	56.10	58.90	1	77.4	7.8	0.001	0.1	PTVS48VP1UP(-Q)	PTVS48VP1UTP(-Q)			
51	56.70	59.70	62.70	1	82.4	7.3	0.001	0.1	PTVS51VP1UP(-Q)	PTVS51VP1UTP(-Q)			
54	60.00	63.15	66.30	1	87.1	6.9	0.001	0.1	PTVS54VP1UP(-Q)	PTVS54VP1UTP(-Q)			
58	64.40	67.80	71.20	1	93.6	6.4	0.001	0.1	PTVS58VP1UP(-Q)	PTVS58VP1UTP(-Q)			
60	66.70	70.20	73.70	1	96.8	6.2	0.001	0.1	PTVS60VP1UP(-Q)	PTVS60VP1UTP(-Q)			
64	71.10	74.85	78.60	1	103	5.8	0.001	0.1	PTVS64VP1UP(-Q)	PTVS64VP1UTP(-Q)			

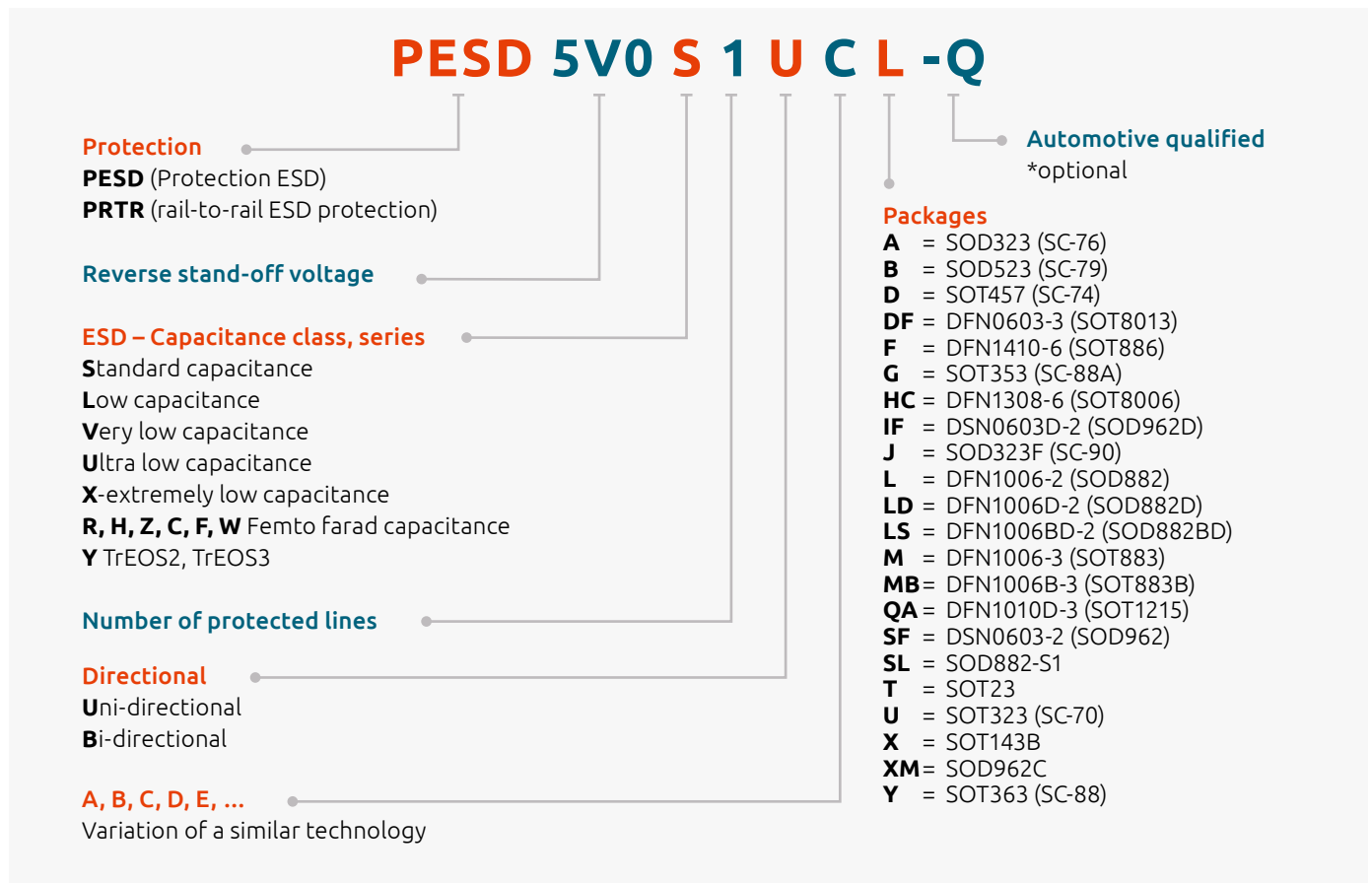
ESD protection, TVS,  
filtering and signal  
conditioning

[1] 10/1000µs according to IEC 61643-321

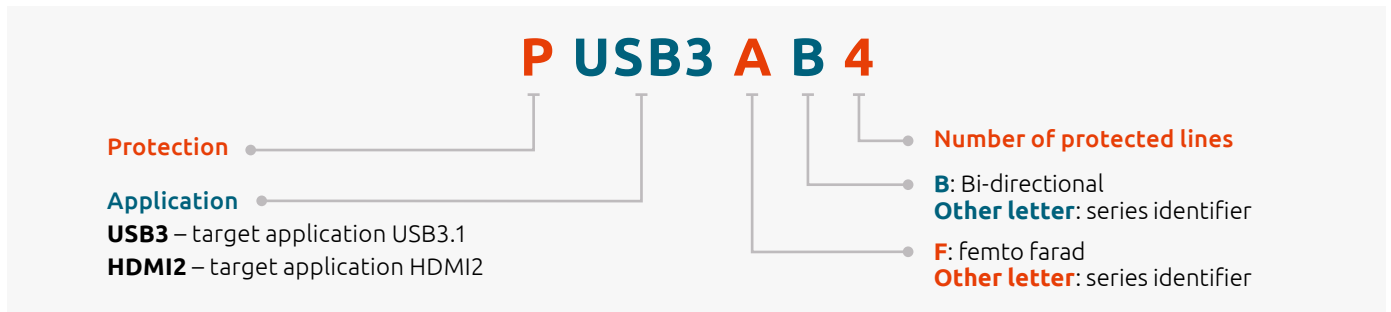
## Automotive ESD protection nomenclature



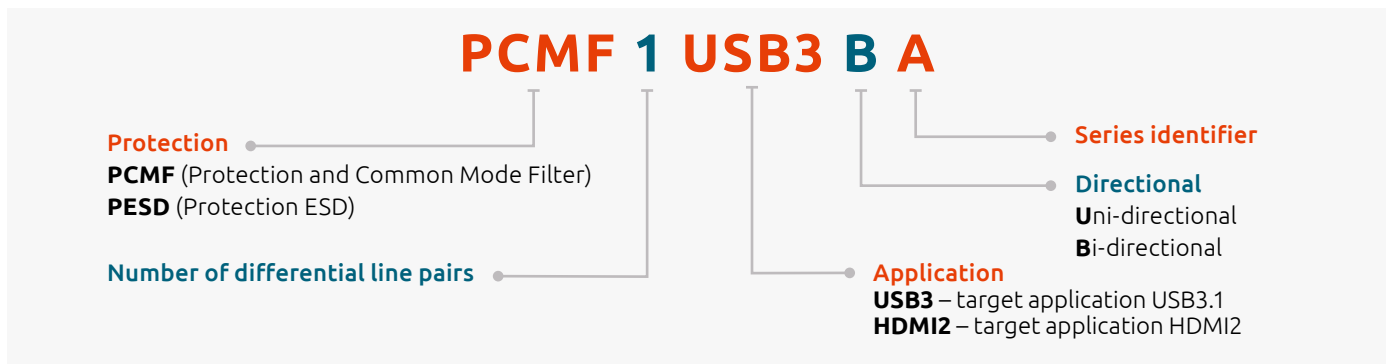
## ESD protection devices nomenclature



## Multi-line ESD protection nomenclature

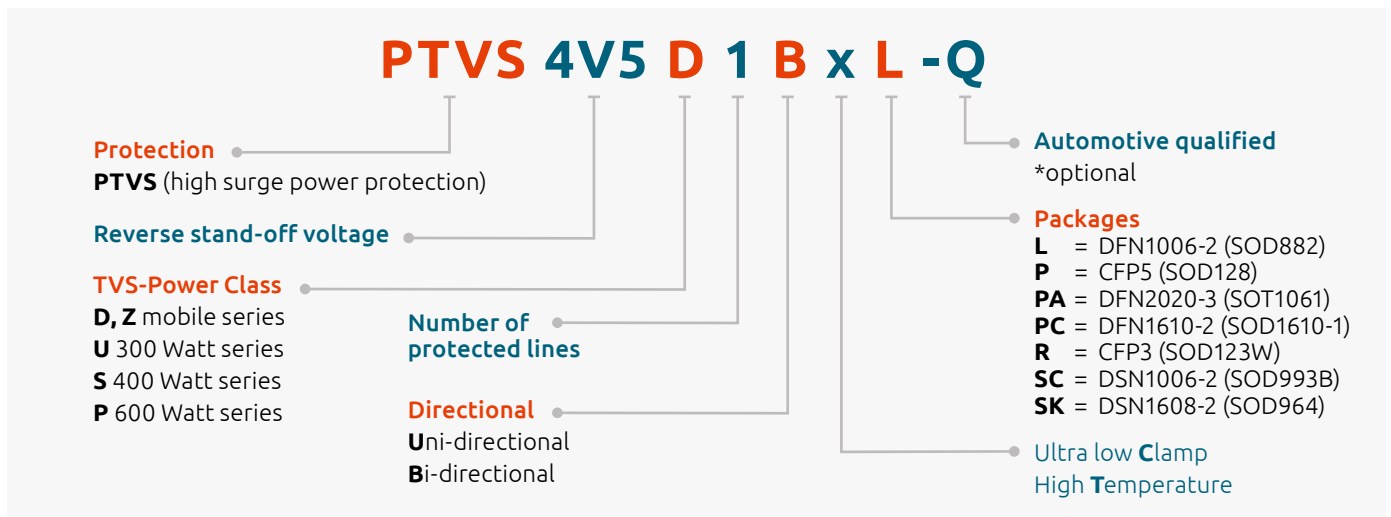


## Common mode filters nomenclature

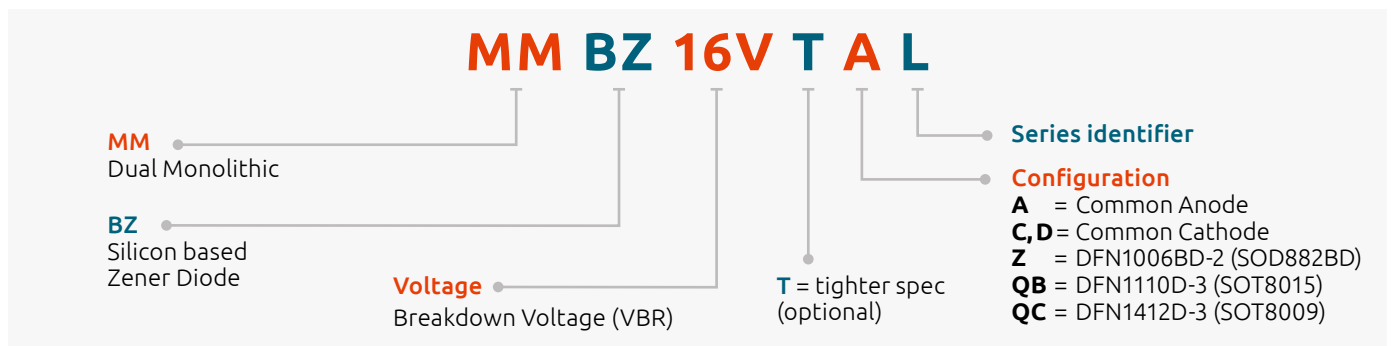


ESD protection, TVS, filtering and signal conditioning

## TVS protection nomenclature



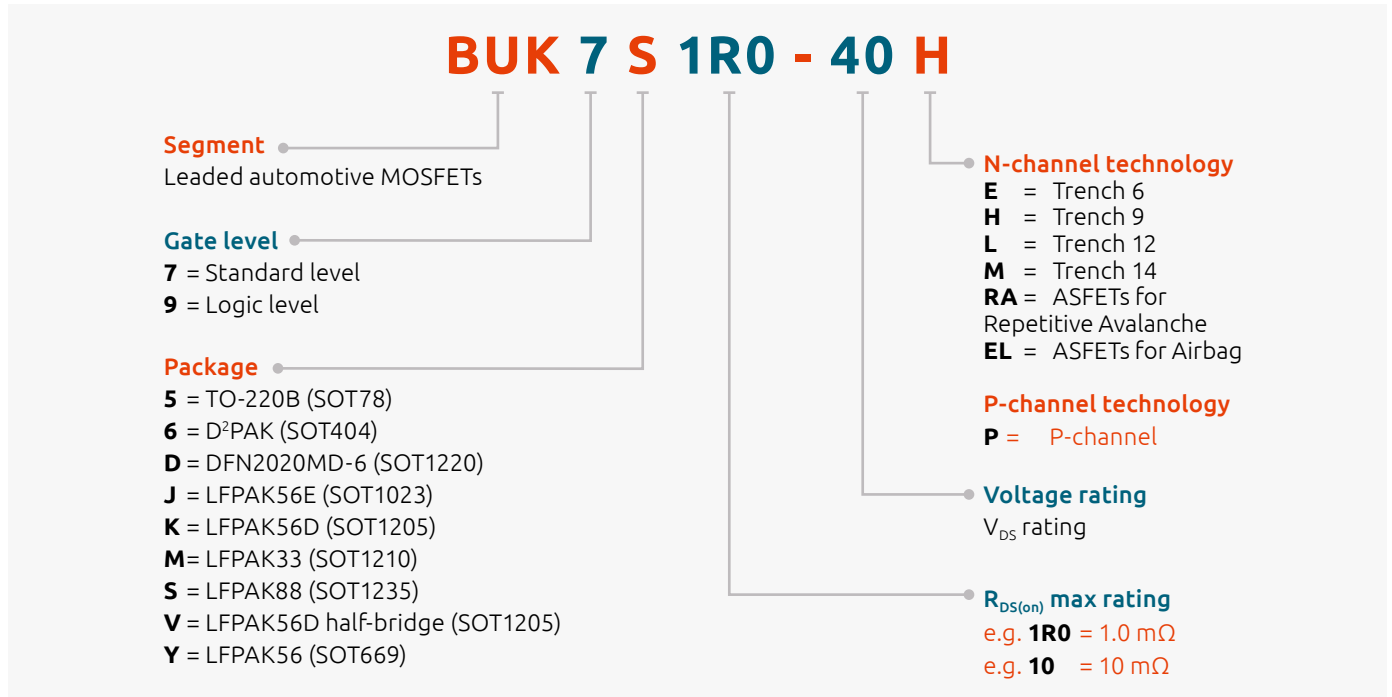
## MMBZ series nomenclature



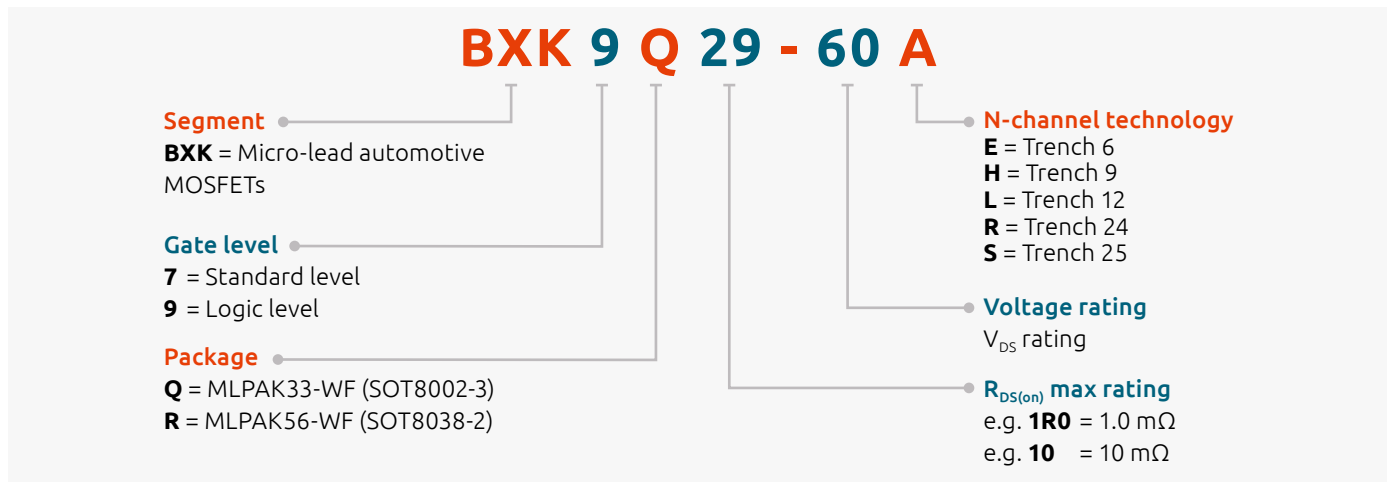


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
## Automotive grade leaded & application specific MOSFETs (ASFETs) nomenclature








## Automotive grade micro-lead MOSFETs nomenclature



## N-channel 30 V automotive power MOSFETs





Package name	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ 5 V (mΩ)	I <sub>D</sub> [max] @ 25 °C (A)	R <sub>th(j-mb)</sub> [max] (K/W)
 LFPAK56D (SOT1205)	BUK9K5R1-30E	30	4.4	5.3	40	2.21
	BUK9K5R6-30E	30	4.7	5.8	40	2.36
	BUK7K5R1-30E	30	5.1		40	2.21
	BUK7K5R6-30E	30	5.6		40	2.36
 LFPAK33 (SOT1210)	BUK9M5R2-30E	30	4.1	5.2	70	1.89
	BUK9M6R6-30E	30	5.3	6.6	70	2
	BUK9M10-30E	30	7.8	10	54	2.75
	BUK9M17-30E	30	14	17	37	3.4

## N-channel 40 V automotive power MOSFETs



Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
 TO-220AB (SOT78)	BUK758R3-40E	40	7.4		75	1.56
 LFPAK88 (SOT1235)	BUK750R5-40H	40	0.55		500	0.4
	BUK750R7-40H	40	0.7		425	0.4
	BUK751R0-40H	40	1		325	0.4
	BUK751R2-40H	40	1.2		300	0.51
	BUK751R5-40H	40	1.5		260	0.62
	BUK752R0-40H	40	2.0		190	0.82
	BUK752R5-40H	40	2.5		140	1.11
 D <sup>2</sup> PAK (SOT404)	BUK961R6-40E	40	1.4	1.6	120	0.43
	BUK761R6-40E	40	1.6		120	0.43
	BUK764R0-40E	40	4		75	0.82
	BUK768R1-40E	40	7.2		75	1.56
 LFPAK56E (SOT1023)	BUK9J0R9-40H	40	0.94	1.2	220	0.3
	BUK7J1R0-40H	40	1		220	0.3
	BUK7J1R4-40H	40	1.4		120	0.38
 LFPAK56; Power-SO8 (SOT669)	BUK7Y1R0-40N	40	0.9			
	BUK9Y1R3-40H	40	1.3	1.8	190	0.38
	BUK7Y1R4-40H	40	1.4		190	0.38
	BUK9Y1R6-40H	40	1.6	2.2	120	0.51
	BUK7Y1R7-40H	40	1.7		120	0.51
	BUK9Y1R9-40H	40	1.9	2.6	120	0.69
	BUK7Y2R0-40H	40	2		120	0.69
	BUK9Y2R4-40H	40	2.4	3.2	120	0.79
	BUK9Y3R0-40E	40	2.5	3	100	0.77
	BUK7Y2R5-40H	40	2.5		120	0.79
	BUK9Y2R8-40H	40	2.8	3.9	120	0.87
	BUK7Y3R0-40H	40	3		120	0.87
	BUK7Y3R5-40H	40	3.5		120	1.3
	BUK7Y3R5-40E	40	3.5		100	0.9
	BUK9Y3R5-40E	40	3.6	3.8	100	0.9
	BUK9Y4R4-40E	40	3.7	4.4	100	1.02
	BUK7Y4R4-40E	40	4.4		100	1.02
	BUK9Y7R6-40E	40	6	7.6	79	1.58
	BUK9Y6R5-40H	40	6.5	7.9	70	2.35
	BUK7Y7R0-40H	40	7		68	2.35
	BUK9Y12-40E	40	10	12	52	2.31
	BUK7Y12-40E	40	12		52	2.31
	BUK9Y21-40E	40	17	21	33	3.33
	BUK7Y21-40E	40	21		33	3.33
	BUK9Y29-40E	40	25	29	25	4.03
	BUK7Y29-40E	40	29		26	4.03

## N-channel 40 V automotive power MOSFETs




Types in **bold red** are in development.

Package name	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] @ 25 °C (A)	R <sub>th(j-mb)</sub> [max] (K/W)
 LFPAK56D (SOT1205)	<b>BUK7K3R5-40N</b>	40	3.5		TBA	TBA
	BUK7V4R2-40H	40	4.2		98	1.76
	BUK7K6R2-40E	40	5.8		40	2.21
	BUK9K6R2-40E	40	6	6.2	40	2.21
	BUK9K6R8-40E	40	6.1	7.2	40	2.36
	BUK7K6R8-40E	40	6.8			2.36
	BUK9K8R7-40E	40	8	9.4	30	2.84
	BUK7K8R7-40E	40	8.5			2.84
	BUK9V13-40H	40	13	17	42	3
	BUK9K13-40H	40	14	17	42	3
	BUK9K18-40E	40	16	20	30	3.96
	BUK7K18-40E	40	19		24	3.96
	BUK9K25-40E	40	24	29	18	4.68
	BUK9K25-40RA	40	24	29	18.2	4.68
BUK7K25-40E	40	25		27	4.68	
 LFPAK33 (SOT1210)	BUK7M3R3-40H	40	3.3		80	1.48
	BUK9M3R3-40H	40	3.3	4.2	80	1.48
	BUK7M4R3-40H	40	4.3		95	1.67
	BUK9M4R3-40H	40	4.3	5.5	95	1.67
	BUK7M5R0-40H	40	5		85	1.81
	BUK9M5R0-40H	40	5	6.4	85	1.81
	BUK9M7R2-40E	40	5.8	7.2	70	1.89
	BUK7M6R0-40H	40	6		50	2.14
	BUK9M6R0-40H	40	6	7.7	50	2.14
	BUK7M6R3-40E	40	6.3		70	1.89
	BUK7M6R7-40H	40	6.7		50	2.32
	BUK9M6R7-40H	40	6.7	8.6	50	2.32
	BUK9M9R1-40E	40	7.3	9.1	64	2
	BUK7M8R0-40E	40	8		69	2
	BUK7M8R5-40H	40	8.5		40	2.56
	BUK9M8R5-40H	40	8.5	11	40	2.56
	BUK9M11-40E	40	9	11	53	2.43
	BUK7M9R5-40H	40	9.5		40	2.74
	BUK9M9R5-40H	40	9.5	12	40	2.74
	BUK7M10-40E	40	10		56	2.43
	BUK7M11-40H	40	11		35	3
	BUK9M11-40H	40	11	14	35	3
	BUK9M14-40E	40	11	14	44	2.75
	BUK7M12-40E	40	12		48	2.75
	BUK7M15-40H	40	15		30	3.44
	BUK9M15-40H	40	15	19	30	3.44
	BUK9M24-40E	40	20	24	30	3.4
	BUK7M20-40H	40	20		25	3.96
	BUK9M20-40H	40	20	25	25	3.96
	BUK7M21-40E	40	21		33	3.4
BUK9M52-40E	40	40	52	18	4.8	
BUK7M45-40E	40	45		19	4.8	
 MLPAK33-WF (SOT8002-3)	<b>BXK9Q4R6-40H</b>	40	4.6			
	<b>BXK7Q4R9-40H</b>	40	4.9			
	<b>BXK9Q7R0-40H</b>	40	7			
	<b>BXK7Q6R0-40H</b>	40	6			
	<b>BXK7Q7R5-40H</b>	40	7.5			
 MLPAK56-WF (SOT8038-2)	<b>BXK9R4R5-40H</b>	40	4.5			

## N-channel 55 V - 60 V automotive power MOSFETs







Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
 <p>LFPAK56: Power-SO8 (SOT669)</p>	BUK9Y4R8-60E	60	4.1	4.8	100	0.63
	BUK7Y4R8-60E	60	4.8		100	0.63
	BUK9Y6R0-60E	60	5.2	6	100	0.77
	BUK9Y7R2-60E	60	5.6	7.2	100	0.9
	BUK7Y6R0-60E	60	6		100	0.77
	BUK9Y7R0-60EL	60	6.2	7	100	0.63
	BUK7Y7R2-60E	60	7.2		100	0.9
	BUK9Y8R7-60E	60	7.5	8.7	86	1.02
	BUK9Y8R8-60EL	60	8	9	100	0.77
	BUK7Y8R7-60E	60	8.7		87	1.02
	BUK9Y13-60EL	60	11	13	73	1.02
	BUK7Y15-60E	60	15		53	1.59
	BUK9Y15-60E	60	13	15	53	1.58
	BUK9Y22-60EL	60	20	22	45	1.58
	BUK9Y25-60E	60	22	25	34	2.31
	BUK7Y25-60E	60	25		34	2.31
	BUK9Y43-60E	60	38	43	22	3.33
	BUK7Y43-60E	60	43		22	3.33
BUK9Y59-60E	60	52	59	17	4.03	
BUK7Y59-60E	60	59		17	4.03	
 <p>LFPAK56D (SOT1205)</p>	BUK7K12-60E	60	9.3		40	2.21
	BUK7K13-60E	60	10		40	2.36
	BUK9K12-60E	60	11	12	35	2.21
	BUK9K13-60RA	60	11.2	12.5	40	2.36
	BUK9K13-60E	60	12	13	40	2.36
	BUK7K17-60E	60	14		30	2.84
	BUK7K35-60E	60	30		21	3.96
	BUK9K35-60E	60	32	35	22	3.96
	BUK9K35-60RA	60	32	35	22	3.96
	BUK7K52-60E	60	45		15	4.68
	BUK9K52-60E	60	49	55	16	4.68
	BUK9K52-60RA	60	49	55	16	4.68

## N-channel 55 V - 60 V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
 LFPAK33 (SOT1210)	BUK7M9R9-60E	60	9.9		60	1.89
	BUK9M12-60E	60	11	12	54	1.89
	BUK7M12-60E	60	12		53	2
	BUK9M15-60E	60	13	15	47	2
	BUK7M15-60E	60	15		43	2.43
	BUK9M20-60EL	60	17	20	46	1.89
	BUK9M19-60E	60	17	19	38	2.43
	BUK7M19-60E	60	19		36	2.75
	BUK9M24-60E	60	21	24	32	2.75
	BUK9M31-60EL	60	27	31	32	2.43
	BUK7M33-60E	60	33			3.4
	BUK9M42-60E	60	37	42	22	3.4
	BUK7M42-60E	60	42		20	4.17
	BUK9M53-60E	60	46	53	17	4.17
	BUK9M67-60EL	60	59	67	19	3.4
	BUK7M67-60E	60	67		14	4.8
	BUK9M85-60E	60	73	85	13	4.8
 MLPAK33 (SOT8002-3)	BXK9Q29-60E	60	29			
 SC-73 (SOT223)	BUK9832-55A/CU	55	29	32	12	15
	BUK9880-55A/CU	55	73	80	7	15
	BUK7880-55A/CU	55	80		7	15
	BUK98150-55A/CU	55	137	150	5.5	
	BUK78150-55A/CU	55	150		5.5	

## N-channel 75 V - 80 V automotive power MOSFETs

Types in **bold red** are in development, types in **bold** represent new products

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_b$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)	
 LFPAK88 (SOT1235)	BUK7S1R2-80M	80	1.2		335	0.44	
	BUK7Y3R1-80M	80	3.1		254	0.59	
 LFPAK56; Power-SO8 (SOT669)	BUK7Y7R8-80E	80	7.8		100	0.63	
	BUK9Y8R5-80E	80	8	8.5	100	0.63	
	BUK7Y9R9-80E	80	9.9		89	0.77	
	BUK9Y11-80E	80	10	11	84	0.77	
	BUK9Y14-80E	80	14	15	62	1.02	
	BUK7Y14-80E	80	14		65	1.02	
	BUK9Y25-80E	80	25	27	37	1.58	
	BUK7Y25-80E	80	25		39	1.58	
	BUK9Y41-80E	80	41	45	24	2.33	
	BUK7Y41-80E	80	41		25	2.31	
	BUK9Y72-80E	80	72	78	15	3.33	
	BUK7Y72-80E	80	72		16	3.33	
	BUK9Y107-80E	80	98	107	12	4.03	
	BUK7Y98-80E	80	98		12	4.03	
 LFPAK56D (SOT1205)	<b>BUK9K12-80L</b>	80	12				
	BUK7K15-80E	80	15		23	2.21	
	BUK7K17-80E	80	17		21	2.36	
	BUK9K20-80E	80	17	19	23	2.84	
	BUK7K23-80E	80	23		17	2.21	
	BUK9K22-80E	80	19	22	21	2.36	
	BUK9K30-80E	80	26	30	17	2.84	
	<b>BUK9K49-80L</b>	80	49				
 LFPAK56E (SOT1023)	BUK7J2R4-80M	80	2		231	0.51	
	<b>BUK9M13-80L</b>	80	13				
 LFPAK33 (SOT1210)	BUK7M17-80E	80	17		43	1.89	
	BUK9M23-80E	80	20	23	37	1.89	
	BUK7M22-80E	80	22		37	2	
	<b>BUK9M24-80L</b>	80	24				
	BUK7M27-80E	80	27		30	2.43	
	BUK9M28-80E	80	28	28	33	2	
	BUK9M35-80E	80	35	35	26	2.43	
	<b>BUK9M48-80L</b>	80	48				
	 MLPAK33-WF (SOT8002-3)	<b>BXK9Q14-80L</b>	80	14			
		<b>BXK9Q17-80L</b>	80	17			
<b>BXK9Q22-80L</b>		80	22				
<b>BXK9Q28-80L</b>		80	28				
<b>BXK9Q34-80L</b>		80	34				
<b>BXK9Q45-80L</b>		80	45				




## N-channel 100 V automotive power MOSFETs

Types in **bold red** are in development.


Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_b$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
 <p>LFPAK56; Power-SO8 (SOT669)</p>	BUK9Y12-100E	100	12	12	85	0.63
	BUK7Y12-100E	100	12		85	0.63
	BUK9Y15-100E	100	15	15	69	0.77
	BUK9Y19-100E	100	18	19	56	0.9
	BUK7Y19-100E	100	19		56	0.9
	BUK9Y22-100E	100	22	22	49	1.02
	BUK7Y22-100E	100	22		49	1.02
	BUK9Y38-100E	100	38	38	30	1.58
	BUK7Y38-100E	100	38		30	1.58
	BUK9Y65-100E	100	64	65	19	2.31
	BUK7Y65-100E	100	65		19	2.31
	BUK9Y113-100E	100	110	113	12	3.33
	BUK7Y113-100E	100	113		12	3.33
	BUK9Y153-100E	100	146	153	9.4	4.03
	BUK7Y153-100E	100	153		9.4	4.03
 <p>LFPAK56D (SOT1205)</p>	<b>BUK9K14-100L</b>	100	14			
	BUK7K29-100E	100	25		29.5	2.21
	BUK9K29-100E	100	27	29	30	2.21
	BUK7K32-100E	100	28		29	2.36
	BUK9K32-100E	100	31	33	26	2.36
	<b>BUK9K35-100L</b>	100	35			
	BUK7K45-100E	100	38		21	2.84
	BUK9K45-100E	100	42	45	21	2.84
	<b>BUK9K61-100L</b>	100	61			
	BUK7K89-100E	100	83		13	3.96
	BUK9K89-100E	100	85	89	13	3.96
	BUK7K134-100E	100	121		9.8	4.68
	BUK9K134-100E	100	154	159	8.5	4.68

## N-channel 100 V automotive power MOSFETs

Types in **bold red** are in development.




Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
 LFPAK33 (SOT1210)	BUK9M34-100E	100	34	34	29	1.89
	<b>BUK9M16-100L</b>	100	16			
	BUK9M43-100E	100	43	44	26	1.88
	<b>BUK9M60-100L</b>	100	60			
	BUK9M120-100E	100	119	120	12	3.4
	BUK9M156-100E	100	150	156	9.3	4.17
 MLPAK33-WF (SOT8002-3)	<b>BXK9Q16-100L</b>	100	16			
	<b>BXK9Q19-100L</b>	100	22			
	<b>BXK9Q25-100L</b>	100	29			
	<b>BXK9Q32-100L</b>	100	33			
	<b>BXK9Q39-100L</b>	100	46			
	<b>BXK9Q50-100L</b>	100	55			
 SC-73 (SOT223)	BUK98180-100A/CU	100	173	180	4.6	
	BUK9875-100A/CU	101	72	75	7	

## P-channel 30 V - 60 V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
 LFPAK56; Power-SO8 (SOT669)	BUK6Y10-30P	30	10	80	1.4
	BUK6Y19-30P	30	19	45	2.3
	BUK6Y24-40P	40	14	39	2.3
	BUK6Y14-40P	40	15	64	1.4
	BUK6Y33-60P	60	33	38	1.4
	BUK6Y61-60P	60	61	22	2.3

Small-signal automotive MOSFETs – Low  $R_{DS(on)}$

Package												
Size (mm)												
P <sub>tot</sub> (mW)												
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =					
							10 V	4.5 V	2.5 V	1.8 V		
N-channel	20	8	7	0.4	1	1	-	15	18	-		
			4.7	0.45	1	2	-	24	29	40		
			2.8	0.4	1	2	-	64	78	110		
		12	12.9	0.4	0.9	2	-	10	12	16		
			11.4	0.4	0.9	2	-	12	15	20		
			7.3	0.6	1.3	2	-	13	17	-		
	30	8	26	0.6	1.3	2	-	16	21	-		
			6.3	0.75	1.25	2	-	16	24	-		
			6	0.4	0.9	1	-	13	23	39		
		12	11.3	0.4	0.9	2	-	13	14	17		
			5	0.4	0.9	2	-	28	32	37		
			4	0.75	1.25	2	-	55	72	-		
		20	8.3	0.6	1.25	1	-	60	98	-		
			5.5/22	1	2.5	2	17	22	-	-		
			3.9/17	1	2.5	2	30	39	-	-		
	40	15	20	3.7/11	1	2.5	2	54	70	-	-	
				19	1.4	2.1	-	18	22	-	-	
				6.2/19	1.3	2.7	-	17	22	-	-	
				19	2.4	4	-	18	-	-	-	
				5/18	1.5	2.5	2	25	30	-	-	
				2.7	1	2.5	1	64	79	-	-	
	60	20	9	1	2.5	1	85	112	-	-		
			2.5/5.7	1	2.5	1	95	120	-	-		
			4.2/13	1.3	2.7	-	32	38	-	-		
			4.7/14	2.4	4	-	36	-	-	-		
			3.5/11	1.3	2.7	2	37	45	-	-		
			11	1.3	2.7	2	59	70	-	-		
	80	20	2.2/7.4	1.3	2.7	2	88	104	-	-		
			1.5/5.7	1.3	2.7	2	176	196	-	-		
			0.8	1.3	2.7	2	300	332	-	-		
P-channel	12	8	10	1.3	2.7	2	72	84	-	-		
			7	1.3	2.7	2	175	195	-	-		
			1.5	1.3	2.7	2	285	301	-	-		
	20	8	11.8	0.47	0.9	-	-	15	17	21		
			5.6	0.45	0.95	2	-	27	38	50		
			2	0.4	0.9	-	-	97	118	145		
			2	0.5	1.1	-	-	100	155	210		
			2.3	0.45	0.95	-	-	120	150	200		
			10.3	0.47	0.9	2	-	19	22	28		
		12	5	0.47	0.9	2.3	-	28	31	36		
			5.3	0.75	1.25	2	-	28	42	-		
			5	0.6	1.3	1	-	38	-	-		
			5.2/18	0.6	1.3	1	-	38	64	-		
			5	0.47	0.9	2	-	39	45	56		
			5.7	0.75	1.25	2	-	41	56	-		
30	20	3.5	0.75	1.25	-	-	48	71	-			
		4.7	0.6	1.3	1	-	50	78	-			
		4.4	0.6	1.3	-	-	55	-	-			
		3.3	0.75	1.25	2	-	67	99	-			
		2.4	1	2.5	2	-	97	147	-			
		6.7	1	1.3	1	-	110	189	-			
40	20	8.8	1	2.5	-	24	32	-	-			
		4.2	1	3	2	35	47	-	-			
60	20	1.5	1	2.5	1	180	220	-	-			
		14	1.4	2.7	-	30	45	-	-			
	20	8	1.9	3.2	-	95	125	-	-			
		3	1.9	3.2	-	130	180	-	-			

SOT457 (SC-74)	SOT23	DFN2020MD-6 (SOT1220)	DFN2020D-6 (SOT1118D)
			
2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 2.0 x 0.65	2.0 x 2.0 x 0.65
600	250	1250	1250
	PMV15UNEA		
	PMV28UNEA		
	PMV65UNEA		
		PMPB10XNEA	
		PMPB12UNEA	
	PMV13XNEA		
		BUK4D16-20	
	PMV20XNEA	PMPB20XNEA	
	PMV19XNEA		
		PMPB13XNEA	
		PMPB29XNEA	
	PMV50XNEA		PMDPB56XNEA
		BUK4D60-30	
PMN25ENEA	PMV15ENEA	BUK6D22-30E	
	PMV28ENEA	BUK6D38-30E	
	PMV52ENEA	BUK6D72-30E	
PMN20ENA		BUK9D23-40E	
		BUK6D23-40E	
PMN30ENEA	PMV30ENEA	BUK7D25-40E	
	PMV60ENEA	BUK6D30-40E	
	PMV130ENEA	BUK6D120-40E	
PMN40ENA		BUK6D43-60E	
PMN40SNA		BUK7D36-60E	
PMN55ENEA	PMV37ENEA	BUK6D56-60E	
		BUK6D77-60E	
PMN120ENEA	PMV88ENEA	BUK6D125-60E	
PMN230ENEA	PMV164ENEA	BUK6D210-60E	
	PMV450ENEA		
		BUK6D81-80E	
		BUK6D230-80E	
PMN280ENEA	PMV280ENEA	BUK6D335-100E	
		PMPB15XPA	
	PMV27UPEA		
	BSH205G2A		
	NX2301P		
	BSH205G2		
		PMPB20XPEA	
		PMPB29XPEA	
	PMV30XPEA		
PMN30XPEA	PMV28XPEA		
PMN30XPA	PMV30XPA	BUK4D38-20P	
		PMPB43XPEA	
PMN42XPEA			
PMN48XPA	PMV48XPA		
PMN40XPEA			
PMN48XPA2	PMV48XPA2		
	PMV65XPEA		
	PMV100XPEA		
		BUK4D110-20P	
		PMPB27EPA	
	PMV50EPEA		
	PMV250EPEA		
		BUK6D43-40P	
		BUK6D120-60P	
PMN100EPA	PMV100EPA		

## Automotive MOSFETs




### Small-signal automotive MOSFETs – High $R_{DS(on)}$





Package											
Size (mm)											
$P_{tot}$ (mW)											
Polarity	$V_{DS}$ (V)	$V_{GS}$ (V)	$I_D$ (A)	$V_{GS(th)}$ min (V)	$V_{GS(th)}$ max (V)	ESD protection (kV)	$R_{DS(on)}$ typ (m $\Omega$ ) @ $V_{GS} =$				
							10 V	4.5 V	2.5 V	1.8 V	
N	30	8	0.4	0.6	1.1	2	-	1000	1400	2000	
	60	16	0.72	1.3	2.6	1	850	1100	-	-	
			0.36	0.9	1.5	-	900	1000	-	-	
		20	0.25	0.8	1.5	yes	2200	2700	3400	-	
			0.36	0.48	1.6	1.5	1000	1100	1400	-	
			0.24	1.3	2.6	yes	2200	2500	-	-	
0.3			1	2.5	2	1000	1300	-	-		
P	30	8	0.23	0.6	1.1	2	-	2800	5300	-	
	50	12	0.27	1.1	2.1	1	7500	8500	-	-	
		20	0.2	1.1	2.1	1	5300	6000	-	-	

### Small-signal automotive MOSFETs – Dual


Package											
Size (mm)											
$P_{tot}$ (mW)											
Polarity	$V_{DS}$ (V)	$V_{GS}$ (V)	$I_D$ (A)	$V_{GS(th)}$ min (V)	$V_{GS(th)}$ max (V)	ESD protection (kV)	$R_{DS(on)}$ typ (m $\Omega$ ) @ $V_{GS} =$				
							10 V	4.5 V	2.5 V	1.8 V	
N	20	10	4.5	0.4	0.9	-	-	26	33	50	
	30	12	4	0.75	1.25	2	-	55	72	-	
P	20	10	3.6	0.47	1	-	-	50	62	83	

### Small-signal MOSFETs - Complementary

Package	Type	Polarity	$V_{DS}$ (V)	$V_{GS}$ (V)	$I_D$ (A)	$V_{GS(th)}$ min (V)	$V_{GS(th)}$ max (V)	
 SOT363 (SC-88) (2.0 x 1.25 x 0.95)	NX3008CBKS	N	30	8	0.35	0.6	1.1	
		P	30	8	0.2	0.6	1.1	
 DFN2020-6 (SOT1118) (2 x 2 x 0.65 mm)	PMCPB5530XA	N	20	10	4.5	0.4	0.9	
		P	20	10	3.6	0.47	1	
 SOT363 (SC-88) (2.0 x 1.25 x 0.95)	PMGD290UCEA	N	20	8	725	1	1	
		P	20	8	500	1	1	

SOT23	SOT363 (SC-88)	SOT323 (SC-70)	DFN1110D-3 (SOT8015)
			
2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.47
250	300	200	420
NX3008NBK	NX3008NBKS	NX3008NBKW	2N7002KQB
BSS138P	BSS138PS	BSS138PW	BSS138AKQB-Q
BSS138AK-Q	BSS138AKS-Q	BSS138AKW-Q	BSS138AKQB-Q
BSS138BK	BSS138BKS	BSS138BKW	
2N7002AK-Q	2N7002AKS-Q	2N7002AKW-Q	2N7002AKQB-Q
2N7002BK	2N7002BKS	2N7002BKW	
NX3008PBK	NX3008PBKS	NX3008PBKW	BSS84AKQB
BSS84AK	BSS84AKS	BSS84AKW	

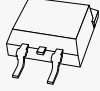

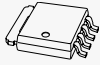
Types in **bold** represent new products

DFN2020D-6 (SOT1118D)

2.0 x 2.0 x 0.65
1250
<b>PMDPB30XNA</b>
PMDPB56XNEA
<b>PMDPB55XPA</b>

Types in **bold** represent new products




$t_{on}$ typ (ns)	$t_{off}$ typ (ns)	$Q_C$ typ (nC)	ESD protection (kV)	$R_{DS(on)}$ typ (m $\Omega$ ) @ $V_{GS} =$					
				10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V
26	88	0.52	2	-	1000	1400	2000	-	-
49	103	0.55	2	-	2800	5300	-	-	-
7	10	6.6	-	-	26	33	50	-	-
18	80	0.18	-	-	50	62	83	-	-
6	86	0.15	2	-	290	420	1	-	-
18	80	0.18	2	-	670	1	2	-	-

## N-channel 25 V - 30 V power MOSFETs

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>G(tot)</sub> [typ] (nC)
 D <sup>2</sup> PAK (SOT404)	PSMNR90-30BL	30	1	1.4	120	118
	PSMN1R5-30BLE	30	1.5	1.85	120	108
	PSMN2R7-30BL	30	3	3.7	100	32
	PSMN3R4-30BL	30	3.3	3.8	100	31
	PSMN3R4-30BLE	30	3.4	5	120	37
	PSMN4R3-30BL	30	4.1	5.2	100	19
 LFPAK56E (SOT1023)	PSMNR51-25YLH	25	0.57	0.82	380	53
	PSMN0R7-25YLD	25	0.74	0.92	300	50.9
	PSMN1R2-25YL	25	1.2	1.9	100	50.6
	PSMNR58-30YLH	30	0.67	0.9	380	55
	PSMN0R9-30YLD	30	0.87	1.1	300	51
	PSMN1R3-30YL	30	1.3	2	100	46.6
 LFPAK56; Power-SOB (SOT669)	PSMNR56-25YLE	25	0.56		320	54
	PSMNR60-25YLH	25	0.7	1.02	300	43
	PSMN0R9-25YLD	25	0.86	1.2	300	41.5
	PSMNR89-25YLE	25	0.89		270	54
	PSMNR98-25YLE	25	0.98		255	27
	PSMN1R0-25YLD	25	1.02	1.4	100	33.2
	PSMN1R1-25YLC	25	1.15	1.5	100	39
	PSMN1R2-25YLD	25	1.15	1.7	100	28
	PSMN1R2-25YLC	25	1.3	1.7	100	31
	PSMN1R6-25YLE	25	1.6			
	PSMN1R7-25YLD	25	1.68	2.4	100	21.5
	PSMN2R0-25YLD	25	2	2.9	100	15.7
	PSMN2R9-25YLC	25	3.15	4.1	100	16
	PSMN4R0-25YLC	25	4.5	5.8	84	10.9
	PSMN5R4-25YLD	25	5.4	8.4	70	5.7
	PSMN6R0-25YLD	25	6.03	10	61	4.9
	PSMN6R0-25YLB	25	6.1	7.9	73	9
	PSMNR67-30YLE	30	0.67		365	52
	PSMNR70-30YLH	30	0.82	1.1	300	46
	PSMNR82-30YLE	30	0.82		330	41
	PSMN1R0-30YLE	30	1		275	33
	PSMN1R0-30YLD	30	1.02	1.3	300	38.2
	PSMN1R1-30YLE	30	1.1		265	28
	PSMN1R0-30YLC	30	1.15	1.4	100	50
	PSMN1R2-30YLD	30	1.24	1.6	100	32
	PSMN1R2-30YLC	30	1.25	1.7	100	38
	PSMN1R4-30YLD	30	1.42	1.9	100	27.6
	PSMN1R5-30YL	30	1.5	1.9	100	36.2
	PSMN1R5-30YLC	30	1.55	2.1	100	30
	PSMN1R7-30YL	30	1.7	2.1	100	36.2
	PSMN2R0-30YLD	30	2	2.5	100	21.8
	PSMN2R0-30YL	30	2	2.6	100	30
	PSMN2R0-30YLE	30	2	3.5	100	41
	PSMN2R1-30YLE	30	2		160	17
	PSMN2R2-30YLC	30	2.15	2.8	100	26
	PSMN2R4-30YLD	30	2.4	3.1	100	18
	PSMN2R5-30YL	30	2.4	3.2	100	27
	PSMN2R6-30YLC	30	2.8	3.7	100	18
	PSMN3R0-30YL	30	3	4	100	21
	PSMN3R0-30YLD	30	3	4	100	14.5
	PSMN3R5-30YL	30	3.5	4.6	100	19
	PSMN4R0-30YL	30	4	5.3	100	17.6
PSMN4R0-30YLD	30	4	5.5	95	9.6	
PSMN4R1-30YLC	30	4.35	5.7	92	11	
PSMN4R5-30YLC	30	4.8	6.1	84	9.6	
PSMN5R0-30YL	30	5	6.7	91	14.1	
PSMN6R0-30YL	30	6	7.9	79	11	
PSMN6R0-30YLD	30	6	8.4	66	6.7	
PSMN6R1-30YLD	30	6.1	8.4	66	6.4	
PSMN6R0-30YLB	30	6.5	8.1	71	9	





## N-channel 25 V - 30 V power MOSFETs

Types in **bold red** are in development

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>c(tot)</sub> [typ] (nC)
 LFPAK56; Power-SO8 (SOT669)	PSMN7R0-30YL	30	7	9.1	76	10
	PSMN7R0-30YLC	30	7.1	8.9	61	7.9
	PSMN7R5-30YLD	30	7.5	10	51	5.8
	PSMN9R1-30YL	30	9.1	14	57	8.4
	PSMN9R5-30YLC	30	9.8	12	44	5
	PSMN011-30YLC	30	11.6	15	37	4.9
	PSMN013-30YLC	30	13	17	32	4
 LFPAK56-UL2595 (SOT1023A)	PSMN0R9-30ULD	30	0.87	1.09	300	109
 LFPAK33 (SOT1210)	PSMN1R5-25MLH	25	1.81	2.7	150	17
	PSMN2R0-25MLD	25	2	3.1	70	15.9
	PSMN2R8-25MLC	25	2.8	3.8	70	16.3
	PSMN3R5-25MLD	25	3.51	5.4	70	8.7
	PSMN3R9-25MLC	25	4.15	5.6	70	9.7
	PSMN5R3-25MLD	25	5.3	8.4	70	5.9
	PSMN6R1-25MLD	25	6.13	10	60	4.9
	PSMN9R0-25MLC	25	8.65	11	55	5.4
	PSMN1R6-30MLH	30	1.9	2.6	160	41
	PSMN1R8-30MLH	30	2.1	2.9	150	17
	PSMN2R4-30MLD	30	2.4	3.2	70	16
	PSMN3R0-30MLC	30	3.15	4.1	70	16.1
	PSMN4R2-30MLD	30	4.3	5.7	70	9.2
	PSMN4R4-30MLC	30	4.65	6	70	10.6
	PSMN6R4-30MLD	30	6.4	8.3	66	6.5
	PSMN7R0-30MLC	30	7	9	67	8.2
	PSMN7R5-30MLD	30	7.6	10	57	5.8
PSMN9R8-30MLC	30	9.8	12	50	5	
PSMN013-30MLC	30	13	17	39	3.7	
PSMN020-30MLC	30	18	27	31.8	4.6	
 MLPAK33 (SOT8002)	PXN6R2-25QL	25	6.2	8.5	22.3	8.1
	PXN7R7-25QL	25	7.7	10.3	19	5.3
	<b>PXN1R7-30QLA</b>	30	1.7			
	<b>PXN2R3-30QLA</b>	30	2.3			
	<b>PXN3R0-30QLA</b>	30	3			
	<b>PXN4R0-30QLA</b>	30	4			
	PXN4R7-30QL	30	4.7	6	25	14.7
	<b>PXN5R0-30QLA</b>	30	5			
	PXN5R4-30QL	30	5.4	7.2	22	17.4
	PXN6R7-30QL	30	6.7	8.6	21.5	7.9
	<b>PXN7R0-30QLA</b>	30	7			
	PXN8R3-30QL	30	8.3	11.1	18.3	5.1
	<b>PXN9R0-30QLA</b>	30				
	PXN9R0-30QL	30	9.1	11	17.3	13.8
	PXN010-30QL	30	10.4	13.6	16.5	4
	<b>PXN011-30QLA</b>	30	11			
	PXN017-30QL	30	17.4	23.1	12	2.5
PXN018-30QL	30	18	23	11.3	7.2	
 MLPAK56 (SOT8038)	<b>PXN0R6-30RLA</b>	30	0.6			
	<b>PXN0R7-30RLA</b>	30	0.7			
	<b>PXN0R8-30RLA</b>	30	0.8			
	<b>PXN1R0-30RLA</b>	30	1.0			
	<b>PXN1R5-30RLA</b>	30	1.5			
	<b>PXN2R0-30RLA</b>	30	2.0			
	<b>PXN3R0-30RLA</b>	30	3.0			
	<b>PXN4R0-30RLA</b>	30	4.0			
	<b>PXN5R0-30RLA</b>	30	5.0			
<b>PXN6R5-30RLA</b>	30	6.5				






# N-channel 40 V - 60 V power MOSFETs

Types in **bold** represent new products  
Types in **bold red** are in development

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>CL(tot)</sub> [typ] (nC)
 LFPAK88 (SOT1235)	PSMNR55-40SSH	40	0.55		500	267
	PSMNR70-40SSH	40	0.7		425	144
	PSMN1R0-40SSH	40	1		325	98
	PSMNR90-50SLH	50	0.92		410	228
	PSMN1R2-55SLH	55	0.97		330	226
 D <sup>2</sup> PAK (SOT404)	PSMN1R1-40BS	40	1.3		120	136
	PSMN2R2-40BS	40	2.2		100	130
	PSMN2R8-40BS	40	2.9		100	71
	PSMN4R5-40BS	40	4.5		100	35
	PSMN8R0-40BS	40	7.6		77	21
	PSMN1R7-60BS	60	2		120	137
	PSMN3R0-60BS	60	3.2		100	130
	PSMN4R6-60BS	60	4.4		100	70.8
	PSMN7R6-60BS	60	7.8		92	38.7
	PSMN015-60BS	60	15		50	20.9
 LFPAK56E (SOT1023)	<b>PSMNR70-40YSN</b>	40	0.7			
	PSMNR90-40YLH	40	0.94	1.2	300	54
	PSMN1R0-40YSH	40	1		290	87
	PSMN1R0-40YLD	40	1.1	1.4	280	127
	PSMN1R5-50YLH	50	1.6		220	51
	PSMN2R0-55YLH	55	2.24		200	50
	<b>PSMN1R1-60YSF</b>	60	1			
	<b>PSMN1R2-60YSN</b>	60	1.24			
	<b>PSMN1R5-60YSN</b>	60	1.5			
	<b>PSMNR90-40YSN</b>	40	0.97		320	135
 LFPAK56; Power-SO8 (SOT669)	PSMN1R4-40YLD	40	1.4	1.85	240	96
	PSMN1R5-40YSD	40	1.5		240	71
	<b>PSMN1R7-40YLB</b>	40	1.8	2.3	200	79
	PSMN1R7-40YLD	40	1.8	2.3	200	78
	PSMN1R8-40YLC	40	1.8	2.1	100	96
	PSMN1R9-40YSD	40	1.9		200	57
	<b>PSMN1R9-40YSB</b>	40	1.9		200	56
	<b>PSMN2R0-40YLB</b>	40	2.1	2.7	180	28
	PSMN2R0-40YLD	40	2.1	2.7	180	66
	<b>PSMN2R2-40YSB</b>	40	2.2		180	49
	PSMN2R2-40YSD	40	2.2		180	45
	<b>PSMN2R5-40YLB</b>	40	2.6	3.3	160	25
	PSMN2R5-40YLD	40	2.6	3.3	160	56
	<b>PSMN2R8-40YSB</b>	40	2.8		160	37
	PSMN2R6-40YS	40	2.8			
	PSMN2R8-40YSD	40	2.8		160	44
	<b>PSMN3R2-40YLB</b>	40	3.3	4.2	120	19
	PSMN3R2-40YLD	40	3.3	4.2		120
	PSMN3R3-40YS	40	3.3			
	<b>PSMN3R5-40YSB</b>	40	3.5			120
	PSMN3R5-40YSD	40	3.5		120	31
	PSMN4R0-40YS	40	4.2			
	PSMN5R8-40YS	40	5.7		90	23.8
	PSMN8R3-40YS	40	8.6		70	20
	PSMN014-40YS	40	14		46	10
	PSMN4R0-60YS	60	4		100	56
	PSMN4R1-60YL	60	4.1	4.8	100	103
	PSMN5R2-60YL	60	5.2	6	100	78.4
	PSMN5R5-60YS	60	5.2		100	56
	PSMN5R6-60YL	60	5.6	7.2	100	66.8
	PSMN7R0-60YS	60	6.4		89	45
	PSMN7R5-60YL	60	7.5	8.7	86	60.6
	PSMN8R5-60YS	60	8		76	39
	PSMN012-60YS	60	11		59	28.4
PSMN013-60YL	60	13	15	53	33.2	
PSMN030-60YS	60	15		29	13	
PSMN017-60YS	60	16		44	20	


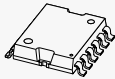
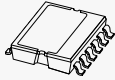

## N-channel 40 V - 60 V power MOSFETs

Types in **bold** represent new products  
Types in **bold red** are in development

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>b</sub> [max] (A)	Q <sub>Cl(tot)</sub> [typ] (nC)
 LFPAK56D (SOT1205)	PSMN4R2-40VSH	40	4		53	33.2
	<b>PSMN6R8-40HS</b>	40	6.8		29	13
	<b>PSMN8R0-40HL</b>	40	8	9.4	44	20
	<b>PSMN8R5-40HS</b>	40	8.5		30	21.8
	<b>PSMN014-40HLD</b>	40	13.6	16.9	42	13
	<b>PSMN013-40VLD</b>	40	14	17	42	14
	<b>PSMN9R3-60HS</b>	60	9.3		40	34.2
	<b>PSMN013-60HS</b>	60	10		40	30.1
	<b>PSMN011-60HL</b>	60	10.7	11.5	35	24.5
	<b>PSMN012-60HL</b>	60	11.2	12.5	40	22.4
	<b>PSMN013-60HL</b>	60	11.2	12.5	40	22.4
<b>PSMN014-60HS</b>	60	14		30	23.6	
 LFPAK56-UL2595 (SOT1023A)	PSMN1R0-40ULD	40	1.1	1.4	280	59
 LFPAK33 (SOT1210)	PSMN3R3-40MLH	40	3.3	4.2	118	17
	PSMN3R3-40MSH	40	3.3		118	30
	PSMN4R3-40MLH	40	4.3	5.5	95	31
	PSMN4R3-40MSH	40	4.3		95	23
	PSMN5R0-40MLH	40	5	6.4	85	28
	PSMN5R0-40MSH	40	5		85	21
	PSMN6R7-40MLD	40	6.7	8.5	50	10
	PSMN6R7-40MSD	40	6.7		50	16
	PSMN8R5-40MLD	40	8.5	11	60	19
	PSMN8R5-40MSD	40	8.5		60	13.4
	PSMN011-60ML	60	11	13	61	37.2
	PSMN011-60MS	60	11		61	23
 MLPAK33 (SOT8002)	<b>PXN5R0-60QLA</b>	60	5			
	<b>PXN5R8-60QSA</b>	60	6			
	<b>PXN5R7-60QLA</b>	60	6			
	<b>PXN6R2-60QLA</b>	60	6			
	<b>PXN6R8-60QLA</b>	60	7			
	<b>PXN7R7-60QLA</b>	60	8			
	<b>PXN9R1-60QLA</b>	60	9			
	<b>PXN011-60QLA</b>	60	11			
	<b>PXN014-60QLA</b>	60	14			
	<b>PXN012-60QL</b>	60	11.5	17.6	42	9.64
 MLPAK56 (SOT8038)	<b>PXN1R5-60RLA</b>	60	1.5			
	<b>PXN1R7-60RSA</b>	60	1.7			
	<b>PXN1R9-60RLA</b>	60	1.9			
	<b>PXN2R1-60RSA</b>	60	2.1			
	<b>PXN2R4-60RLA</b>	60	2.4			
	<b>PXN2R8-60RSA</b>	60	2.8			
	<b>PXN2R8-60RLA</b>	60	2.8			
	<b>PXN3R6-60RLA</b>	60	3.6			
	<b>PXN3R5-60RSA</b>	60	3.5			
	<b>PXN4R1-60RLA</b>	60	4.1			
	<b>PXN5R0-60RLA</b>	60	5			
	<b>PXN5R9-60RLA</b>	60	5.9			
	<b>PXN7R3-60RLA</b>	60	7.3			




## N-channel 75 V - 200 V power MOSFETs

Types in **bold** represent new products  
Types in **bold red** are in development

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>C(toe)</sub> [typ] (nC)
 <p>D<sup>2</sup>PAK (SOT404)</p>	PSMN2R8-80BS	80	3		120	139
	PSMN3R3-80BS	80	3.5		120	111
	PSMN4R4-80BS	80	4.5		100	125
	PSMN5R0-80BS	80	5.1		100	101
	PSMN6R5-80BS	80	6.9		100	71
	PSMN8R7-80BS	80	8.7		90	52
	PSMN012-80BS	80	11		74	36
	PSMN017-80BS	80	17		50	26
	PSMN3R8-100BS	100	3.9		120	170
	PSMN3R7-100BSE	100	3.95		120	176
	PSMN4R8-100BSE	100	4.8		120	196
	PSMN5R6-100BS	100	5.6		100	141
	PSMN7R0-100BS	100	6.8		100	125
	PSMN7R6-100BSE	100	7.6		75	128
	PSMN8R9-100BSE	100	9.4		108	128
	PSMN9R5-100BS	100	9.6		89	82
	PSMN013-100BS	100	14		68	59
	PSMN016-100BS	100	16		57	49
	PSMN027-100BS	100	27		37	30
	PSMN034-100BS	100	35		32	23.8
PHB45NQ15T	150	42		45.1	32	
PSMN057-200B	200	57		39	96	
PHB33NQ20T	200	77		32.7	32.2	
 <p>CCPAK1212 (SOT8000A)</p>	<b>PSMNR90-80ASF</b>	80	0.85			
	<b>PSMNR90-80ASE</b>	80	0.9			
	<b>PSMN1R0-100ASF</b>	100	0.99			
	<b>PSMN1R0-100ASE</b>	100	1.04			
	<b>PSMN1R1-80ASF</b>	80	1.11			
	<b>PSMN1R2-80ASE</b>	80	1.18			
	<b>PSMN1R3-100ASF</b>	100	1.3			
	<b>PSMN1R4-100ASE</b>	100	1.36			
 <p>CCPAK1212i (SOT8005A)</p>	<b>PSMNR90-80CSF</b>	80	0.9			
	<b>PSMN1R0-80CSE</b>	80	0.95			
	<b>PSMN1R0-100CSF</b>	100	1.04			
	<b>PSMN1R1-100CSE</b>	100	1.09			
	<b>PSMN1R1-80CSF</b>	80	1.16			
	<b>PSMN1R2-80CSE</b>	80	1.23			
	<b>PSMN1R4-100CSF</b>	100	1.35			
	<b>PSMN1R4-100CSE</b>	100	1.42			
 <p>LFPAK56E (SOT1023)</p>	<b>PSMN2R6-80YSF</b>	80	2.4		231	85
	<b>PSMN3R5-80YSF</b>	80	3.5		150	75
	<b>PSMN4R2-80YSE</b>	80	4.2		170	73
	<b>PSMN4R2-80YSJ</b>	80	4.2			
	<b>PSMN3R9-100YSF</b>	100	4		120	80
	<b>PSMN4R8-100YSE</b>	100	4.8		120	80
	<b>PSMN4R8-100YSJ</b>	100	4.8			





## N-channel 75 V - 200 V power MOSFETs

Types in **bold** represent new products

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>G(tot)</sub> [typ] (nC)
 LFPAK56; Power-SQ8 (SOT669)	<b>PSMN3R3-80YSF</b>	80	3.3		160	70
	<b>PSMN4R5-80YSF</b>	80	4.5			
	PSMN8R2-80YS	80	8.5		82	55
	PSMN010-80YL	80	10	11	84	84.7
	PSMN011-80YS	80	11		67	45
	PSMN013-80YS	80	12.9		60	37
	PSMN014-80YL	80	14	15	62	56.9
	PSMN018-80YS	80	18		45	26
	PSMN025-80YL	80	25	27	37	34.3
	PSMN026-80YS	80	28		34	20
	PSMN041-80YL	80	41	45	25	21.9
	PSMN045-80YS	80	45		24	12.5
	<b>PSMN5R5-100YSF</b>	100	5.6		115	64
	<b>PSMN7R2-100YSF</b>	100	6.9		111	50
	<b>PSMN8R7-100YSF</b>	100	8.7		100	39
	<b>PSMN9R8-100YSF</b>	100	10.2		80	34
	PSMN011-100YSF	100	10.9		79.5	34.3
	PSMN012-100YL	100	12	12	85	118
	PSMN012-100YS	100	12		60	64
	<b>PSMN012-100YSF</b>	100	11.8		65	29
	PSMN013-100YSE	100	13		82	75
	PSMN015-100YL	100	15	15	69	86.3
	<b>PSMN015-100YSF</b>	100	15.5		55	24
	PSMN016-100YS	100	16		51	54
	PSMN019-100YL	100	19	19	56	72.4
	PSMN021-100YL	100	21	22	49	65.6
	PSMN020-100YS	100	21		43	41
	PSMN028-100YS	100	28		42	33
	PSMN038-100YL	100	38	38	30	39.2
	PSMN039-100YS	100	39		28.1	23
PSMN069-100YS	100	72		17	14	
PSMN059-150Y	150	59		43	27.9	
PSMN102-200Y	200	102		21.5	30.7	
 LFPAK56D (SOT1205)	<b>PSMN025-100HS</b>	100	24.5		29.5	38.1
	<b>PSMN029-100HL</b>	100	27.0	29.0	30	29.6
	<b>PSMN028-100HS</b>	100	27.5		29	34.0
	<b>PSMN033-100HL</b>	100	31	33	26	27.3
	<b>PSMN038-100HS</b>	100	37.6		21.4	25.9
<b>PSMN045-100HL</b>	100	42	45	21	18.5	
 LFPAK33 (SOT1210)	PSMN040-100MSE	100	37		30	30
	PSMN075-100MSE	100	71		18	16.4

## N-channel 75 V - 200 V power MOSFETs

Types in **bold** represent new products  
Types in **bold red** are in development

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>C(tot)</sub> [typ] (nC)
 LFPAK88 (SOT1235)	<b>PSMN1R3-80SSF</b>	80	1.2			
	<b>PSMN1R8-80SSF</b>	80	1.8		270	148
	<b>PSMN1R9-80SSE</b>	80	1.9		286	155
	<b>PSMN1R9-80SSJ</b>	80	1.9			
	<b>PSMN2R3-80SSF</b>	80	2.3			
	<b>PSMN2R5-80SSE</b>	80	2.5			
	<b>PSMN2R8-80SSF</b>	80	3			
	<b>PSMN2R0-100SSF</b>	100	2.07		267	161
	<b>PSMN2R3-100SSE</b>	100	2.28		255	161
	<b>PSMN2R3-100SSJ</b>	100	2.3			
	<b>PSMN2R9-100SSE</b>	100	2.9			
	<b>PSMN2R6-100SSF</b>	100	2.6		200	127
	<b>PSMN3R3-100SSF</b>	100	3.3		180	106
 MLPAK33 (SOT8002-2)	<b>PXN011-100QL</b>	100	11		56	18
	<b>PXN011-100QS</b>	100	11		56	25
	<b>PXN012-100QL</b>	100	12		50	14
	<b>PXN012-100QS</b>	100	12		50	22
	<b>PXN020-100QS</b>	100	20		31	13
	<b>PXN028-100QL</b>	100	28		24	7
	<b>PXN040-100QS</b>	100	40		17	6.6
 MLPAK56 (SOT8038)	<b>PXN2R8-100RL</b>	100	2.8			
	<b>PXN2R9-100RS</b>	100	2.9			
 DFN2020M-6 (SOT1220-2)	<b>PSMN047-100NSE</b>	100	53.4		18	9
	<b>PSMN071-100NSE</b>	100	82.3		10	7

## Premium & application specific MOSFETs nomenclature

**PSM N R51 - 25 Y L H**

**Segment**  
PSM = Power Silicon Max

**Channel**  
N = N-channel  
P = P-channel  
X = Dual  
C = Complementary

**R<sub>DS(on)</sub> in mΩ**  
R51 means 0.51 mΩ max at 25 °C  
1R7 means 1.7 mΩ max at 25 °C  
130 means 130 mΩ max at 25 °C

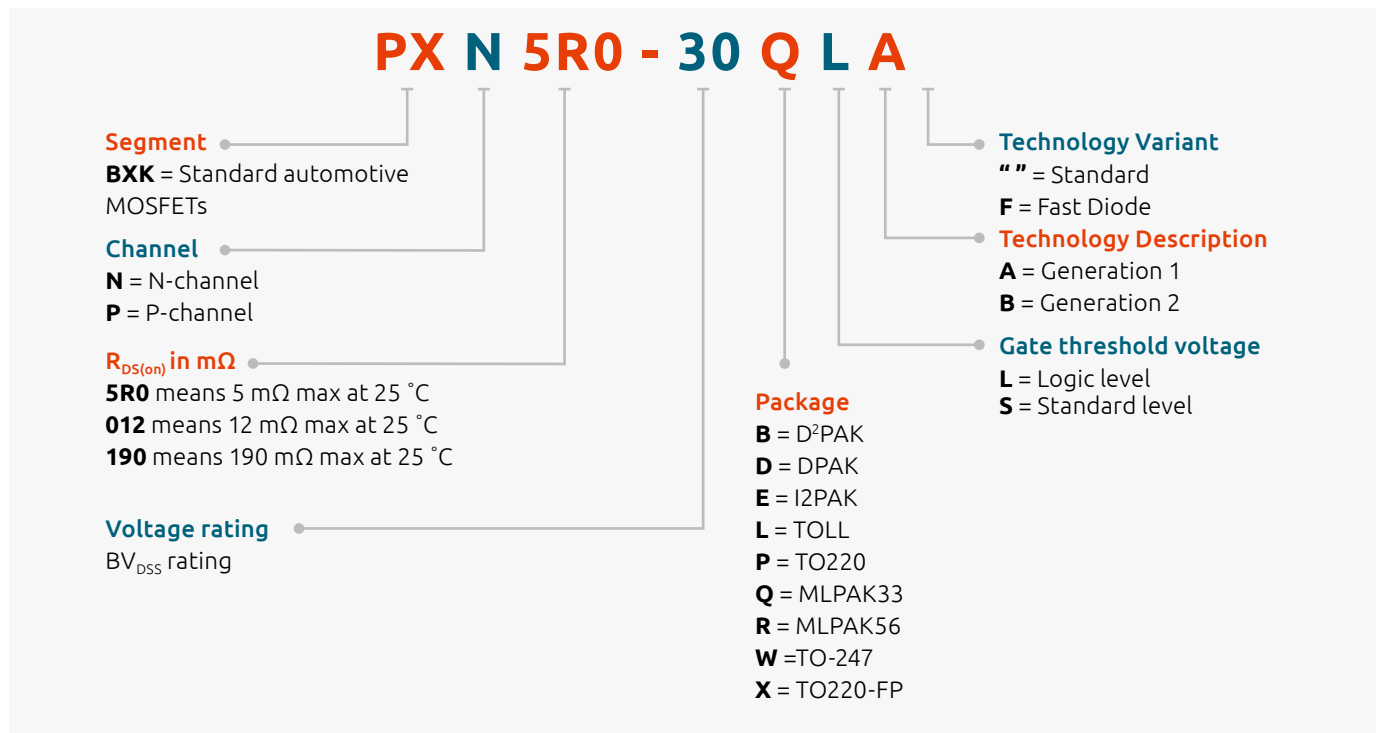
**Voltage rating**  
BV<sub>DSS</sub> rating

**Package type**  
A = CCPAK1212  
B = D2PAK  
C = CCPAK1212i  
E = I2PAK  
H = LFPAK56D  
M = LFPAK33  
N = DFN2020-2  
P = TO-220  
Q = MLPAK33  
R = MLPAK56  
S = LFPAK88  
U = LFPAK56-UL2595  
V = LFPAK56D half-bridge  
Y = LFPAK56/E

**Technology family, e.g.**  
B = NextPowerS3 optimized for EMC  
C = NextPower  
D = NextPowerS3 (Super-fast switching with soft recovery)  
E = ASFETs for Hotswap or PoE  
F = NextPower 60/80/100/150 V  
H = NextPowerS3 (Very low R<sub>DS(on)</sub>)  
J = ASFETs for Current Sharing  
N = NextPowerS3 improved R<sub>DS(on)</sub> & EMC performance



**Gate threshold voltage**  
E = Enhanced logic  
L = Logic level  
S = Standard level  
U = Ultra low gate  
X = Extremely low gate

## Standard MOSFETs nomenclature







## P-channel power MOSFETs



Types in **bold** represent new products

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ 10 V (m $\Omega$ )	I <sub>D</sub> [max] @ 25 °C (A)	R <sub>th(j-mb)</sub> [max] (K/W)
 LFAK56 (Power-SO8)	PSMP033-60YE	60	33	38	1.4
	PSMP061-60YE		61	22	2.3
 MLPAK33 (SOT8002-2)	PXP3R7-12QU	12		31	
	PXP8R3-20QX	20	8	20	
	PXP011-20QX		11	17	
	PXP018-20QX		18	14	
	PXP020-20QX			12	
	PXP6R1-30QL	30	6	22	
	PXP6R7-30QL		7	21	
	PXP9R1-30QL		9	18	
	PXP012-30QL		12.8	15	
	PXP013-30QL		13	15	
	PXP015-30QL		15.8	12.8	
	PXP400-100QS	100	400	1.4	12
	PXP1500-100QS		1500	0.7	20.5
	<b>PXP700-150QS</b>	150	700	1	7.7

Small-signal MOSFETs in DFN0603, DFN0606, DFN1006 packages

Package										DFN0603 (SOT8013)	DFN0606-3 (SOT8001)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)							
																				
Size (mm)										0.63 x 0.33 x 0.25	0.6 x 0.6 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37							
P <sub>tot</sub> (mW)										300	250	250	250							
Polarity	V <sub>DS</sub> (V)	V <sub>CS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th) min</sub> (V)	V <sub>GS(th) max</sub> (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =										
										10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V					
N-channel	20	8	1.9	0.45	0.95	5.3	16	1.6	2	-	120	160	210	270	-			PMZ130UNE		
				0.5	0.9					2		130					PMX100UNE			
			1.6	0.45	0.95	5.3	16	1.6	2	-	170	200	240	300	-				PMZB150UNE	
			1	0.5	0.95	6	86	0.45	2	-	270	360	470	600	-			PMZ290UNE2	PMZB290UNE2	
			1.2	0.45	0.95	1	4	0.18	1.8	-	310	420	-	-	-		PMH260UNE			
			0.9	0.45	0.95	1	4	0.15	1.7	-	460	575	-	-	-		PMH400UNE			
			0.8	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210		PMH600UNE			
			0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210			PMZ600UNE	PMZB600UNE	
	12	1.3	0.5	0.9	1	4	0.4			122	230	360			PMX100UN					
	30	8	1.5	0.45	0.95	5	17	1.6	2	-	210	240	270	300	-			PMZ200UNE	PMZB200UNE	
				0.5	0.9					2		360					PMX300UNE			
			1	0.45	0.95	4	12	0.8	2	-	390	460	30	610	-			PMZ390UNE	PMZB390UNE	
			0.77	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-		PMH550UNE			
			0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-			PMZ550UNE	PMZB550UNE	
	50	8	0.35	0.4	0.9	1	5	0.11	2	-	2800	3000	-	-	-		NX5008NBKH			
			0.35	0.4	0.9	3	17	0.1	2	-	2800	3000	-	-	-			NX5008NBKM		
	60	20	0.26	0.8	1.5	1	3	0			3		4					NX138AKH		
			0.27	0.8	1.5	1	3	0			3		4						NX138AKM	
			0.3	1	2.5	1	7	1			680	760					PMX700EN			
			0.5	1	2.5	2	20	0.1			800	870					PMX800ENE			
0.45			1.1	2.1	5	12	0.5	2	1000	1300	-	-	-	-			2N700BKM	2N7002BKMB		
0.35			1.1	2.1	4.7	6.9	1	2	2200	2500	-	-	-	-		NX7002BKH				
0.35			1.1	2.1	4.7	6.9	1	2	2200	2500	-	-	-	-			NX7002BKM	NX7002BKMB		
0.38			0.5	1.5	7.9	12.5	0.1	2	2300	2900	4800	-	-	-		NX138BKH				
0.38			0.5	1.5	7.9	12.5	0	2	2300	2900	4800	-	-	-			NX138BKM			
P-channel	20	8	1.4	0.45	0.95	4	26	1.3	1.8	-	330	420	520	-	-			PMZ350UPE	PMZB350UPE	
				0.5	0.9					2		430					PMX400UPE			
			0.8	0.45	0.95	2	5	0	1.8	-	640	930	-	-	-		PMH550UPE			
			0.53	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500		PMH950UPE			
			0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500			PMZ950UPE	PMZB950UPE	
	12	0.9	0.5	0.9	1.5	7	0.4			334	298	490			PMX400UP					
	30	8	1	0.45	0.95	2.9	22	1.45	2	-	430	470	750	950	-			PMZ320UPE	PMZB320UPE	
				0.5	0.9					2		680					PMX800UPE			
			0.6	0.45	0.95	6	2	0.14	1.8	-	1000	1700	-	-	-		PMH850UPE			
			0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-			PMZ1200UPE	PMZB1200UPE	
10	0.52	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-		PMH1200UPE					
50	20	0.23	1.1	2.1	13	48	0.26	1	4500	5700	-	-	-			BSS84AKM	BSS84AKMB			



Small-signal MOSFETs in DFN1010D-3 single and DFN1010B-3 dual packages

Package																DFN1010D-3 (SOT1215)	DFN1010B-6 (SOT1216)		
																			
Size (mm)																1.1 x 1.0 x 0.37	1.1 x 1.0 x 0.37		
P <sub>tot</sub> (mW)																1000	350		
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>c</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =								
											10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V			
Single	N-channel	12	8	3.2	0.4	0.9	6	18	6.6	1	-	34	39	46	50	121	PMXB40UNE		
		20		3.2	0.5	0.9	6	17	5.7	1	-	42	48	56	64	-	PMXB43UNE		
		30	20	3.2	1	2	3	11	3.6	-	49	56	-	-	-	-	PMXB56EN		
				3.2	1	2.5	3	11	6	1	44	56	-	-	-	-	PMXB65ENE		
	80		1.1	1.3	2.7	2	9	3	2	345	390	-	-	-	-	PMXB360ENEA			
	P-channel	12	8	3.2	0.4	1	6.2	27	6.7	1.5	-	59	78	120	198	880	PMXB65UPE		
		20		2.9	0.4	1	6	29	6.8	1	-	69	86	130	205	950	PMXB75UPE		
		30	20	1.2	0.45	0.95	3	18	1.25	1.5	-	350	450	600	760	1200	PMXB350UPE		
2.4				1	2.5	4	16	6.2	1	100	125	-	-	-	-	PMXB120EPE			
Dual	N-ch	20	8	0.93	0.5	1	1	5	0.6	2	-	270	360	470	600	-	PMDXB290UNE		
				0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210	-	PMDXB600UNE	
		30		0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-	PMDXB550UNE		
		60	20	0.26	1.1	2.1	4.7	6.9	1	2	2200	2500	-	-	-	-	PMDXB590UPE		
	P-ch	20	8	0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500	-	PMCXB290UE	
		30		0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-	-		
Complementary	N	20	8	0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210	-	PMCXB900UE	
	P			0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500	-	-	
	N	30	8	0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-	-		
	P			0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-	PMCXB1000UE		


MOSFETs

Small-signal MOSFETs in DFN2020MD-6 single and DFN2020-6 dual packages

Types in **bold** represent new products





Package														DFN2020MD-6 (SOT1220)	DFN2020M-6 (SOT1220-2)			
																		
Size (mm)														2.0 x 2.0 x 0.65	2.0 x 2.0 x 0.65			
P <sub>tot</sub> (mW)														1250	1250			
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th) min</sub> (V)	V <sub>GS(th) max</sub> (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>C</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =							
											10 V	4.5 V	2.5 V	1.8 V				
Single	N-channel	20	8	10.1	0.4	0.9	5	31	20			9	10	16	PMPB8XN			
				11.4	0.4	0.9	10	32	10.9	1	-	16	20	20	PMPB12UNE			
				12.9	0.4	0.9	13	54	23	2.2	-	10	12	16	PMPB10XNE			
				5.9	0.75	1.25	16	49	31	2	-	14	20	-	PMPB20XNEA			
				10.4	0.4	0.9	9	31	13.4	-	-	18	21	23	PMPB15XN			
				10.1	0.4	0.9	9	31	11.6	2	-	19	23	31	PMPB23XNE			
		12	16.4	0.4	0.9	5	31	20	-	-	7	8.5	14.5		PMPB07R0UN			
		30	8	13.5	0.4	0.9	6	33	6	-	-	13	16	-	PMPB10XN			
				11.3	0.4	0.9	12	54	24	1	-	13	14	17	PMPB13XNE			
				5	0.4	0.9	8	33	12.4	1	-	28	32	37	PMPB29XNE			
				5.5	0.45	1.2	6	21	5.1	-	-	37	55	-	PMPB33XN			
				14	1	2	9	17	13.7	-	-	10	13	-	PMPB10EN			
				13	1	2	9	17	13.7	-	-	12	14	-	PMPB11EN			
			10.4	1	2	9	9	7.2	-	-	16.5	20.5	-	-	PMPB20EN			
			10	1	2.5	6	28	13	2	17	28	-	-	-	PMPB25ENE			
			6.9	1	2.5	4	17	6	2	30	39	-	-	-	PMPB50ENE			
			5.1	1	2.5	3	15	3.5	2	54	70	-	-	-	PMPB100ENE			
			12	15	1	1	6	31	7	-	-	9	12	26			PMPB08R5XN	
				13	0.4	0.9	4	18	8.1	-	-	9.1	11.1	14.6			<b>PMPB09R1XN</b>	
		13		0.4	0.9	3	16	6.6	-	-	10.3	12.5	16.1			<b>PMPB10R3XN</b>		
		10		0.4	0.9	3	10	4.3	-	-	14.8	18.4	24.6			<b>PMPB14R8XN</b>		
		10		0	0.9	8	33	2.1	-	-	17	20	27			PMPB16R5XNE		
		17		1	1.7	3	13	1.6	-	7	9	-	-			PMPB07R3EN		
		20	15	1	2	9	17	1.7	-	9	11	-			PMPB08R6EN			
	40	8	11.5	0	0.9	5	35	5.6	-	-	18	22	-	PMPB14XN				
	60	20	4	1.3	2.7	4.5	13.5	7.5	2	42	48	-	-	PMPB55ENE				
			3	1.3	2.7	4	10.5	6.2	2	72	85	-	-	PMPB85ENE				
			2.8	1.3	2.7	5	15	9.9	2	80	92	-	-	PMPB95ENE				
	80	20	1.9	1.3	2.7	3.5	9.5	4.8	2	175	195	-	-	PMPB215ENE				
	P-channel	12	8	17.5	0.47	0.9	3	201	7.4	-	-	7	9.2	12		PMPB07R3VP		
				16.7	0.47	0.9	4	149	7.6	-	-	8	11.5	16		PMPB08R4VP		
				14	0.4	0.9	7	69	8.3	-	-	11	15.2	22		PMPB11R2VP		
				13	0.4	0.9	7	69	26	-	-	13	17	24	PMPB13UP			
				12.7	0.45	0.9	6	64	22	-	-	14	19	24	PMPB14XP			
				15	0.4	0.9	6	86	10	-	-	10	13	20		PMPB09R5VP		
			11.8	0.47	0.9	18	85	67	-	-	15	17	-	PMPB15XP				
			20	8	0.45	0.9	-	-	-	-	-	-	13	17	-		PMPB12R5UPE	
					20	8	0.9	-	-	-	-	-	16	22	-		PMPB19R0UPE	
				12	0.47	0.9	16	43	28.8	-	-	19	21	27	PMPB19XP			
				10.3	0.47	0.9	13	92	30	2.4	-	19	22	28	PMPB20XPE			
				5	0.47	0.9	12	91	30	2.3	-	28	31	36	PMPB29XPE			
		8.5		0.75	1.25	10	43	12.5	2	-	29	45	-	PMPB30XPE				
		7.9	0.47	0.9	12	62	15	-	-	30	35	45	PMPB33XP					
		12	5	0.47	0.9	15	28	14	-	-	47	54	74	PMPB47XP				
		30	20	12	1	-	3	60	6.2	-	-	14.5	19	-		PMPB14R7EP		
				20	1	2.5	3	67	-	-	12.7	16	-	-		PMPB12R7EP		
				12	1	2	2	145	5	-	-	14	18	-		PMPB14R0EP		
13				1	2	2	121	5	-	-	12.5	16	-		PMPB12R5EP			
11			1	2.5	3	47	31	-	-	17.5	24	-	-	PMPB17EP				
6.8			1	2.5	7.4	27	17	-	-	40	55	-	-	PMPB48EP				
25			10.6	1	2.5	3	60	29	-	-	16	22	-	-	PMPB16EP			

## Small-signal MOSFETs in DFN2020MD-6 single and DFN2020-6 dual packages

Package														DFN2020-6 (SOT1118)														
																												
Size (mm)														2.0 x 2.0 x 0.65														
P <sub>tot</sub> (mW)														1250														
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th) min</sub> (V)	V <sub>GS(th) max</sub> (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =																	
											10 V	4.5 V	2.5 V	1.8 V														
Dual	N-ch	20	12	5.3	0.4	0.9	4	40	14.4	-	-	32	40	60	PMDPB30XN													
		30	12	3.1	0.75	1.25	9	19	2.9	2	-	55	72	-	PMDPB56XNEA													
				0.5	1.5	6	18	1.65	1.8	-	95	130	-	PMDPB95XNE2														
	P-channel	20	8	4.5	0.45	0.95	7	41	6.3	2	-	58	74	97	PMDPB58UPE													
				3.7	0.45	0.95	6	47	5.4	2	-	82	107	142	PMDPB85UPE													
		12	4.5	0.47	0.9	4	135	16.5	-	-	55	75	110	-	-	-												
																	4.2	0.75	1.25	7	33	5	2	-	66	98	-	PMDPB70XPE
																	0.4	1	6	120	5.7	-	-	80	95	120	-	PMDPB80XP
		30	12	3.8	0.45	1	3	112	5.2	-	-	70	89	-	PMDPB70XP													
		Complementary	N	20	12	5.3	0.4	0.9	4	40	14.4	-	-	26	33	50	PMCPB5530X											
P	20		12	4.5	0.4	0.9	4	40	8.1	-	-	55	75	110														

MOSFETs




## Small-signal MOSFETs in DSN and WLCSP packages

Package														WLCSP4	WLCSP6	DSN1010-3	DSN1006-3		
																			
Size (mm)														0.78 x 0.78 x 0.35	1.48 x 0.98 x 0.35	0.96 x 0.96 x 0.24	1.0 x 0.6 x 0.2		
P <sub>tot</sub> (mW)														1300	1300	2500			
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th) min</sub> (V)	V <sub>GS(th) max</sub> (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =								
											4.5 V	2.5 V	1.8 V	1.5 V					
Single	N	12	8	14	0.4	0.9	3	16	8	-	13	16	22	-			PMCA14UN		
				6	0.4	0.9	6.3	30	6	2	36	46	60	86	PMCM4401VNE				
		20	8	5.4	0.4	0.9	4	27	6	2	43	55	65	75	PMCM4401UNE				
				30	12	4.8	0.6	1.1	2	5	1		40	48	65			PMCB60XN	
		0.6	1.1					2	40	49						PMCB60XNE			
	P	12	8	4.9	0.4	0.9	4.8	25.1	6.8	2	55	77	110	-	PMCM4401VPE				
				4	0.4	0.9	4	31	5.9	2	75	95	130	-	PMCM4401UPE				
		20	8	4.2	0.4	0.9	4	26	6	2	65	88	120	-	PMCM4402UPE				
	N	12	8	9.6	0.4	0.9	10.8	97.5	16.1	2	15	18	22	30		PMCM6501VNE			
				8.7	0.4	0.9	7	100	19	2	17	20	22	30		PMCM6501UNE			
P		12	8	8.2	0.4	0.9	8	72	19.6	2	19	25	37	-		PMCM6501VPE			

# Small-signal MOSFETs

## Small-signal MOSFETs single (N-channel)




Package														
Size (mm)														
P <sub>tot</sub> (mW)														
V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =					
									10 V	4.5 V	2.5 V	1.8 V		
20	8	7	0.4	1	10	32	11	0.5	-	15	18	-		
		4.7	0.45	1	8.2	39.5	6.2	2	-	24	29	40		
		2.5	0.45	1	5	9	6	6	-	-	41	48	57	
		1.9	0.4	1	8	31	2.2	2	-	-	63	77	114	
		2.2	0.4	1	6	21	2.6	2	-	-	64	78	110	
		1.9	0.45	0.95	5.3	16	1.6	2	-	-	120	155	195	
		1.6	0.45	0.95	5.3	16	1.6	2	-	-	155	190	235	
		1	0.5	0.95	6	86	0.45	2	-	-	270	360	470	
	0.6	0.45	0.95	5.6	19	0.4	1	-	-	470	620	845		
	12	6.3	0.75	1.25	16	44	9.9	2	-	-	16	24	-	
		8.6	0.47	0.9	7	135	7.7	-	-	-	15	18	22	
		9.1	0.4	0.9	9	31	12	1	-	-	15	19	22	
		7.3	0.6	1.3	4	15	3	2	-	-	17	25	-	
		5.4	0.4	0.9	7	35	6.2	-	-	-	24	30	40	
6		0.4	0.9	5.5	22	5.1	1	-	-	28	38	42		
30	8	2	0.4	0.9	4	32	5.8	-	-	50	57	66		
		2.3	0.4	0.9	4	32	1.4	-	-	50	57	66		
		1.5	0.45	0.95	5	17	1.6	2	-	-	210	240	270	
		1	0.45	0.95	4	12	0.8	2	-	-	390	460	530	
		0.59	0.45	0.95	4	12	0.6	2	-	-	550	660	770	
		0.4	0.6	1.1	26	88	0.52	2	-	-	1000	1400	2000	
	12	7.2	0.4	0.9	8	33	12.4	2	-	-	19	22	17	
		5.7	0.4	0.9	9	34	7	-	-	-	33	42	54	
		4.4	0.4	0.9	9	34	7	-	-	-	36	43	56	
		3.4	0.6	1.25	2	7	1	1	-	-	60	102	-	
		1	0.75	1.25	2	6	0.2	2	-	-	230	295	470	
		0.9	0.5	1.5	8	11	0.74	2	-	-	234	324	-	
	20	7.6	1	2	9	9	7.2	-	-	17	21	-	-	
		5.5	1	2.5	8	33	12.6	2	-	17	22	-	-	
3.9		1	2.5	6.3	14.1	6	2	-	28	36	-	-		
3.1		1	2.5	18	78	6.5	-	-	28	37	-	-		
4.5		1	2.5	3	11	6	1	-	30	44	-	-		
5.1		1	2	3	11	3.6	-	-	35	43	-	-		
2.1		1	2.5	3	15	2.6	2	-	70	90	-	-		
0.18		0.8	1.5	10	51	0.34	-	-	2700	3000	4000	-		
40	20	6.2	1.3	2.7	2	12	11	-	-	19	23	-	-	
		5.4	1	2.5	4	20	7.8	2	-	23	30	-	-	
		2.7	1	2.5	6	12	4.1	1	-	64	79	-	-	
		2.5	1	2.5	14	14	2.4	1	-	95	120	-	-	
55	10	0.3	0.4	1.3	4	11	1	3	-	2300	2400	3100		
60	8	0.27	0.4	0.9	1	5	0	2	-	2	2	2		
	20	4.2	1.3	2.7	3	11	10	-	-	32	38	-	-	
		3.1	1.3	2.7	9	33	12.7	2	-	46	52	-	-	
		2.1	1.3	2.7	6.4	15.9	5.9	2	-	96	108	-	-	
		1.5	1.3	2.7	6.3	13	3.9	2	-	176	196	-	-	
		0.8	1.3	2.7	5.3	10.2	2.4	2	-	300	332	-	-	
		0.19	0.8	1.5	6	11	0.33	yes	-	2800	3500	4500	-	
		0.27	0.5	1.5	7.9	12.5	0.49	2	-	2100	2200	2600	-	
		0.1	0.6	1.4	2	5	-	2	-	2800	3800	-	-	
	0.19	1.1	2.1	12	34	0.33	yes	-	3000	3700	-	-		
0.27	1.1	2.1	4.7	6.9	1	2	-	2200	2500	-	-			
100	20	1.5	1.3	2.7	4.8	9.3	4.5	1	-	285	300	-	-	

	SOT457 (SC-74)	SOT23	SOT323 (SC-70)
			
	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
	600	250	200
		PMV15UNEA	
	PMN28UNE	PMV28UNEA	
		NXV40UN	
			PMF63UNE
		PMV65UNE	
		PMV20XNEA	
		PMV16XN	
	PMN16XNE		
		PMV13XNEA	
		PMV30UN2	
	PMN30UNE		
		NXV50UN	
		NXV55UN	
		NX3008NBK	NX3008NBKW
		PMV20XNE	
	PMN30UN		
		PMV40UN2	
		PMV50XNEA	
		BSH103BK	
			PMF250XNE
		PMV20EN	
	PMN25ENE	PMV15ENE	
		PMV28ENE	
		PMV37EN2	
	PMN40ENE	PMV42ENE	
		PMV45EN2	
		PMV90ENE	
		NX3020NAK	NX3020NAKW
	PMN20ENA		
	PMN30ENEA	PMV30ENEA	
		PMV60ENEA	
		PMV130ENEA	
		BSH111BK	
		NX6008NBK	NX6008NBKW
	PMN40ENA		
	PMN55ENE	PMV52ENE	
	PMV30ENEA	PMV88ENE	
	PMN230ENE	PMV164ENE	
		PMV450ENEA	
		NX138AK	
		NX138BK	NX138BKW
		BSN20BK	
		2N7002NXAK	NX7002AKW
		2N7002NXBK	NX7002BKW
	PMN280ENEA	PMV280ENEA	

MOSFETs

Small-signal MOSFETs single (P-channel)

Package													
Size (mm)													
P <sub>tot</sub> (mW)													
V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>C</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =				
									10 V	4.5 V	2.5 V	1.8 V	
20	8	5.6	0.45	0.95	11	83	14.7	2	-	27	38	50	
		5.3	0.45	0.95	41	122	14.7	2	-	30	38	51	
		5.4	0.45	0.95	34	128	15.5	-	-	34	42	57	
		4	0.47	0.9	400	2180	10.5	3	-	50	57	70	
		2	0.5	1	6	46	5.8	-	-	55	74	101	
		2	0.5	1	5	36	4.2	-	-	75	103	-	
		2	0.5	1.1	7	50	6	-	-	100	155	210	
		1.2	0.45	0.95	33	52	3.3	-	-	170	210	280	
	2.3	0.45	0.95	5	43	3.7	-	-	120	150	200		
	4.5	0.75	1.25	7.9	59	11	2	-	28	42	-		
	6.8	0.47	0.9	12	62	15	-	-	30	35	48		
	4.1/3.5	0.75	1.25	24	84	8.5	-	-	48	71	-		
	4.4	0.47	0.9	7	135	7.7	-	-	48	60	82		
	4.7	0.47	0.9	5.1	141	8.5	-	-	50	64	88		
	3.9	0.55	0.95	28	101	7.6	-	-	65	90	-		
	3.3	0.75	1.25	7	36	5	2	-	67	99	-		
	3.9	0.47	0.9	6	120	5	-	-	72	88	110		
	3.2	0.47	0.9	6	120	5	-	-	77	95	120		
	2	0.65	1.15	48	64	4.8	-	-	90	125	-		
	2.3	0.7	1.3	5.3	36	3.4	2	-	100	155	-		
1	0.65	1.15	26	44	2.6	-	-	175	240	-			
40	12	0.23	0.6	1.1	49	103	0.55	2	-	2800	5300	-	
		1.5	0.5	0.9	5	40	4.2	-	-	104	131	175	
	20	5.3	1	3	6	36	12.8	2	35	49	-	-	
		4.4	1	3	5	19	6.5	2	60	96	-	-	
50	20	1.5	1	3	4	18	5.2	-	98	135	-	-	
		1.8	1	2.5	10	40	4.7	1	180	220	-	-	
100	25	0.2	1.1	2.1	24	73	0.26	1	5300	6000	-	-	
		1.2	2	4	8	23	2.6	-	365	-	-	-	




	SOT457 (SC-74)	SOT23	SOT363 (SC-88)	SOT323 (SC-70)
				
	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95
	600	250	300	200
		PMV27UPE		
		PMV33UPE		
		PMV32UP		
		PMV50UPE		
		NXV65UP		
		NXV75UP		
		NX2301P		
		PMV160UP		
		BSH205G2		
	PMN30XPE	PMV30XPEA		
	PMN30XP			
	PMN48XP	PMV48XP		
		PMV50XP		
	PMN52XP			
		PMV65XP		
		PMV65XPE		
	PMN70XP			
		PMV75UP		
			PMG85XP	
		PMV100XPEA		
				PMF170XP
		NX3008PBK		NX3008PBKW
		NXV100XP		
	PMN50EPE	PMV35EPE		
	PMN70EPE	PMV74EPE		
		NXV90EP		
		PMV250EPEA		
		BSS84AK		BSS84AKW
		PMV240SP		




MOSFETs

## Small-signal MOSFETs dual

Package											
Size (mm)											
P <sub>tot</sub> (mW)											
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th) min</sub> (V)	V <sub>GS(th) max</sub> (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>C</sub> typ (nC)	ESD protection (kV)		
N-channel	20	8	0.93	0.5	1	1	5	0.6	2		
			0.6	0.45	0.95	5.6	19	0.4	1		
		12	5.3	0.4	0.9	4	40	14.4	-		
			0.59	0.45	0.95	4	12	0.6	2		
	30	8	0.35	0.6	1.1	26	88	0.52	2		
			12	3.1	0.75	1.25	9	19	2.9	2	
				3.1	0.5	1.5	6	18	1.65	1.8	
		20	1	0.5	1.5	6.5	14	0.7	2		
			0.18	0.8	1.5	10	51	0.34	yes		
			0.22	0.4	0.9	1	5	0.11	2		
	60	20	0.18	0.8	1.5	6	11	0.33	yes		
			0.26	0.5	1.5	7.9	12.5	0.49	2		
0.17			1.1	2.1	12	34	0.33	yes			
0.26			1.1	2.1	4.7	6.9	1	2			
P-channel	20	8	4.5	0.45	0.95	7	41	6.3	2		
			0.26	1.1	2.1	4.7	6.9	1	2		
			0.5	0.45	0.95	2.3	13.5	1.19	1		
		12	3.7	0.45	0.95	6	47	5.4	2		
			4.5	0.47	0.9	4	135	16.5	-		
			4.2	0.75	1	7	33	5	2		
	30	8	3.7	0.4	1	6	120	5.7	-		
			0.41	0.45	0.95	3	14	0.7	2		
			0.2	0.6	1.1	49	103	0.55	2		
	50	12	3.8	0.45	1	3	112	5.2	-		
	50	20	0.16	1.1	2.1	24	73	0.26	1		

## Small-signal MOSFETs complementary

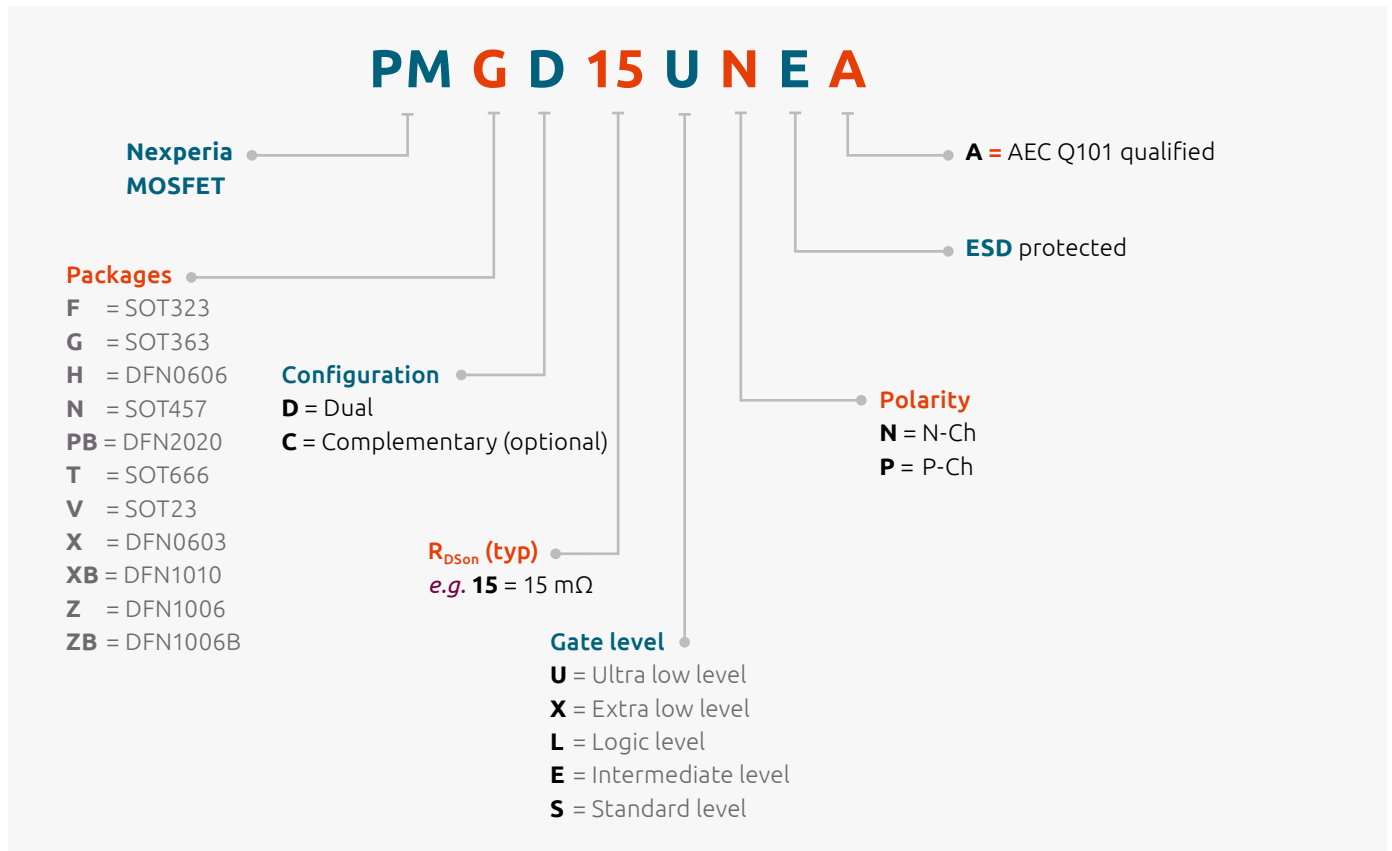
Package	Type	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th) min</sub> (V)	V <sub>GS(th) max</sub> (V)	
 SOT363 (SC-88) (2.0 x 1.25 x 0.95)	NX3008CBKS	N	30	8	0.35	0.6	1.1	
		P	30	8	0.2	0.6	1.1	
	NX6020CAKS	N	60	20	0.17	1.1	2.1	
		P	50	20	0.16	1.1	2.1	
 DFN1010B-6 (1.1 x 1.0 x 0.37)	PMCXB900UE	N	20	8	0.6	0.45	0.95	
		P	20	8	0.5	0.45	0.95	
	PMCXB1000UE	N	30	8	0.59	0.45	0.95	
		P	30	8	0.41	0.45	0.95	
 DFN2020-6 (2.0 x 2.0 x 0.65)	PMCPB5530X	N	20	12	5.3	0.4	0.9	
		P	20	12	4.5	0.47	0.9	

					SOT363 (SC-88)	DFN2020-6 (SOT1118)	DFN1010B-6 (SOT1216)
							
					2.0 x 1.25 x 0.95	2.0 x 2.0 x 0.65	1.0 x 1.0 x 0.37
					300	1250	350
R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =							
10 V							
4.5 V							
2.5 V							
1.8 V							
	-	270	360	470			PMDXB290UE
	-	470	620	845			PMDXB600UE
	-	32	40	60		PMDPB30XN	
	-	550	660	770			PMDXB550UE
	-	1000	1400	2000	NX3008NBKS		
	-	55	72	-		PMDPB56XNEA	
	-	95	130	-		PMDPB95XNE2	
	-	170	240	-	PMGD175XNE		
	2700	3000	4000	-	NX3020NAKS		
		2700	2900	-	NX6008NBKS		
	2800	3500	4500	-	NX138AKS		
	2100	2200	2600	-	NX138BKS		
	3000	3700	-	-	NX7002AKS		
	2200	2500	-	-	NX7002BKS		NX7002BKXB
	-	58	74	97		PMDPB58UPE	
	-	590	980	1170			PMDXB590UPE
	-	1020	1270	1700			PMDXB950UPE
	-	82	107	142		PMDPB85UPE	
	-	55	75	110		PMDPB55XP	
	-	66	98	-		PMDPB70XPE	
	-	80	95	120		PMDPB80XP	
	-	1200	1700	2100			PMDXB1200UPE
	-	2800	5300	-	NX3008PBKS		
	-	70	89	-		PMDPB70XP	
	4500	5700	-	-	BSS84AKS		

MOSFETs

	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =					
					10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V
	26	88	0.52	2	-	1000	1400	2000	-	-
	49	103	0.55	2	-	2800	5300	-	-	-
	6	20	0.33	yes	3000	3700				
	13	48	0.26	1	4500	5700				
	5.6	19	0.4	1	-	470	620	845	1125	2210
	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500
	4	12	0.6	2	-	550	660	770	890	-
	3	14	0.7	2	-	1200	1700	2100	3000	-
	19	56	14.4	-	-	26	33	50	-	-
	18	56	16.5	-	-	55	75	110	-	-

## Small-signal MOSFETs nomenclature







# Silicon carbide MOSFETs

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## Silicon carbide MOSFETs

Addressing the growing demand for high-power and highvoltage industrial applications, Nexperia's Silicon Carbide MOSFETs, with their excellent  $R_{DS(on)}$  temperature stability, fast switching speed, and high short-circuit ruggedness, make them the product of choice for E-vehicle charging infrastructure, photovoltaic inverters, and motor drives.

### Design benefits




- › Very low switching losses
- › Fast reverse recovery
- › Fast switching speed
- › Temperature independent turn-off switching losses
- › Very fast and robust intrinsic body diode
- › Faster commutation and improved switching due to the additional Kelvin source pin

### Key technical features

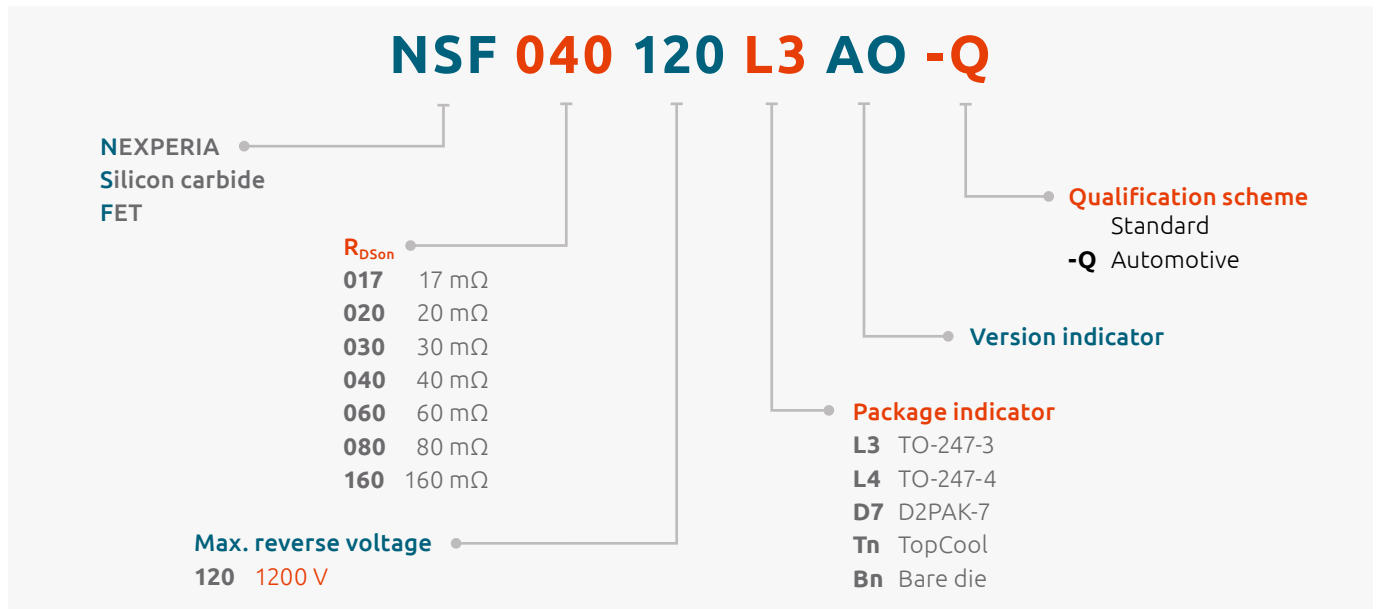
- › Best-in-class  $R_{DS(on)}$  temperature stability
- › Superior gate charge and beneficial gate charge ratio
  - Low power consumption of gate drivers
  - High tolerance against parasitic turn-on
- › Ultra small threshold voltage tolerance
- › Robust body diode with very low forward voltage
- › Lower leakage current up to 1200 V

### Key applications

- › E-vehicle charging infrastructure
- › Photovoltaic inverters
- › Switch mode power supply
- › Uninterruptable power supply
- › Motor drives

Type number	Package	$V_{DS}$ max (V)	$R_{DS(on)}$ typ (m $\Omega$ ) @ $T_J = 25^\circ\text{C}$	$I_D$ max (A) @ $T_C = 25^\circ\text{C}$	$T_J$ max ( $^\circ\text{C}$ )
NSF030120L3A0	 TO-247-3	1200	30	67	175
NSF040120L3A0			40	65	
NSF060120L3A0			60	38	
NSF080120L3A0			80	35	
NSF030120L4A0	 TO-247-4		30	67	
NSF040120L4A0			40	65	
NSF060120L4A0			60	38	
NSF080120L4A0			80	35	
NSF030120D7A0	 TO-263-7		30	67	
NSF040120D7A0			40	65	
NSF060120D7A0			60	38	
NSF080120D7A0			80	33	

## SiC MOSFET nomenclature

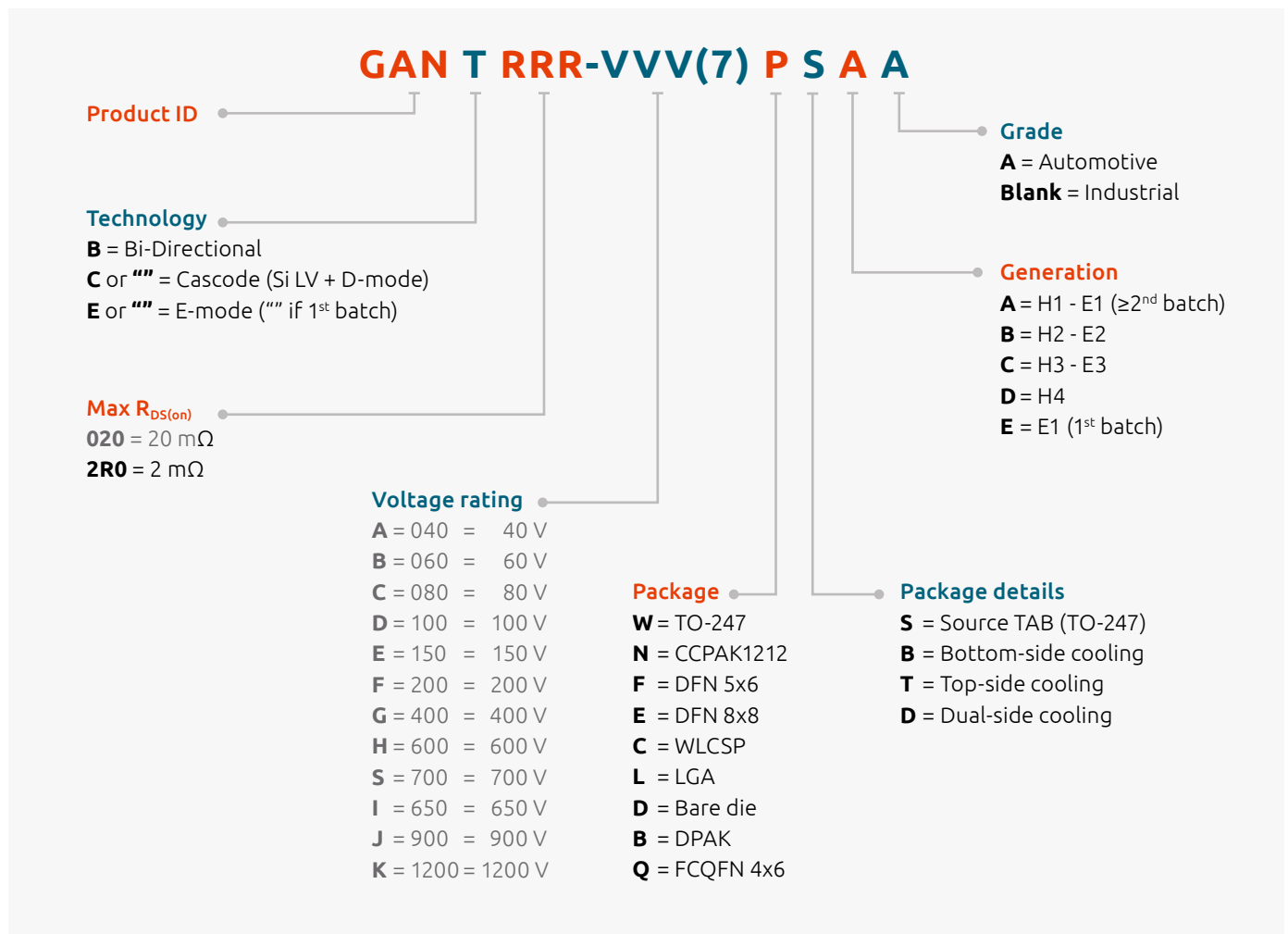


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## Power GaN FETs naming conventions



## Low voltage e-mode GaN FETs

Types in **bold** represent new products  
Types in **bold red** are in development

Package	Type number	V <sub>DS</sub> max (V)	R <sub>DS(on)</sub> max @ V <sub>GS</sub> = 5 V (mΩ)	T <sub>j</sub> max (°C)	I <sub>D</sub> max (A)	Q <sub>C(tot)</sub> [typ] (nC)	Q <sub>oss</sub> [typ] (nC)
WLCSP8 (SOT8072)	GAN3R2-100CBE	100	3.2	150		9.2	50
WLCSP6 (SOT8090)	<b>GAN7R0-100CBA</b>		7		29		
WLCSP22 (SOT8089)	<b>GAN2R7-100CBA</b>		2.7		64		
VQFN7 (SOT8091-1)	<b>GAN1R8-100QBA</b>		1.8		100		
	<b>GAN3R9-150QBA</b>	150	3.9	150	100	20	130
FCLGA3 (SOT8073-1)	GAN7R0-150LBE		7	150		7.6	47

## 650 - 700 V e-mode GaN FETs

Package	Type number	V <sub>DS</sub> max (V)	R <sub>DS(on)</sub> max @ V <sub>GS</sub> = 6 V (mΩ)	T <sub>j</sub> max (°C)	I <sub>D</sub> max (A)	Q <sub>C(tot)</sub> [typ] (nC)	Q <sub>oss</sub> [typ] (nC)
DFN5060-5 (SOT8075-1)	GAN140-650FBE	650	140	150	17	3.5	33
	GAN190-650FBE		190	150	11.5	2.8	24.5
	<b>GAN350-650FBA</b>		350		6		
	<b>GAN600-650FBA</b>		600		3.3		
DFN8080-8 (SOT8074-1)	GAN080-650EBE	650	80	150	29	6.2	60
	GAN140-650EBE		140	150	17	3.5	33
	GAN190-650EBE		190	150	11.5	2.8	24.5
DPAK (SOT428-2)	<b>GAN140-700BBA</b>	700	140		17		
	<b>GAN190-700BBA</b>		190		11.5		
	<b>GAN240-700BBA</b>		240		10		
	<b>GAN350-700BBA</b>		350		6		

## Bi-directional e-mode GaN FETs

Package	Type number	V <sub>DS</sub> max (V)	R <sub>DS(on)</sub> max @ V <sub>GS</sub> = 5 V (mΩ)	T <sub>j</sub> max (°C)	I <sub>D</sub> max (A)	Q <sub>C(tot)</sub> [typ] (nC)	Q <sub>oss</sub> [typ] (nC)
VQFN16 (SOT8092-1)	<b>GANB1R2-040QBA</b>	40	1.2		100		
WLCSP22 (SOT8086)	<b>GANB4R8-040CBA</b>		4.8	125	20	15.8	
WLCSP16 (SOT8087)	<b>GANB8R0-040CBA</b>		8		14		
WLCSP12 (SOT8088)	<b>GANB012-040CBA</b>		12		10		

## 650 V cascode GaN FETs

Package	Type number	V <sub>DS</sub> max (V)	R <sub>DS(on)</sub> max @ V <sub>GS</sub> = 10 V (mΩ)	T <sub>j</sub> max (°C)	I <sub>D</sub> max (A)	Q <sub>C(tot)</sub> [typ] (nC)	Q <sub>oss</sub> [typ] (nC)
CCPAK1212 (SOT8000)	<b>GAN039-650NBB</b>	650	39	150	58.5	26	
CCPAK1212i (SOT8005)	<b>GAN039-650NTB</b>		39	150	58.5	26	
TO-247-3L (SOT429-3)	<b>GAN041-650WSB</b>		41	175	47.2	22	
TO-247-3 (SOT429)	GAN063-650WSA (NRND)		60	175	34.5	15	
	<b>GAN111-650WSB</b>		114				



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## 650 V IGBTs

Addressing the growing demand for efficient, high-voltage power conversion and motor drives, Nexperia's IGBTs feature a robust and cost-effective carrier stored trench-gate (CSTBT) advanced field-stop (FS) construction. Delivering high ruggedness reliability and enhanced inverter power density for industrial applications.

### Design Benefits

- › Low conduction and switching losses
- › High ruggedness reliability
- › Stable and tight parameters for easy parallel operation
- › Maximum junction temperature of 175 °C
- › Fully rated as a Soft Fast Reverse Recovery Diode
- › 5 μs short circuit capability (For M3)
- › Enabling outstanding system efficiency and reliability

### Key applications

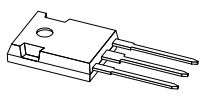
- › Industrial motor drives – particularly 5 <-> 20 kW (20 kHz) servo motors
  - robotics, elevators, operating grippers, in-line manufacturing
- › Power inverters
  - Uninterruptible Power Supply (UPS)
  - photovoltaic (PV) strings
  - EV-charging
- › Induction heating, welding

### Key technical features

- › Ultra low diode Vf
- › Ultra low IGBT turn off loss
- › Trade off for total power loss

### 650 V products

Types in **bold red** are in development

Type name	Voltage / Current @ Tc=100°C	IGBT type	Copak Diode rating	SCWT	Package
NGW40T65M3DFP	650 / 40	MS	full	5μs	 TO-247-3L
NGW50T65H3DFP	650 / 50	HS			
NGW75T65H3DF	650 / 75	HS			
<b>NGW30T65M3DFP</b>	<b>650 / 30</b>	<b>MS</b>			
<b>NGW50T65M3DFP</b>	<b>650 / 50</b>	<b>MS</b>			
<b>NGW60T65M3DFP</b>	<b>650 / 60</b>	<b>MS</b>			
<b>NGW75T65M3DFP</b>	<b>650 / 75</b>	<b>MS</b>			
<b>NGW40T65H3DFP</b>	<b>650 / 50</b>	<b>HS</b>			
<b>NGW75T65H3DFP</b>	<b>650 / 75</b>	<b>HS</b>			





# Analog & Logic ICs

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# Q100 Functions and Standard Packages (>10 pins)

## Logic - Buffer / Inverters

Type number	Description	Features				Package (suffix)										
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT162-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT164-1 (BQ)	SOT362-1 (DGG)	SOT480-1 (DGV)	
74AHC04-Q100	Hex inverter	2.0 - 5.5	± 8	3.0	-40 to 125	•	•	•								
74AHT04-Q100	Hex inverter; TTL-enabled	4.5 - 5.5	± 8	3.0	-40 to 125	•	•	•								
74AHC125-Q100	Quad buffer/line driver (3-state)	2.0 - 5.5	± 8	3.0	-40 to 125	•	•	•								
74AHT125-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40 to 125	•	•	•								
74AHC126-Q100	Quad buffer/line driver (3-state)	2.0 - 5.5	± 8	3.3	-40 to 125	•	•	•								
74AHT126-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40 to 125	•	•	•								
74AHT240-Q100	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40 to 125						•	•	•			
74AHC244-Q100	Octal buffer/line driver (3-state)	2.0 - 5.5	± 8	3.5	-40 to 125						•	•	•			
74AHT244-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.5	-40 to 125						•	•	•			
74AHC541-Q100	Octal buffer/line driver (3-state)	2.0 - 5.5	± 8	3.5	-40 to 125						•	•	•			
74AHT541-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.5	-40 to 125						•	•	•			
74AHC04-Q100	Hex inverter; unbuffered	2.0 - 5.5	± 8	2.4	-40 to 125	•	•	•								
74ALVC125-Q100	Quad buffer/line driver (3-state)	1.65 - 3.6	± 24	1.8	-40 to 85	•	•	•								
74ALVC541-Q100	Octal buffer/line driver (3-state)	1.65 - 3.6	± 24	2.3	-40 to 85						•	•	•			
74HC05-Q100	Hex inverter; open-drain	2.0 - 6.0	5.2	11	-40 to 125	•	•	•								
74HC04-Q100	Hex inverter	2.0 - 6.0	± 5.2	7.0	-40 to 125	•	•	•								
74HCT04-Q100	Hex inverter; TTL-enabled	4.5 - 5.5	± 4.0	8.0	-40 to 125	•	•	•								
74HC125-Q100	Quad buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125	•	•									
74HCT125-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	12	-40 to 125	•	•									
74HC126-Q100	Quad buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125	•	•									
74HCT126-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40 to 125	•	•									
74HC240-Q100	Octal inverter/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125						•	•	•			
74HCT240-Q100	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	9.0	-40 to 125						•	•	•			
74HC244-Q100	Octal buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125						•	•	•			
74HCT244-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40 to 125						•	•	•			
74HC365-Q100	Hex buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125					•	•					
74HCT365-Q100	Hex buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40 to 125					•	•					
74HC366-Q100	Hex inverter/line driver (3-state)	2.0 - 6.0	± 7.8	10	-40 to 125					•	•					
74HCT366-Q100	Hex inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40 to 125					•	•					
74HC540-Q100	Octal inverter/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125						•					
74HCT540-Q100	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40 to 125						•					
74HC541-Q100	Octal buffer/line driver (3-state)	2.0 - 6.0	± 7.8	10	-40 to 125						•	•				

## Logic - Buffer / Inverters

Type number	Description	Features				Package (suffix)									
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)	SOT480-1 (DGV)
74HCT541-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	12	-40 to 125						•	•			
74HCU04-Q100	Hex inverter; unbuffered	2.0 - 6.0	± 5.2	5.0	-40 to 125	•	•	•							
74LV244-Q100	Octal buffer/line driver (3-state)	1.0 - 5.5	± 16	8.0	-40 to 125					•	•				
74LVC04A-Q100	Hex inverter	1.65 - 5.5	± 24	2.0	-40 to 125	•	•	•							
74LVC06A-Q100	Hex inverter; open-drain	1.65 - 5.5	32	2.2	-40 to 125	•	•	•							
74LVC07A-Q100	Hex buffer; open-drain	1.65 - 5.5	32	2.2	-40 to 125	•	•	•							
74LVC125A-Q100	Quad buffer/line driver (3-state)	1.2 - 3.6	± 24	2.4	-40 to 125	•	•	•							
74LVC126A-Q100	Quad buffer/line driver (3-state)	1.2 - 3.6	± 24	2.4	-40 to 125	•	•	•							
74LVC541A-Q100	Octal buffer/line driver (3-state)	1.2 - 3.6	± 24	3.3	-40 to 125					•	•	•			
74LVC16240A-Q100	16-bit inverter/line driver (3-state)	1.2 - 3.6	± 24	2.7	-40 to 125									•	
74LVC244A-Q100	Octal buffer/line driver (3-state)	1.2 - 3.6	± 24	2.8	-40 to 125					•	•	•			
74LVCH244A-Q100	Octal buffer/line driver with bus hold (3-state)	1.2 - 3.6	± 24	2.8	-40 to 125					•	•	•			
74LVC16244A-Q100	16-bit buffer/line driver (3-state)	1.2 - 3.6	± 24	3.0	-40 to 125									•	•
74LVCH16244A-Q100	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	± 24	3.0	-40 to 125									•	•
74LVCU04A-Q100	Hex inverter; unbuffered	1.2 - 3.6	± 24	2.0	-40 to 125	•	•								
74LVT04-Q100	Hex inverter	2.7 - 3.6	-20 / +32	2.6	-40 to 85	•	•								
74LVT244A-Q100	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	-32 / +64	2.6	-40 to 85					•	•	•			
74LVTH244A-Q100	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	-32 / +64	2.6	-40 to 85					•	•	•			
74VHC126-Q100	Quad buffer/line driver (3-state)	2.0 - 5.5	± 8	3.3	-40 to 125	•	•	•							
74VHCT126-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40 to 125	•	•	•							
74VHC541-Q100	Octal buffer/line driver (3-state)	2.0 - 5.5	± 8	3.5	-40 to 125					•	•	•			
74VHCT541-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.5	-40 to 125					•	•	•			
HEF4049B-Q100	Hex inverter/line driver	3.0 - 15.0	-3 / +20	20	-40 to 85				•						
HEF4050B-Q100	Hex buffer/line driver	3.0 - 15.0	-3 / +20	40	-40 to 85				•						
HEF4069UB-Q100	Hex inverter; unbuffered	3.0 - 15.0	± 3.4	15	-40 to 85	•	•								

## Logic - Transceivers

Type number	Description	Features				Package (suffix)				
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)	SOT480-1 (DGV)
74AHC245-Q100	Octal transceiver (3-state)	2.0 - 5.5	± 8	3.5	-40 to 125	•	•	•		
74AHCT245-Q100	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	± 8	5.0	-40 to 125	•	•	•		
74HC245-Q100	Octal transceiver (3-state)	2.0 - 6.0	± 7.8	7.0	-40 to 125	•	•	•		
74HCT245-Q100	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	± 6	10	-40 to 125	•	•	•		
74LVC245A-Q100	Octal transceiver (3-state)	1.2 - 3.6	± 24	2.9	-40 to 125	•	•	•		
74LVCH245A-Q100	Octal transceiver with bus hold (3-state)	1.2 - 3.6	± 24	2.9	-40 to 125	•	•	•		
74LVC16245A-Q100	16-bit bus transceiver with diRection pin; 5 V tolerant (3-state)	1.2 - 3.6	± 24	5.2	-40 to 125				•	•
74LVC162245A-Q100	16-bit transceiver with 30 Ω termination resistors (3-state)	1.2 - 3.6	± 12	3.3	-40 to 125				•	•
74LVCH16245A-Q100	16-bit bus transceiver with bus hold with diRection pin; 5 V tolerant (3-state)	1.2 - 3.6	± 24	5.2	-40 to 125				•	•

## Logic - Gates

Type number	Description	Features				Package (suffix)			
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT1402-1 (PW)	SOT1762-1 (BQ)	SOT1765-1 (DC)
74AHC00-Q100	Quad 2-input NAND gate	2.0 - 5.5	± 8	3.2	-40 to 125	•	•	•	
74AHCT00-Q100	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40 to 125	•	•	•	
74AHC02-Q100	Quad 2-input NOR gate	2.0 - 5.5	± 8	2.9	-40 to 125	•	•	•	
74AHCT02-Q100	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 8	3.8	-40 to 125	•	•	•	
74AHC08-Q100	Quad 2-input AND gate	2.0 - 5.5	± 8	3.5	-40 to 125	•	•	•	
74AHCT08-Q100	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	± 8	5.0	-40 to 125	•	•	•	
74AHC30-Q100	8-input NAND gate	2.0 - 5.5	± 8	3.6	-40 to 125	•	•	•	
74AHCT30-Q100	8-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40 to 125	•	•	•	
74AHC32-Q100	Quad 2-input OR gate	2.0 - 5.5	± 8	3.5	-40 to 125	•	•	•	
74AHCT32-Q100	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	5.0	-40 to 125	•	•	•	
74AHC86-Q100	Quad 2-input EXCLUSIVE-OR gate	2.0 - 5.5	± 8	3.4	-40 to 125	•	•	•	
74AHCT86-Q100	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 8	3.4	-40 to 125	•	•	•	
74ALVC00-Q100	Quad 2-input NAND gate	1.65 - 3.6	± 24	2.1	-40 to 85	•	•	•	
74ALVC32-Q100	Quad 2-input OR gate	1.65 - 3.6	± 24	2.0	-40 to 125	•	•	•	
74AUP2G00-Q100	Dual 2-input NAND gate	2.0 - 5.5	± 8	3.2	-40 to 125				•
74HC00-Q100	Quad 2-input NAND gate	2.0 - 6.0	± 5.2	7.0	-40 to 125	•	•	•	
74HCT00-Q100	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	10	-40 to 125	•	•	•	
74HC02-Q100	Quad 2-input NOR gate	2.0 - 6.0	± 5.2	7.0	-40 to 125	•	•	•	
74HCT02-Q100	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 4	9.0	-40 to 125	•	•	•	
74HC03-Q100	Quad 2-input NAND gate; open-drain	2.0 - 6.0	5.2	8.0	-40 to 125	•	•		
74HCT03-Q100	Quad 2-input NAND gate; open-drain; TTL-enabled	4.5 - 5.5	± 4	10	-40 to 125	•	•		
74HC08-Q100	Quad 2-input AND gate	2.0 - 6.0	± 5.2	7.0	-40 to 125	•	•	•	
74HCT08-Q100	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	± 4	11	-40 to 125	•	•	•	
74HC10-Q100	Triple 3-input NAND gate	2.0 - 6.0	± 5.2	9.0	-40 to 125	•	•		
74HCT10-Q100	Triple 3-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	11	-40 to 125	•	•		

## Logic - Schmitt-trigger IC's

Type number	Description	Features				Package (suffix)				
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)
74AHC14-Q100	Hex inverter Schmitt-trigger	2.0 - 5.5	± 8	3.2	-40 to 125	•	•	•		
74AHCT14-Q100	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	4.0	-40 to 125	•	•	•		
74AHC132-Q100	Quad 2-input NAND gate Schmitt-trigger	2.0 - 5.5	± 8	3.3	-40 to 125	•	•	•		
74AHCT132-Q100	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	3.5	-40 to 125	•	•	•		
74HC7014-Q100	Hex buffer precision Schmitt-trigger	2.0 - 6.0	± 5.2	27	-40 to 125	•				
74HC14-Q100	Hex inverter Schmitt-trigger	2.0 - 6.0	± 5.2	12	-40 to 125	•	•	•		
74HCT14-Q100	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4	17	-40 to 125	•	•	•		
74HC132-Q100	Quad 2-input NAND gate Schmitt-trigger	2.0 - 6.0	± 5.2	11	-40 to 125	•	•	•		
74HCT132-Q100	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4	17	-40 to 125	•	•			
74HC7541-Q100	Octal buffer/line driver Schmitt-trigger (3-State)	2.0 - 6.0	± 7.8	11	-40 to 125				•	•
74HCT7541-Q100	Octal buffer/line driver Schmitt-trigger; TTL-enabled (3-State)	4.5 - 5.5	± 6	16	-40 to 125				•	•
74LV132-Q100	Quad 2-input NAND gate Schmitt-trigger	1.0 - 5.5	± 12	10	-40 to 125	•	•	•		
74LV7032A-Q100	Quad 2-input OR gate Schmitt-trigger	2.0 - 5.5	± 12	4.3	-40 to 125		•			
74LVC14A-Q100	Hex inverter Schmitt-trigger	1.2 - 3.6	± 24	3.2	-40 to 125	•	•	•		
74LVC132A-Q100	Quad 2-input NAND gate Schmitt-trigger	1.2 - 3.6	± 24	3.4	-40 to 125	•	•	•		
HEF4093B-Q100	Quad 2-input NAND gate Schmitt-trigger	3.0 - 15	± 24	30	-40 to 125	•				
HEF40106B-Q100	Hex inverter Schmitt-trigger	4.5 - 15.5	± 2.4	30	-40 to 85	•	•			

## Logic - Flip-flops

Type number	Description	Features				Package (suffix)									
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT815-1 (BQ)	SOT362-1 (DGG)
74AHC74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 5.5	± 8	3.7	-40 to 125	•	•	•							
74AHCT74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	3.3	-40 to 125	•	•	•							
74AHC273-Q100	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 5.5	± 8	4.2	-40 to 125						•	•	•		
74AHCT273-Q100	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	4.0	-40 to 125						•	•	•		
74AHC374-Q100	Octal D-type flip-flop; positive-edge trigger	2.0 - 5.5	± 8	4.4	-40 to 125						•	•			
74AHCT374-Q100	Octal D-type flip-flop; positive-edge trigger (3-state); TTL-enabled (3-state)	4.5 - 5.5	± 8	4.3	-40 to 125						•	•			
74HC73-Q100	Dual JK flip-flop with reset; negative-edge trigger	2.0 - 6.0	± 5.2	16	-40 to 125	•									
74HC74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	± 5.2	14	-40 to 125	•	•	•							
74HCT74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	15	-40 to 125	•	•	•							
74HC107-Q100	Dual J-K flip-flop with reset; negative-edge trigger	2.0 - 6.0	± 5.2	16	-40 to 125	•	•								
74HCT107-Q100	Dual J-K flip-flop with reset; negative-edge trigger; TTL-enabled	4.5 - 5.5	± 4	16	-40 to 125	•									
74HC109-Q100	Dual J-K flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	± 5.2	15	-40 to 125				•						
74HCT109-Q100	Dual J-K flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	17	-40 to 125				•	•					
74HC174-Q100	Hex D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	± 5.2	17	-40 to 125				•	•					

## Logic - Flip-flops

Type number	Description	Features				Package (suffix)									
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT815-1 (BQ)	SOT362-1 (DGG)
74HCT174-Q100	Hex D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	18	-40 to 125				•	•					
74HC175-Q100	Quad D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	± 5.2	17	-40 to 125				•	•					
74HCT175-Q100	Quad D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	16	-40 to 125				•	•					
74HC273-Q100	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	± 5.2	15	-40 to 125						•	•	•		
74HCT273-Q100	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	15	-40 to 125						•	•	•		
74HC377-Q100	Octal D-type flip-flop with data enable; positive-edge trigger	2.0 - 6.0	± 7.8	13	-40 to 125						•	•			
74HCT377-Q100	Octal D-type flip-flop with data enable; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 6	14	-40 to 125						•	•			
74HC574-Q100	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	± 7.8	14	-40 to 125						•	•	•		
74HCT574-Q100	"Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)"	4.5 - 5.5	± 6	15	-40 to 125						•	•			
74LV74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	1.0 - 5.5	± 12	11	-40 to 125	•	•								
74LVC74A-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	1.2 - 3.6	± 24	2.5	-40 to 125	•	•	•							
74LVC273-Q100	Octal D-type flip-flop with reset; positive-edge trigger	1.2 - 3.6	± 24	6	-40 to 125						•	•	•		
74LVC374A-Q100	Octal D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	± 24	2.7	-40 to 125						•	•	•		
74LVC573A-Q100	Octal D-type transparent latch (3-state)	1.2 - 3.6	± 24	3.4	-40 to 125						•	•	•		
74LVC16374A-Q100	16-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	± 24	3.8	-40 to 125										•
74LVCH16374A-Q100	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	± 24	3.8	-40 to 125										•
HEF4013B-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	3.0 - 15	± 2.4	30	-40 to 85	•	•								
HEF4027B-Q100	Dual J-K flip-flop	3.0 - 15	± 2.4	30	-40 to 85				•						

## Logic - Latches / Registered drivers

Type number	Description	Features				Package (suffix)							
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)	SOT480-1 (DGV)
74AHC573-Q100	Octal D-type transparent latch (3-state)	2.0 - 5.5	± 8	4.2	-40 to 125				•	•	•		
74AHCT573-Q100	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.9	-40 to 125				•	•	•		
74HC259-Q100	8 bit addressable latch	2.0 - 6.0	± 5.2	18	-40 to 125	•	•	•					
74HCT259-Q100	8 bit addressable latch; TTL-enabled	4.5 - 5.5	± 4	20	-40 to 125	•	•	•					
74HC373-Q100	Octal D-type transparent latch (3-state)	2.0 - 6.0	± 7.8	12	-40 to 125				•	•	•		
74HCT373-Q100	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	± 6	14	-40 to 125				•	•	•		
74HCS73-Q100	Octal D-type transparent latch (3-state)	2.0 - 6.0	± 7.8	14	-40 to 125				•	•	•		
74HCT573-Q100	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	± 6	17	-40 to 125				•	•	•		
74LVC373A-Q100	Octal D-type transparent latch (3-state)	1.2 - 3.6	± 24	3.0	-40 to 125				•	•	•		
74LVC16373A-Q100	16-bit D-type transparent latch (3-state)	1.2 - 3.6	± 24	2.4	-40 to 125							•	•
74LVCH16373A-Q100	16-bit D-type transparent latch with bushold (3-state)	1.2 - 3.6	± 24	2.4	-40 to 125							•	•
HEF4043B-Q100	Quad R/S latch with set and reset (3-state)	3.0 - 15	± 2.4	25	-40 to 85	•							

## Logic - Shift Registers

Type number	Description	Features				Package (suffix)							
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)
74AHC164-Q100	8-bit serial-in/parallel-out shift register	2.0 - 5.5	± 8	4.5	-40 to 125	•	•	•					
74AHC164-Q100	8-bit serial-in/parallel-out shift register; TTL-enabled	4.5 - 5.5	± 8	3.4	-40 to 125	•	•	•					
74AHC594-Q100	8-bit serial-in/parallel-out shift register with output register	2.0 - 5.5	± 8	4.1	-40 to 125				•	•	•		
74AHC594-Q100	8-bit serial-in/parallel-out shift register with output register; TTL-enabled	4.5 - 5.5	± 8	3.8	-40 to 125				•	•	•		
74AHC595-Q100	8-bit serial-in/parallel-out shift register with output register (3-state)	2.0 - 5.5	± 8	4.0	-40 to 125				•	•	•		
74AHC595-Q100	8-bit serial-in/parallel-out shift register with output storage; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.8	-40 to 125				•	•	•		
74HC164-Q100	8-bit serial-in/parallel-out shift register	2.0 - 6.0	± 5.2	12	-40 to 125	•	•	•					
74HCT164-Q100	8-bit serial-in/parallel-out shift register; TTL-enabled	4.5 - 5.5	± 4	12	-40 to 125	•	•	•					
74HC165-Q100	8-bit parallel or serial-in/serial-out shift register	2.0 - 6.0	± 5.2	16	-40 to 125				•	•	•		
74HCT165-Q100	8-bit parallel or serial-in/serial-out shift register; TTL-enabled	4.5 - 5.5	± 4	14	-40 to 125				•	•	•		
74HC166-Q100	8-bit parallel or serial-in/serial-out shift register	2.0 - 6.0	± 5.2	15	-40 to 125				•	•			
74HCT166-Q100	8-bit parallel or serial-in/serial-out shift register; TTL-enabled	4.5 - 5.5	± 4	23	-40 to 125				•				
74HC299-Q100	8-bit universal shift register; 3-state	2.0 - 6.0	± 7.8	15	-40 to 125							•	
74HC594-Q100	8-bit serial-in/parallel-out shift register with output storage register	2.0 - 6.0	± 7.8	14	-40 to 125	•	•	•					
74HCT594-Q100	8-bit serial-in/parallel-out shift register with output storage register; TTL-enabled	4.5 - 5.5	± 6	15	-40 to 125				•				
74HC595-Q100	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 6.0	± 7.8	16	-40 to 125				•	•	•		
74HCT595-Q100	8-bit serial-in/parallel-out shift register with output storage register; TTL-enabled (3-state)	4.5 - 5.5	± 6	25	-40 to 125				•	•	•		
74HC597-Q100	8-bit parallel or serial-in/parallel-out shift register with parallel input register	2.0 - 6.0	± 5.2	16	-40 to 125				•	•			
74HCT597-Q100	8-bit parallel or serial-in/parallel-out shift register with parallel input register; TTL-enabled	4.5 - 5.5	± 4	20	-40 to 125				•				
74HC4094-Q100	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	2.0 - 6.0	± 5.2	15	-40 to 125				•	•			
74HCT4094-Q100	8-bit serial-in/serial or parallel-out shift register with output register; TTL-enabled (3-state)	4.5 - 5.5	± 4	19	-40 to 125				•				
74LV164-Q100	8-bit serial-in/parallel-out shift register	1.0 - 5.5	± 12	12	-40 to 125	•	•	•					
74LV165-Q100	8-bit parallel or serial-in/serial-out shift register	1.0 - 5.5	± 12	18	-40 to 125				•	•			
74LV165A-Q100	8-bit parallel or serial-in/serial-out shift register	1.0 - 5.5	± 12	7.5	-40 to 125				•	•			
74LVC594A-Q100	8-bit serial-in/parallel-out shift register with output storage register	1.2 - 5.5	± 24	3.1	-40 to 125				•	•	•		
74VHC595-Q100	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 5.5	± 8	4.0	-40 to 125				•	•	•		
74VHCT595-Q100	8-bit serial-in/parallel-out shift register with output storage register; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.8	-40 to 125				•	•	•		
HEF4014B-Q100	8-bit shift register with synchronous parallel enable	3.0 - 15	± 2.4	40	-40 to 85				•				
HEF4021B-Q100	8-bit shift register with asynchronous parallel load	3.0 - 15	± 2.4	40	-40 to 85				•	•			
HEF4094B-Q100	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	3.0 - 15	± 2.4	50	-40 to 85				•	•			
HEF4794B-Q100	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	3.0 - 15	-20	45	-40 to 85				•				
HEF4894B-Q100	12-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	3.0 - 15	-20	45	-40 to 85							•	•

## Logic - Counter / Frequency dividers

Type number	Description	Features				Package (suffix)					
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
74HC161-Q100	Presetable synchronous 4-bit binary counter; asynchronous reset	2.0 - 6.0	± 5.2	19	-40 to 125				•	•	
74HC193-Q100	Presetable synchronous 4-bit binary up/down counter	2.0 - 6.0	± 5.2	20	-40 to 125				•	•	
74HCT193-Q100	Presetable synchronous 4-bit binary up/down counter; TTL-enabled	4.5 - 5.5	± 4.0	20	-40 to 125				•	•	
74HC393-Q100	Dual 4-bit binary ripple counter	2.0 - 6.0	± 5.2	12	-40 to 125	•	•	•			
74HCT393-Q100	Dual 4-bit binary ripple counter; TTL-enabled	4.5 - 5.5	± 4.0	20	-40 to 125	•	•	•			
74HC4017-Q100	Johnson decade counter with 10 decoded outputs	2.0 - 6.0	± 5.2	18	-40 to 125				•	•	•
74HCT4017-Q100	Johnson decade counter with 10 decoded outputs; TTL-enabled	4.5 - 5.5	± 4.0	21	-40 to 125				•		•
74HC4020-Q100	14-stage binary ripple counter	2.0 - 6.0	± 5.2	11	-40 to 125				•	•	•
74HCT4020-Q100	14-stage binary ripple counter; TTL-enabled	4.5 - 5.5	± 4.0	15	-40 to 125				•	•	•
74HC4024-Q100	7-stage binary ripple counter	2.0 - 6.0	± 5.2	14	-40 to 125	•					
74HC4040-Q100	12-stage binary ripple counter	2.0 - 6.0	± 5.2	14	-40 to 125				•	•	•
74HCT4040-Q100	12-stage binary ripple counter; TTL-enabled	4.5 - 5.5	± 4.0	16	-40 to 125				•	•	•
74HC4060-Q100	14-stage binary ripple counter with oscillator	2.0 - 6.0	± 5.2	31	-40 to 125				•	•	•
74HCT4060-Q100	14-stage binary ripple counter with oscillator; TTL-enabled	4.5 - 5.5	± 4.0	31	-40 to 125				•		•
74HC4520-Q100	Dual 4-bit synchronous binary counter	2.0 - 6.0	± 5.2	24	-40 to 125				•	•	
74HCT4520-Q100	Dual 4-bit synchronous binary counter; TTL-enabled	4.5 - 5.5	± 4.0	24	-40 to 125				•		
74LV393-Q100	Dual 4-bit binary ripple counter	1.0 - 3.6	± 6	12	-40 to 125	•	•				
74LV4060-Q100	14-stage binary ripple counter with oscillator	1.0 - 5.5	± 6	29	-40 to 125				•	•	
HEF4017B-Q100	5-stage Johnson decade counter	3.0 - 15	± 2.4	40	-40 to 85				•		
HEF4020B-Q100	14-stage binary ripple counter	3.0 - 15	± 2.4	30	-40 to 85				•		
HEF4040B-Q100	12-stage binary ripple counter	3.0 - 15	± 2.4	35	-40 to 85				•		
HEF4060B-Q100	14-stage binary ripple counter with oscillator	3.0 - 15	± 2.4	50	-40 to 85				•		
HEF4520B-Q100	Dual 4-bit synchronous binary counter	3.0 - 15	± 2.4	15	-40 to 85				•		
HEF4541B-Q100	Programmable timer	3.0 - 15	- 4/ + 2.7	38	-40 to 85	•					

## Logic - Decoders / Demultiplexers

Type number	Description	Features				Package (suffix)			
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT355-1 (PW)
74AHC138-Q100	3-to-8 line decoder/demultiplexer; inverting	2.0 - 5.5	± 8	4.4	-40 to 125	•	•	•	
74AHCT138-Q100	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	± 8	4.4	-40 to 125	•	•	•	
74AHC139-Q100	Dual 2-to-4 line decoder/demultiplexer	2.0 - 5.5	± 8	3.9	-40 to 125	•	•		
74AHCT139-Q100	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	± 8	3.6	-40 to 125	•	•		
74HC237-Q100	3-to-8 decoder/demultiplexer with address latches	2.0 - 6.0	± 5.2	18	-40 to 125	•			
74HC138-Q100	3-to-8 line decoder/demultiplexer; inverting	2.0 - 6.0	± 5.2	12	-40 to 125	•	•	•	
74HCT138-Q100	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	± 4	19	-40 to 125	•	•	•	
74HC139-Q100	Dual 2-to-4 line decoder/demultiplexer	2.0 - 6.0	± 5.2	14	-40 to 125	•	•		
74HCT139-Q100	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	± 4	16	-40 to 125	•	•		
74HC238-Q100	3-to-8 decoder/demultiplexer	2.0 - 6.0	± 5.2	14	-40 to 125	•	•	•	
74HCT238-Q100	3-to-8 decoder/demultiplexer; TTL-enabled	4.5 - 5.5	± 4	18	-40 to 125	•	•	•	
74HC4514-Q100	4-to-16 decoder/demultiplexer with address latches	2.0 - 6.0	± 5.2	27	-40 to 125				•
74LVC138A-Q100	3-to-8 line decoder/demultiplexer; inverting	1.2 - 3.6	± 24	2.7	-40 to 125	•	•	•	
HEF4555B-Q100	Dual 1-to-4 line decoder/demultiplexer	3.0 - 15	± 2.4	30	-40 to 85	•			

## Logic - Digital multiplexers

Type number	Description	Features				Package (suffix)		
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
74AHC157-Q100	Quad 2-input multiplexer	2.0 - 5.5	± 8	3.2	-40 to 125	•	•	•
74AHCT157-Q100	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	± 8	3.2	-40 to 125	•	•	•
74AHC257-Q100	Quad 2-input multiplexer (3-State)	2.0 - 5.5	± 8	2.9	-40 to 125	•	•	
74AHCT257-Q100	Quad 2-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 8	3.7	-40 to 125	•	•	
74HC151-Q100	8-input multiplexer	2.0 - 6.0	± 5.2	17	-40 to 125	•	•	
74HCT151-Q100	8-input multiplexer; TTL-enabled	4.5 - 5.5	± 4	19	-40 to 125	•	•	
74HC153-Q100	Dual 4-input multiplexer	2.0 - 6.0	± 5.2	17	-40 to 125	•	•	
74HCT153-Q100	Dual 4-input multiplexer; TTL-enabled	4.5 - 5.5	± 4	19	-40 to 125	•	•	
74HC157-Q100	Quad 2-input multiplexer	2.0 - 6.0	± 5.2	11	-40 to 125	•	•	•
74HCT157-Q100	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	± 4	13	-40 to 125	•	•	•
74HC251-Q100	8-input multiplexer (3-State)	2.0 - 6.0	± 5.2	18	-40 to 125	•	•	
74HCT251-Q100	8-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 4	22	-40 to 125	•	•	
74HC253-Q100	Dual 4-input multiplexer (3-State)	2.0 - 6.0	± 7.8	17	-40 to 125	•		
74HCT253-Q100	Dual 4-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 6	17	-40 to 125	•		
74HC257-Q100	Quad 2-input multiplexer (3-State)	2.0 - 6.0	± 7.8	11	-40 to 125	•	•	
74HCT257-Q100	Quad 2-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 6	13	-40 to 125	•	•	
74LVC157A-Q100	Quad 2-input multiplexer	1.2 - 3.6	± 24	2.5	-40 to 125	•	•	•

## Logic - Specialty logic

Type number	Description	Features				Package (suffix)		
		V <sub>CC</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
74AHC123A-Q100	Dual retriggerable monostable multivibrator with reset	2.0 - 5.5	± 8	5.1	-40 to 125	•	•	•
74AHT123A-Q100	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	± 8	5.0	-40 to 125	•	•	•
74HC123-Q100	Dual retriggerable monostable multivibrator with reset	2.0 - 6.0	± 7.8	9.0	-40 to 125	•	•	•
74HCT123-Q100	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	± 4	26	-40 to 125	•	•	
74HC4538-Q100	Dual retriggerable precision monostable multivibrator	2.0 - 6.0	± 5.2	27	-40 to 125	•	•	
74HCT4538-Q100	Dual retriggerable precision monostable multivibrator; TTL-enabled	4.5 - 5.5	± 4	30	-40 to 125	•	•	
HEF4047B-Q100	Retriggerable astable multivibrator	3.0 - 15	± 2.4	50	-40 to 85	•		
HEF4528B-Q100	Dual retriggerable monostable multivibrator with reset	3.0 - 15	± 2.4	40	-40 to 85	•		
HEF4538B-Q100	Dual retriggerable precision monostable multivibrator	3.0 - 15	± 2.4	60	-40 to 85	•		

## Voltage translators (Level-shifters)

Type number	Description	Features				Package (suffix)													
		V <sub>CC(A)</sub> (V)	V <sub>CC(B)</sub> (V)	I <sub>o</sub> (mA)	T <sub>amb</sub> (°C)	SOT1174-1 (GU12)	SOT1161-1 (GU)	SOT109-1 (D)	SOT402-1 (PW)	SOT403-1 (PW)	SOT360-1 (PW)	SOT355-1 (PW)	SOT762-1 (BQ)	SOT763-1 (BQ)	SOT764-1 (BQ)	SOT815-1 (BQ)	SOT362-1 (DCG)	SOT480-1 (DCV)	
74ALVC164245-Q100	16-bit dual-supply voltage level translating transceiver (3-state)	1.5 - 5.5	1.5 - 3.6	± 24	-40 to 125														
74AVC4T245-Q100	4-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125		•	•		•				•					
74AVC4T3144-Q100	4-bit dual-supply voltage-translating buffer (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125		•			•				•					
74AVC4T774-Q100	4-bit dual supply translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125	•													
74AVC4TD245-Q100	4-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125									•					
74AVC8T245-Q100	8-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125										•				
74AVC16T245-Q100	16-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125														•
74AVCH4T245-Q100	4-bit dual-supply voltage translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125			•		•				•					
74LVC4T3144-Q100	4-bit dual supply buffer/line driver (3-state)	1.2 to 5.5	1.2 to 5.5	± 24	-40 to 125														
74LVC4245A-Q100	8-bit dual-supply voltage translating transceiver (3-state)	1.5 - 5.5	1.5 - 3.6	± 24	-40 to 125									•					•
74LVC8T245-Q100	8-bit dual-supply voltage translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125									•					•
74LVCH8T245-Q100	8-bit dual-supply voltage translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125									•					•
HEF4104B-Q100	Quad low-to-high voltage translator (3-state)	3.0 - 15.0	3.0 - 15.0	± 2.4	-40 to 85					•									
LSF0108-Q100	8-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	+64	-40 to 125									•					
LSF0204-Q100	4-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	+64	-40 to 125	•				•									
NXB0104-Q100	4-bit Dual supply translating transceiver; auto direction sensing; 3-state	1.2 - 3.6	1.65 - 5.5	± 0.02	-40 to 125	•				•				•					
NXB0106-Q100	6-bit Dual supply translating transceiver; auto direction sensing; 3-state	1.2 - 3.6	1.65 - 5.5	± 0.02	-40 to 125									•					
NXB0108-Q100	8-bit Dual supply translating transceiver; auto direction sensing; 3-state	1.2 - 3.6	1.65 - 5.5	± 0.02	-40 to 125									•					•
NXS0104-Q100	4-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	-0.02/+1	-40 to 125	•				•				•					
NXS0108-Q100	8-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	-0.02/+1	-40 to 125									•					•
NXS0506-Q100	SD 3.0-compatible memory card integrated auto-direction control and level translator with EMI filter and ESD protection	1.1 - 1.95	1.7 - 3.6	± 2	-40 to 85		•												

## Analog switches and multiplexers - Analog switches

Type number	Description	Features					Package (suffix)								
		Configuration	V <sub>cc</sub> (V)	R <sub>ON</sub> (Ω)	R <sub>ON</sub> (FLAT) (Ω)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT1402-1 (PW)	SOT1762-1 (BQ)	SOT1109-1 (D)	SOT1403-1 (PW)	SOT1763-1 (BQ)	SOT355-1 (PW)	SOT1815-1 (BQ)	SOT163-1 (D)
74HC4051-Q100	Single-pole, octal-throw analog switch	SP8T-Z	2.0 - 10.0	200	20	-40 to 125				•	•	•			
74HCT4051-Q100	Single-pole, octal-throw analog switch; TTL-enabled	SP8T-Z	4.5 - 5.5	225	20	-40 to 125				•	•	•			
74HC4052-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	2.0 - 10.0	200	20	-40 to 125				•	•	•			
74HCT4052-Q100	Dual single-pole, quad-throw analog switch; TTL-enabled	SP4T-Z	4.5 - 5.5	200	20	-40 to 125				•	•	•			
74HC4053-Q100	Triple single-pole, double-throw analog switch	SPDT-Z	2.0 - 10.0	200	20	-40 to 125				•	•	•			
74HCT4053-Q100	Triple single-pole, double-throw analog switch; TTL-enabled	SPDT-Z	4.5 - 5.5	200	20	-40 to 125				•	•	•			
74HC4066-Q100	Quad single-pole, single-throw analog switch	SPST-NO	2.0 - 10.0	105	23	-40 to 125	•	•	•						
74HCT4066-Q100	Quad single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	118	23	-40 to 125	•	•	•						
74HC4067-Q100	Single-pole, 16-throw analog switch	SP16T-Z	2.0 - 10.0	200	25	-40 to 125							•	•	
74HCT4067-Q100	Single-pole, 16-throw analog switch; TTL-enabled	SP16T-Z	4.5 - 5.5	225	25	-40 to 125							•	•	
74HC4351-Q100	Single-pole, octal-throw analog switch with latch	SP8T-Z	2.0 - 10.0	200	20	-40~125									•
74HCT4351-Q100	Single-pole, octal-throw analog switch with latch; TTL enabled	SP8T-Z	4.5 - 5.5	225	20	-40~125									•
74HCT4316-Q100	Quad single-pole, single-throw analog switch with translation; TTL enabled	SPST-NO	4.5 - 5.5	400	50	-40~125				•					
74HC4851-Q100	Single-pole, octal-throw analog switch	SP8T-Z	2.0 - 10.0	220	-	-40 to 125				•	•	•			
74HCT4851-Q100	Single-pole, octal-throw analog switch; TTL-enabled	SP8T-Z	4.5 - 5.5	240	-	-40 to 125				•	•	•			
74HC4852-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	2.0 - 10.0	220	-	-40 to 125				•	•	•			
74HCT4852-Q100	Dual single-pole, quad-throw analog switch; TTL-enabled	SP4T-Z	4.5 - 5.5	240	-	-40 to 125				•	•	•			
74LV4051-Q100	8-channel analog multiplexer/demultiplexer	SP8T-Z	1.0 - 6.0	135	35	-40 to 125					•				
74LV4052-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	1.0 - 6.0	125	15	-40 to 125				•	•				
74LV4053-Q100	Triple single-pole, double-throw analog switch	SPDT-Z	1.0 - 6.0	150	30	-40 to 125				•	•	•			
74LVC4066-Q100	Quad single-pole, single-throw analog switch	SPST-NO	1.65 - 5.5	15	1.5	-40 to 125	•	•	•						
HEF4051B-Q100	Single-pole, octal-throw analog switch	SP8T-Z	3.0 - 15	175	30	-40 to 85				•	•				
HEF4052B-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	3.0 - 15	175	30	-40 to 85				•	•				
HEF4053B-Q100	Triple single-pole, double-throw analog switch	SPDT-Z	3.0 - 15	175	30	-40 to 85				•	•				
HEF4066B-Q100	Quad single-pole, single-throw analog switch	SPST-NO	3.0 - 15	175	20	-40 to 85	•								
HEF4067B-Q100	Single-pole, 16-throw analog switch	SP16T-Z	3.0 - 15	175	20	-40 to 85							•		

## Load Switch

Type number	Description	Features				
		Minimum Input Voltage (V)	Maximum Input Voltage (V)	"Absolute Maximum Input Voltage (V)"	Typical On-resistance (mohm)	Rated Current (A)
NPS4053	5.5 V, 55 mΩ load switch with precision adjustable current limit	2.5	5.5	6	55	2
NPS4053-Q100	5.5 V, 55 mΩ, Automotive, load switch with precision adjustable current limit	2.5	5.5	6	55	2
NPS4053	5.5 V, 55 mΩ load switch with precision adjustable current limit	2.5	5.5	6	55	2
NPS4053-Q100	5.5 V, 55 mΩ, Automotive, load switch with precision adjustable current limit	2.5	5.5	6	55	2
NPS4069	5.5 V, 55 mΩ load switch with current limitation	2.5	5.5	6	55	1.5
NPS4001	5.5 V, 55 mΩ load switch with current limitation	2.5	5.5	6	55	2
NPS1000	0.5 V to 1.0 V, 1.5 A peak, 11 mΩ, load switch	0.5	1	1.2	11	0.6
NPS1001	0.5 V to 1.8 V, 1.5 A peak, 11 mΩ, load switch	0.5	1.8	2	11	0.6

## eFuses

Type number	Description	Features				
		Minimum Input Voltage (V)	Maximum Input Voltage (V)	"Absolute Maximum Input Voltage (V)"	Typical On-resistance (mohm)	"Minimum Current Limit (A)"
NPS3102A	12 V, 2 A to 13.5 A, 17 mΩ eFuse	9	18	21	17	2
NPS3102B	12 V, 2 A to 13.5 A, 17 mΩ eFuse	9	18	21	17	2
NPS3103A	12 V, 2 A to 6 A, 30 mΩ eFuse	9	18	21	30	2
NPS3103B	12 V, 2 A to 6 A, 30 mΩ eFuse	9	18	21	30	2

## Ideal Diodes

Type number	Description	Features				
		Minimum Input Voltage (V)	Maximum Input Voltage (V)	Typical Forward Voltage Drop (mV)	"Shutdown current (μA)"	"Quiescent current (μA)"
NID5100	1.2 V to 5.5 V, 1.5 A input polarity protected, low quiescent current ideal diode	1.2	5.5	31	0.17	0.24
NID5100-Q100	1.2 V to 5.5 V, Automotive, 1.5 A input polarity protected, low quiescent current ideal diode	1.2	5.5	31	0.17	0.24
NID1100	1.2 V to 5.5 V, 1 A forward voltage blocking ideal diode	1.2	5.5	36	0.1	0.56

									Package (suffix)			
"Current Limit (A)"	Enable	Over Current Protection	Over temperature protection	Inrush current control	Reverse Voltage Blocking	AEC-Q100 Qualified	Thermal Fault Response	Package Suffix	Package Type	Package Size (mm)	Package Code	
0.11 - 2.5	Active High	Y	Y	Y	Y		Auto-Retry	GV	TSOP6	2.9 x 1.5	SOT457	
0.11 - 2.5	Active High	Y	Y	Y	Y	Y	Auto-Retry	GV	TSOP6	2.9 x 1.5	SOT457	
0.11 - 2.5	Active High	Y	Y	Y	Y		Auto-Retry	GH	HWSON6	2 x 2	SOT8044-1	
0.11 - 2.5	Active High	Y	Y	Y	Y	Y	Auto-Retry	GH	HWSON6	2 x 2	SOT8044-1	
1.83	Active High	Y	Y	Y	Y		Auto-Retry	GV	TSOP5	2.9 x 1.5	SOT753	
2.37	Active High	Y	Y	Y	Y		Auto-Retry	GV	TSOP5	2.9 x 1.5	SOT753	
NA	Active High		Y	Y			Latch-off	UP	WLCSP8	1.42 x 0.72	SOT8068-1	
NA	Active High		Y	Y			Latch-off	UP	WLCSP8	1.42 x 0.72	SOT8068-1	

									Package (suffix)			
"Maximum Current Limit (A)"	Over Voltage Protection	Over voltage protection type	Clamp voltage (V)	Over Current Protection	Over temperature protection	Inrush current control	Thermal Fault Response	Package Suffix	Package Type	Package Size (mm)	Package Code	
13.5	Fixed	Clamp	15	Y	Y	Y	Latch-Off	GB	DFN3030-10	3 x 3	SOT8037-1	
13.5	Fixed	Clamp	15	Y	Y	Y	Auto-Retry	GB	DFN3030-10	3 x 3	SOT8037-1	
6	Fixed	Clamp	15	Y	Y	Y	Latch-Off	GB	DFN3030-10	3 x 3	SOT8037-1	
6	Fixed	Clamp	15	Y	Y	Y	Auto-Retry	GB	DFN3030-10	3 x 3	SOT8037-1	

									Package (suffix)			
Internal FET	"Rated Forward Current (A)"	Reverse Current Blocking	Input Polarity Protection	Forward Voltage Blocking	Inrush Current Control	Short circuit Protection	Over temperature Protection	AEC-Q100 Qualified	Package (suffix)	Package Type	Package Code	
Y	1.5	Y	Y						GW	TSSOP6	SOT363-2	
Y	1.5	Y	Y					Y	GW	TSSOP6	SOT363-2	
Y	1	Y		Y	Y	Y	Y		GV	TSOP5	SOT753	

## Analog switches and multiplexers - Bus switches

Type number	Description	Features				Package (suffix)								
		V <sub>CC</sub> (V)	V <sub>PASS</sub> (V)	R <sub>ON</sub> (Ω)	T <sub>amb</sub> (°C)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT355-1 (PW)
74CBTLV3125-Q100	Quad bus switch	2.3 - 3.6	3.3	7	-40 to 125	•	•							
74CBTLV3126-Q100	Quad bus switch	2.3 - 3.6	3.3	7	-40 to 125	•	•							
74CBTLV3244-Q100	4-bit bus switch with four output enables	2.3 - 3.6	3.3	7	-40 to 125								•	
74CBTLV3245-Q100	8-bit bus switch with one output enable	2.3 - 3.6	3.3	7	-40 to 125							•	•	
74CBTLVD3245-Q100	Octal bus switch level translator	3.0 - 3.6	1.8	7	-40 to 125								•	
CBT3245A-Q100	Octal bus switch	4.0 - 5.5	3.9	7	-40 to 85								•	
CBTD3384-Q100	10-bit bus switch level translator	4.5 - 5.5	3.3	7	-40~85									•

## Analog switches and multiplexers - Multiplexers / Demultiplexers

Type number	Description	Features				Package (suffix)					
		V <sub>CC</sub> (V)	V <sub>PASS</sub> (V)	R <sub>ON</sub> (Ω)	T <sub>amb</sub> (°C)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	
74CB3Q3257-Q100	Quad 1-of-2 FET multiplexer/demultiplexer with charge pump	2.3 - 3.6	3.3	4	-40 to 85					•	
74CBTLV3253-Q100	Dual 4:1 mux/demux	2.3 - 3.6	3.3	7	-40 to 125			•	•	•	
74CBTLV3257-Q100	Quad 2:1 mux/demux	2.3 - 3.6	3.3	7	-40 to 125			•	•	•	
CBT3257A-Q100	Quad 1-of-2 multiplexer/demultiplexer	4.0 - 5.5	3.9	7	-40 to 85					•	

Interface - I<sup>2</sup>C general purpose I/O (GPIO)

Type number	Description	Features				Package (suffix)	
		V <sub>CC(A)</sub> (V)	V <sub>CC(B)</sub> (V)	I <sub>O</sub> (mA)	T <sub>amb</sub> (°C)	SOT355-1 (PW)	SOT8041-1 (BY)
NCA9535BY-Q100	Low-voltage 16-Bit I <sup>2</sup> C and SMBus low-power I/O expander with interrupt output and configuration registers	1.65 - 5.5	n.a.	- 10 / 25	-40~125	•	
NCA9535PW-Q100	Low-voltage 16-Bit I <sup>2</sup> C and SMBus low-power I/O expander with interrupt output and configuration registers	1.65 - 5.5	n.a.	- 10 / 25	-40~125		•
NCA9539BY-Q100	Low-voltage 16-Bit I <sup>2</sup> C and SMBus low-power I/O expander with interrupt output, reset pin and configuration registers	1.65 - 5.5	n.a.	- 10 / 25	-40~125	•	
NCA9539PW-Q100	Low-voltage 16-Bit I <sup>2</sup> C and SMBus low-power I/O expander with interrupt output, reset pin and configuration registers	1.65 - 5.5	n.a.	- 10 / 25	-40~125		•
NCA9555BY-Q100	Low-voltage 16-bit I <sup>2</sup> C and SMBus I/O expander with interrupt output and configuration registers	1.65 - 5.5	n.a.	- 10 / 25	-40~125	•	
NCA9555PW-Q100	Low-voltage 16-bit I <sup>2</sup> C and SMBus I/O expander with interrupt output and configuration registers	1.65 - 5.5	n.a.	- 10 / 25	-40~125		•
NCA9595PW-Q100	Low voltage 16-Bit I <sup>2</sup> C and SMBus I/O expander with interrupt output, configuration registers and programmable pull-up resistors	1.65 - 5.5	n.a.	- 10 / 25	-40~125	•	

# Q100 Functions and Mini-Logic Packages ( $\leq 10$ pins)

## Logic - Buffers / Inverters

Type number	Description	Features				Package (suffix)								
		$V_{CC}$ (V)	$I_O$ (mA)	$t_{pd}$ (ns)	$T_{mb}$ (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT886 (GM)	SOT1202 (GS)	SOT8065-1 (GZ)
74AHC1GU04-Q100	Single inverter; unbuffered	2.0 - 5.5	$\pm 8$	2.6	-40 to 125	•	•							
74AHC3GU04-Q100	Triple inverter; unbuffered	2.0 - 5.5	$\pm 8$	2.5	-40 to 125					•	•			
74AHC1G04-Q100	Single inverter	2.0 - 5.5	$\pm 8$	3.1	-40 to 125	•	•							•
74AHC1G04-Q100	Single inverter; TTL-enabled	4.5 - 5.5	$\pm 8$	3.4	-40 to 125	•	•							•
74AHC1G07-Q100	Single buffer; open-drain	2.0 - 5.5	8	4.2	-40 to 125	•	•							
74AHC1G17-Q100	Single buffer with Schmitt-trigger inputs	2.0 - 5.5	$\pm 8$	3.2	-40 to 125	•								
74AHC1G17-Q100	Single buffer with Schmitt-trigger inputs; TTL-enabled	4.5 - 5.5	$\pm 8$	4.1	-40 to 125	•								
74AHC1G125-Q100	Single buffer/line driver (3-state)	2.0 - 5.5	$\pm 8$	3.4	-40 to 125	•	•							•
74AHC1G125-Q100	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	$\pm 8$	3.4	-40 to 125	•	•							
74AHC1G126-Q100	Single buffer/line driver (3-state)	2.0 - 5.5	$\pm 8$	3.4	-40 to 125	•	•							•
74AHC1G126-Q100	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	$\pm 8$	3.4	-40 to 125	•	•							•
74AHC2G125-Q100	Dual buffer/line driver (3-state)	2.0 - 5.5	$\pm 8$	3.4	-40 to 125					•	•			
74AHC2G125-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	$\pm 8$	3.4	-40 to 125					•	•			
74AHC2G126-Q100	Dual buffer/line driver (3-state)	2.0 - 5.5	$\pm 8$	3.4	-40 to 125					•	•			
74AHC2G126-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	$\pm 8$	3.4	-40 to 125					•				
74AHC2G241-Q100	Dual buffer/line driver (3-state)	2.0 - 5.5	$\pm 8$	3.4	-40 to 125					•	•			
74AHC2G241-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	$\pm 8$	3.4	-40 to 125					•				
74AHC3G04-Q100	Triple inverter	2.0 - 5.5	$\pm 8$	3.1	-40 to 125					•	•			
74AHC3G04-Q100	Triple inverter; TTL-enabled	4.5 - 5.5	$\pm 8$	3.0	-40 to 125					•				
74AUP1G04-Q100	Single inverter	1.1 - 3.6	$\pm 1.9$	4.0	-40 to 125	•	•							•
74AUP1G06-Q100	Single inverter; open-drain	1.1 - 3.6	1.9	4.5	-40 to 125	•								•
74AUP1G07-Q100	Buffer; open-drain	0.8 - 3.6	1.9	4.5	-40 to 125	•								•
74AUP1G34-Q100	Single buffer	1.1 - 3.6	$\pm 1.9$	3.9	-40 to 125	•								•
74AUP1G125-Q100	Single buffer/line driver (3-state)	1.1 - 3.6	$\pm 1.9$	4.3	-40 to 125	•						•	•	
74AUP2G04-Q100	Dual inverter	1.1 - 3.6	$\pm 1.9$	4.0	-40 to 125			•						
74AUP2GU04-Q100	Dual inverter; unbuffered	1.1 - 3.6	$\pm 1.9$	2.3	-40 to 125			•				•		
74HC1GU04-Q100	Single inverter; unbuffered	2.0 - 6.0	$\pm 2.6$	5.0	-40 to 125	•	•							
74HC2GU04-Q100	Dual inverter; unbuffered	2.0 - 6.0	$\pm 5.2$	5.0	-40 to 125			•	•					
74HC3GU04-Q100	Triple inverter; unbuffered	2.0 - 6.0	$\pm 5.2$	6.0	-40 to 125					•	•			
74HC1G04-Q100	Single inverter	2.0 - 6.0	$\pm 2.6$	7.0	-40 to 125	•	•							
74HCT1G04-Q100	Single inverter; TTL-enabled	4.5 - 5.5	$\pm 2.0$	8.0	-40 to 125	•	•							
74HC1G125-Q100	Single buffer/line driver (3-state)	2.0 - 6.0	$\pm 2.6$	9.0	-40 to 125	•	•							
74HCT1G125-Q100	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	$\pm 2.0$	10	-40 to 125	•	•							

## Logic - Buffers / Inverters

Type number	Description	Features				Package (suffix)								
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT886 (GM)	SOT1202 (GS)	SOT8065-1 (GZ)
74HC2G04-Q100	Dual inverter	2.0 - 6.0	± 5.2	8.0	-40 to 125			•	•					
74HCT2G04-Q100	Dual inverter; TTL-enabled	4.5 - 5.5	± 4.0	10	-40 to 125			•	•					
74HC2G34-Q100	Dual buffer	2.0 - 6.0	± 5.2	9.0	-40 to 125			•	•					
74HCT2G34-Q100	Dual buffer; TTL-enabled	4.5 - 5.5	± 4.0	10	-40 to 125			•	•					
74HC2G125-Q100	Dual buffer/line driver (3-state)	2.0 - 6.0	± 5.2	10	-40 to 125					•	•			
74HCT2G125-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 4.0	12	-40 to 125					•	•			
74HC3G04-Q100	Triple inverter	2.0 - 6.0	± 5.2	8.0	-40 to 125					•	•			
74HCT3G04-Q100	Triple inverter; TTL-enabled	4.5 - 5.5	± 4.0	10	-40 to 125					•	•			
74HC3G07-Q100	Triple buffer; open-drain	2.0 - 6.0	5.2	9.0	-40 to 125					•	•			
74HCT3G07-Q100	Triple buffer; open-drain; TTL-enabled	4.5 - 5.5	4	9.0	-40 to 125					•	•			
74HC3G34-Q100	Triple buffer	2.0 - 6.0	± 5.2	9.0	-40 to 125					•	•			
74HCT3G34-Q100	Triple buffer; TTL-enabled	4.5 - 5.5	± 4.0	10	-40 to 125					•	•			
74LV1T04-Q100	Single supply translating inverter	1.6 - 5.5	± 8.0	6.2	-40 to 125	•	•							
74LV1T34-Q100	Single supply translating buffer	1.6 - 5.5	± 8.0	6.3	-40 to 125	•	•							•
74LVC1G04-Q100	Single inverter	1.65 - 5.5	± 32	2.0	-40 to 125	•	•							•
74LVC1G16-Q100	Single buffer	1.65 - 5.5	± 32	2.0	-40 to 125	•								
74LVC1G06-Q100	Single inverter; open-drain	1.65 - 5.5	32	2.3	-40 to 125	•	•							•
74LVC1G07-Q100	Single buffer; open-drain	1.65 - 5.5	32	2.2	-40 to 125	•	•						•	•
74LVC1G34-Q100	Single buffer	1.65 - 5.5	± 32	2.0	-40 to 125	•	•							•
74LVC1G125-Q100	Single buffer/line driver (3-state)	1.65 - 5.5	± 32	2.1	-40 to 125	•	•				•			•
74LVC1G126-Q100	Single buffer/line driver (3-state)	1.65 - 5.5	± 32	2.0	-40 to 125	•	•							•
74LVC1G240-Q100	Single inverter/line driver (3-state)	1.65 - 5.5	± 32	2.1	-40 to 125	•								
74LVC1GU04-Q100	Single inverter; unbuffered	1.65 - 5.5	± 32	1.6	-40 to 125	•	•							•
74LVC2G04-Q100	Dual inverter	1.65 - 5.5	± 32	2.7	-40 to 125			•	•				•	
74LVC2G06-Q100	Dual inverter; open-drain	1.65 - 5.5	32	2.3	-40 to 125			•	•					
74LVC2G07-Q100	Dual buffer; open-drain	1.65 - 5.5	32	2.6	-40 to 125			•	•					
74LVC2G34-Q100	Dual buffer	1.65 - 5.5	± 32	2.3	-40 to 125	•	•					•		
74LVC2G125-Q100	Dual buffer/line driver (3-state)	1.65 - 5.5	± 32	2.3	-40 to 125					•	•			
74LVC2G126-Q100	Dual buffer/line driver (3-state)	1.65 - 5.5	± 32	2.4	-40 to 125					•	•			
74LVC2G240-Q100	Dual inverter/line driver (3-state)	1.65 - 5.5	± 32	2.5	-40 to 125					•	•			
74LVC2G241-Q100	Dual buffer/line driver (3-state)	1.65 - 5.5	± 32	2.6	-40 to 125					•	•			
74LVC2GU04-Q100	Dual inverter; unbuffered	1.65 - 5.5	± 32	2.3	-40 to 125			•	•	•				
74LVC3G04-Q100	Triple inverter	1.65 - 5.5	± 32	2.7	-40 to 125					•	•			
74LVC3G07-Q100	Triple buffer; open-drain	1.65 - 5.5	32	2.1	-40 to 125					•	•			
74LVC3G34-Q100	Triple buffer	1.65 - 5.5	± 32	2.2	-40 to 125					•	•			
74LVC3GU04-Q100	Triple unbuffered inverter	1.65 - 5.5	± 32	2.3	-40 to 125					•				

## Logic - Gates

Type number	Description	Features				Package (suffix)									
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT886 (GM)	SOT1203 (GS)	SOT1160 (GU)	SOT8065-1 (GZ)
74AHC1G09-Q100	Single 2-input AND gate; open-drain	2.0 - 5.5	± 8	3.2	-40 to 125	•	•								•
74AHC1G00-Q100	Single 2-input NAND gate	2.0 - 5.5	± 8	3.5	-40 to 125	•	•								•
74AHC1G00-Q100	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40 to 125	•	•								•
74AHC1G02-Q100	Single 2-input NOR gate	2.0 - 5.5	± 8	3.2	-40 to 125	•	•								•
74AHC1G02-Q100	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 8	3.5	-40 to 125	•	•								•
74AHC1G08-Q100	Single 2-input AND gate	2.0 - 5.5	± 8	3.2	-40 to 125	•	•								•
74AHC1G08-Q100	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40 to 125	•	•								•
74AHC1G32-Q100	Single 2-input OR gate	2.0 - 5.5	± 8	3.2	-40 to 125	•	•								•
74AHC1G32-Q100	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40 to 125	•	•								•
74AHC1G86-Q100	2-input EXCLUSIVE-OR gate	2.0 - 5.5	± 8	3.4	-40 to 125	•	•								•
74AHC1G86-Q100	2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 8	3.5	-40 to 125	•	•								•
74AHC2G00-Q100	Dual 2-input NAND gate	2.0 - 5.5	± 8	3.5	-40 to 125					•	•				
74AHC2G00-Q100	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40 to 125						•				
74AHC2G08-Q100	Dual 2-input AND gate	2.0 - 5.5	± 8	3.2	-40 to 125					•	•				
74AHC2G08-Q100	Dual 2-Input AND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40 to 125					•	•				
74AHC2G32-Q100	Dual 2-input OR gate	2.0 - 5.5	± 8	3.2	-40 to 125					•	•				
74AHC2G32-Q100	Dual 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40 to 125					•	•				
74AUP1G00-Q100	Single 2-input NAND gate	1.1 - 3.6	± 1.9	8.3	-40 to 125	•									•
74AUP1G02-Q100	Single 2-input NOR gate	1.1 - 3.6	± 1.9	8.2	-40 to 125	•									•
74AUP1G08-Q100	Single 2-input AND gate	1.1 - 3.6	± 1.9	8.2	-40 to 125	•					•				•
74AUP1G09-Q100	Single 2-input AND gate; open-drain	2.0 - 5.5	± 8	3.2	-40 to 125	•									•
74AUP1G32-Q100	Single 2-input OR gate	1.1 - 3.6	± 1.9	7.9	-40 to 125	•					•				•
74AUP1G86-Q100	Single 2-input EXCLUSIVE-OR gate	1.1 - 3.6	± 1.9	3.3	-40 to 125	•									•
74AUP1Z04-Q100	Crystal driver with enable and internal resistor	1.1 - 3.6	± 1.9	5.6	-40 to 125			•							
74AUP2G00-Q100	Dual 2-input NAND gate	1.1 - 3.6	± 1.9	8.3	-40 to 125						•				
74AUP2G57-Q100	Configurable gate; Schmitt-trigger	1.1 - 3.6	± 1.9	8.7	-40 to 125									•	
74HC1G86-Q100	Single 2-input EXCLUSIVE-OR gate	2.0 - 6.0	± 2.6	9.0	-40 to 125	•	•								
74HCT1G86-Q100	Single 2-input EXCLUSIVE-OR gate	4.5 - 5.5	± 2	10	-40 to 125	•	•								
74HC1G00-Q100	Single 2-input NAND gate	2.0 - 6.0	± 2.6	7.0	-40 to 125	•	•								
74HCT1G00-Q100	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 2	10	-40 to 125	•	•								
74HC1G02-Q100	Single 2-input NOR gate	2.0 - 6.0	± 2.6	7.0	-40 to 125	•	•								•
74HCT1G02-Q100	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 2.0	9.0	-40 to 125	•	•								
74HC1G08-Q100	Single 2-input AND gate	2.0 - 6.0	± 5.2	7.0	-40 to 125	•	•								•
74HCT1G08-Q100	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	± 2	11	-40 to 125	•	•								•
74HC1G32-Q100	Single 2-input OR gate	2.0 - 6.0	± 2.6	8.0	-40 to 125	•	•								
74HCT1G32-Q100	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	± 2.0	10	-40 to 125	•	•								
74HC2G00-Q100	Dual 2-input NAND gate	2.0 - 6.0	± 5.6	9.0	-40 to 125					•	•				
74HCT2G00-Q100	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	12	-40 to 125					•	•				
74HC2G02-Q100	Dual 2-input NOR gate	2.0 - 6.0	± 5.2	9.0	-40 to 125					•	•				

## Logic - Gates

Type number	Description	Features				Package (suffix)								
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT886 (GM)	SOT1203 (GS)	SOT8065-1 (GZ)
74HCT2G02-Q100	Dual 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 4	12	-40 to 125					•	•			
74HC2G08-Q100	Dual 2-input AND gate	2.0 - 6.0	± 5.2	9.0	-40 to 125					•	•			
74HCT2G08-Q100	Dual 2-Input AND gate; TTL-enabled	4.5 - 5.5	± 4	14	-40 to 125					•	•			
74HC2G32-Q100	Dual 2-input OR gate	2.0 - 6.0	± 5.2	9.0	-40 to 125					•	•			
74HCT2G32-Q100	Dual 2-input OR gate; TTL-enabled	4.5 - 5.5	± 4.0	13	-40 to 125					•	•			
74HC2G86-Q100	Dual 2-input EXCLUSIVE-OR gate	2.0 - 6.0	± 5.2	9.0	-40 to 125					•	•			
74HCT2G86-Q100	Dual 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 4.0	11	-40 to 125					•	•			
74LVC1G00-Q100	Single 2-input NAND gate	1.65 - 5.5	± 32	2.2	-40 to 125	•	•							•
74LVC1G02-Q100	Single 2-input NOR gate	1.65 - 5.5	± 32	2.1	-40 to 125	•	•							•
74LVC1G08-Q100	Single 2-input AND gate	1.65 - 5.5	± 32	2.1	-40 to 125	•	•					•		•
74LVC1G10-Q100	Single 3-input NAND gate	1.65 - 5.5	± 32	2.6	-40 to 125			•						
74LVC1G11-Q100	Single 3-input AND gate	1.65 - 5.5	± 32	2.6	-40 to 125			•	•					
74LVC1G27-Q100	Single 3-input NOR gate	1.65 - 5.5	± 32	2.6	-40 to 125			•						
74LVC1G32-Q100	Single 2-input OR gate	1.65 - 5.5	± 32	2.1	-40 to 125	•	•					•		•
74LVC1G38-Q100	Single 2-input NAND gate; open-drain	1.65 - 5.5	32	2.3	-40 to 125	•	•							•
74LVC1G57-Q100	Configurable gate; Schmitt-trigger	1.65 - 5.5	± 32	3.8	-40 to 125			•	•					
74LVC1G58-Q100	Configurable gate; Schmitt-trigger	1.65 - 5.5	± 32	3.8	-40 to 125			•	•					
74LVC1G86-Q100	Single 2-input EXCLUSIVE-OR gate	1.65 - 5.5	± 32	2.4	-40 to 125	•	•							•
74LVC1G97-Q100	Configurable gate; Schmitt-trigger	1.65 - 5.5	± 32	6.3	-40 to 125			•						
74LVC1G98-Q100	Configurable gate; Schmitt-trigger	1.65 - 5.5	± 32	6.3	-40 to 125				•					
74LVC1G332-Q100	Single 3-input OR gate	1.65 - 5.5	± 32	2.6	-40 to 125			•	•					
74LVC1GX04-Q100	Crystal driver	1.65 - 5.5	± 24	2.8	-40 to 125			•	•					
74LVC2G00-Q100	Dual 2-input NAND gate	1.65 - 5.5	± 32	2.2	-40 to 125						•			
74LVC2G02-Q100	Dual 2-input NOR gate	1.65 - 5.5	± 32	2.4	-40 to 125					•	•			
74LVC2G08-Q100	Dual 2-input AND gate	1.65 - 5.5	± 24	2.1	-40 to 125					•	•		•	
74LVC2G32-Q100	Dual 2-input OR gate	1.65 - 5.5	± 32	2.2	-40 to 125					•	•			
74LVC2G86-Q100	Dual 2-input EXCLUSIVE-OR gate	1.65 - 5.5	± 32	2.3	-40 to 125					•	•			

## Logic - Schmitt-trigger IC's

Type number	Description	Features				Package (suffix)								
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT886 (GM)	SOT1269-2 (GX4)	SOT8065-1 (GZ)
74AHC1G14-Q100	Single inverter Schmitt-trigger	2.0 - 5.5	± 8	3.2	-40 to 125	•	•							•
74AHCT1G14-Q100	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	4.1	-40 to 125	•	•							•
74AHC3G14-Q100	Triple inverter Schmitt-trigger	2.0 - 5.5	± 8	3.2	-40 to 125					•	•			
74AHCT3G14-Q100	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	4.1	-40 to 125					•	•			
74AUP1G14-Q100	Low-power Schmitt trigger inverter	0.8 - 3.6	± 1.9	3.7	-40 to 125								•	
74AUP1G17-Q100	Low-power Schmitt trigger	0.8 - 3.6	± 1.9	3.6	-40 to 125	•								
74AUP1G132-Q100	Single 2-input NAND gate; Schmitt-trigger	1.1 - 3.6	± 1.9	10	-40 to 125	•								•
74HC1G14-Q100	Single inverter Schmitt-trigger	2.0 - 6.0	± 2.6	10	-40 to 125	•	•							
74HCT1G14-Q100	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 2.0	15	-40 to 125	•	•							
74HC2G14-Q100	Dual inverter Schmitt-trigger	2.0 - 6.0	± 5.2	16	-40 to 125			•	•					
74HCT2G14-Q100	Dual inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4.0	21	-40 to 125			•	•					
74HC2G17-Q100	Dual buffer Schmitt-trigger	2.0 - 6.0	± 5.2	12	-40 to 125			•	•					
74HCT2G17-Q100	Dual buffer Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4.0	21	-40 to 125			•	•					
74HC3G14-Q100	Triple inverter Schmitt-trigger	2.0 - 6.0	± 5.2	16	-40 to 125					•	•			
74HCT3G14-Q100	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4.0	21	-40 to 125					•	•			
74LVC1G14-Q100	Single inverter Schmitt-trigger	1.65 - 5.5	± 32	3.0	-40 to 125	•	•					•	•	•
74LVC1G17-Q100	Single buffer Schmitt-trigger	1.65 - 5.5	± 32	3.0	-40 to 125	•	•					•		•
74LVC2G14-Q100	Dual inverter Schmitt-trigger	1.65 - 5.5	± 32	3.9	-40 to 125			•	•			•		
74LVC2G17-Q100	Dual buffer Schmitt-trigger	1.65 - 5.5	± 32	3.6	-40 to 125			•	•					
74LVC3G17-Q100	Triple buffer Schmitt-trigger	1.65 - 5.5	± 32	3.6	-40 to 125					•	•			

## Logic - Flip-flops

Type number	Description	Features				Package (suffix)							
		V <sub>CC</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT833 (GT)	SOT8065-1 (GZ)
74AHC1G79-Q100	Single D-type flip-flop; positive-edge trigger	2.0 - 5.5	± 8	3.5	-40 to 125	•	•						
74AHCT1G79-Q100	Single D-type flip-flop; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	3.5	-40 to 125	•	•						•
74AUP1G74-Q100	Single D-type flip-flop with set and reset; positive-edge trigger	1.1 - 3.6	± 1.9	8.1	-40 to 125						•		
74AUP1G175-Q100	Single D flip-flop with reset; positive-edge trigger	1.1 - 3.6	± 1.9	7.4	-40 to 125			•					
74AUP1G374-Q100	Single D-type flip-flop; positive-edge trigger (3-state)	1.1 - 3.6	± 1.9	7.9	-40 to 125			•					
74AUP2G79-Q100	Dual D-type flip-flop; positive-edge trigger	1.1 - 3.6	± 1.9	8.5	-40 to 125						•		
74LVC1G74-Q100	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	± 32	3.5	-40 to 125					•	•	•	
74LVC1G79-Q100	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	± 32	2.2	-40 to 125	•	•						
74LVC1G80-Q100	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	± 32	2.4	-40 to 125	•	•						•
74LVC1G175-Q100	Single D flip-flop with reset; positive-edge trigger	1.65 - 5.5	± 32	3.1	-40 to 125			•	•				
74LVC2G74-Q100	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	± 32	3.5	-40 to 125					•	•		

## Logic - Latches / Registered drivers

Type number	Description	Features				Package (suffix)	
		V <sub>CC</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT363 (GW)	
74AUP1G373-Q100	Single D-type transparent latch (3-state)	1.1 - 3.6	±1.9	8.5	-40 to 125	•	

## Logic - Counter / Frequency dividers

Type number	Description	Features				Package (suffix)	
		V <sub>CC</sub> (V)	Output drive capability (mA)	Logic switching levels	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)
74AHC1G4208-Q100	08-stage divider and oscillator	2.0 - 5.5	±5.2	CMOS	14	-40 to 125	•
74AHC1G4210-Q100	10-stage divider and oscillator	2.0 - 5.5	±8	CMOS	14	-40 to 125	•
74AHC1G4212-Q100	12-stage divider and oscillator	2.0 - 5.5	±8	CMOS	20	-40 to 125	•
74AHC1G4214-Q100	14-stage divider and oscillator	2.0 - 5.5	±8	CMOS	23	-40 to 125	•
74AHC1G4215-Q100	15-stage divider and oscillator	2.0 - 5.5	±8	CMOS	24	-40 to 125	•

## Logic - Decoders / Demultiplexers

Type number	Description	Features				Package (suffix)	
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT363 (GW)	SOT457 (GV)
74LVC1G18-Q100	1-to-2 demultiplexer (3-state)	1.65 - 5.5	± 32	2.3	-40 to 125	•	•
74LVC1G19-Q100	1-to-2 demultiplexer	1.65 - 5.5	± 32	1.8	-40 to 125	•	

## Logic - Digital multiplexers

Type number	Description	Features				Package (suffix)		
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT363 (GW)	SOT457 (GV)	SOT886 (GM)
74AUP1G157-Q100	Single 2-input multiplexer	1.1 - 3.6	± 1.9	3.2	-40 to 125			•
74LVC1G157-Q100	Single 2-input multiplexer	1.65 - 5.5	± 32	2.2	-40 to 125	•	•	

## Logic - Specialty logic

Type number	Description	Features				Package (suffix)	
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT505-2 (DP)	SOT765-1 (DC)
74LVC1G123-Q100	Single retriggerable monostable multivibrator	1.65 - 5.5	± 32	3.5	-40 to 125	•	•

## Voltage translator (Level-shifters)

Type number	Description	Features				Package (suffix)											
		V <sub>cc</sub> (A) (V)	V <sub>cc</sub> (B) (V)	I <sub>o</sub> (mA)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT363 (GW)	SOT753 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT552-1 (DP)	SOT833-1 (GT)	SOT886 (GM)	SOT1202 (GS)	SOT1203 (GS)	SOT1160-1 (GU)	SOT8065-1 (GZ)
74AUP1T08-Q100	2-input AND gate with voltage-level translator	2.3 - 3.6	n.a	± 1.9	-40 to 125	•											
74AUP1T34-Q100	Single dual supply translating buffer	1.1 - 3.6	1.1 - 3.6	± 1.9	-40 to 125	•						•					•
74AUP1T97-Q100	Configurable gate with voltage level translation	2.3 - 3.6	n.a	± 1.9	-40 to 125		•										
74AUP1T98-Q100	Configurable gate with voltage level translation	2.3 - 3.6	n.a.	± 1.9	-40 to 125		•										
74AVC1T45-Q100	Single dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125		•					•	•				
74AVCH1T45-Q100	Single dual-supply voltage translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125		•										
74AVC2T45-Q100	Dual-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125				•	•		•		•			
74AVCH2T45-Q100	Dual-bit dual-supply voltage translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125					•							
74AVC2T245-Q100	Dual-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125											•	
74LV1T04-Q100	Single supply translating inverter	1.6 - 5.5	n.a	± 8	-40 to 125	•											
74LV1T125-Q100	Single supply translating buffer/line driver; 3-state	1.6 - 5.5	n.a.	± 8	-40 to 125	•											
74LV1T34-Q100	Single supply translating buffer	1.6 - 5.5	n.a	± 8	-40 to 125	•		•									
74LVC1T45-Q100	Single dual-supply voltage level translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125		•					•					
74LVCH1T45-Q100	Single dual-supply voltage translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125		•										
74LVC2T45-Q100	Dual-bit dual-supply voltage level translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125					•		•		•			
74LVCH2T45-Q100	Dual-bit dual-supply voltage level translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125					•							
LSF0101-Q100	1-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	n.a.	-40 to 125		•										
LSF0102-Q100	2-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	+64	-40 to 125				•	•							
NCA9306-Q100	2-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	n.a.	-40 to 125					•							
NXB0101-Q100	1-bit Dual supply translating transceiver; auto direction sensing (3-state)	1.2 - 3.6	1.65 - 5.5	± 0.02	-40 to 125		•							•			
NXB0102-Q100	2-bit Dual supply translating transceiver; auto direction sensing (3-state)	1.2 - 3.6	1.65 - 5.5	± 0.02	-40 to 125					•							
NXS0101-Q100	1-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	-0.02 / 1.0	-40 to 125		•										
NXS0102-Q100	2-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	-0.02 / 1.0	-40 to 125					•							
NXT4558-Q100	SIM card interface level translator with enable pin	1.08 - 1.98	1.62 - 3.3	± 1	-40 to 125												•

## Analog switches and multiplexers - Analog switches

Type number	Description	Features					Package (suffix)										
		Configuration	$V_{CC}$ (V)	$R_{ON}$ ( $\Omega$ )	$R_{ON}(FLAT)$ ( $\Omega$ )	$T_{amb}$ ( $^{\circ}C$ )	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT552-1 (DP)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT886 (GM)	SOT8065-1 (GZ)
74AHC1G66-Q100	Single-pole, single-throw analog switch	SPST-NO	2.0 - 5.5	40	5	-40 to 125	•	•									
74AHCT1G66-Q100	Single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	40	5	-40 to 125	•	•									
74HC1G66-Q100	Single-pole, single-throw analog switch	SPST-NO	2.0 - 9.0	105	23	-40 to 125	•	•									
74HCT1G66-Q100	Single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	118	23	-40 to 125	•	•									
74HC2G66-Q100	Dual single-pole, single-throw analog switch	SPST-NO	2.0 - 9.0	105	23	-40 to 125				•	•						
74HCT2G66-Q100	Dual single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	118	23	-40 to 125				•	•						
74LVC1G53-Q100	Single-pole, double-throw analog switch	SPDT-Z	1.65 - 5.5	15	1.5	-40 to 125				•	•						
74LVC1G66-Q100	Single-pole, single-throw analog switch	SPST-NO	1.65 - 5.5	15	1.5	-40 to 125	•	•									•
74LVC1G384-Q100	Single-pole, single-throw analog switch	SPST-NC	1.65 - 5.5	15	1.5	-40 to 125	•	•									
74LVC1G3157-Q100	Single-pole, double-throw analog switch	SPDT	1.65 - 5.5	15	1.5	-40 to 125			•	•							•
74LVC2G3157-Q100	Dual 10 $\Omega$ single-pole double-throw analog switch	SPDT	1.65 - 5.5	15	1.5	-40 to 125						•					
74LVC2G66-Q100	Dual single-pole, single-throw analog switch	SPST-NO	1.65 - 5.5	15	1.5	-40 to 125				•	•						
X55A1T4157-Q100	Low-ohmic single-pole double-throw analog switch	SPDT-Z	4.5 - 5.5	4	0.9	-40 to 125			•								
NMUX1308-Q100	Single-pole octal-throw analog switch; injection current control	SP8T-Z	1.5 - 5.5	60	-	-40 to 125								•	•		
NMUX1309-Q100	Dual single-pole quad-throw analog switch; injection current control	2x SP4T-Z	1.5 - 5.5	60	-	-40 to 125								•	•		

## Analog switches and multiplexers - Bus switches

Type number	Description	Features					Package (suffix)	
		Logic switching levels	$V_{CC}$ (V)	$V_{PASS}$ (V)	$R_{ON}$ ( $\Omega$ )	$T_{amb}$ ( $^{\circ}C$ )	SOT353-1 (GW)	SOT753 (GV)
74CBTLV1G125-Q100	Single bus switch	CMOS/LVTTL	2.3 - 3.6	3.3	7	-40~125	•	•

## Buffers / Inverters

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74ABT04	Hex inverter	4.5 - 5.5	TTL	-15 / 20	50	2.2	100	-40 to 85
74ABT125	Quad buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	3.1	100	-40 to 85
74ABT126	Quad buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	3.0	100	-40 to 85
74ABT162244	16-bit buffer/line driver with 30 Ohm termination resistors (3-state)	4.5 - 5.5	TTL	-32 / 12	50	3.2	100	-40 to 85
74ABT16240A	16-bit inverter/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	2.0	150	-40 to 85
74ABT16244A	16-bit buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	2.1	150	-40 to 85
74ABT244	Octal buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	2.9	100	-40 to 85
74AHC04	Hex inverter	2.0 - 5.5	CMOS	±8	50	3.0	60	-40 to 125
74AHC125	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.0	60	-40 to 125
74AHC126	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.3	60	-40 to 125
74AHC14	Hex inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
74AHC1G04	Single inverter	2.0 - 5.5	CMOS	±8	50	3.1	60	-40 to 125
74AHC1G07	Single buffer; open-drain	2.0 - 5.5	CMOS	±8	50	2.5	60	-40 to 125
74AHC1G125	Single buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
74AHC1G126	Single buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
74AHC1G14	Single inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
74AHC1G17	Single buffer with Schmitt-trigger inputs	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
74AHC1GU04	Single inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	2.6	60	-40 to 125
74AHC244	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
74AHC2G125	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
74AHC2G126	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
74AHC2G241	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
74AHC3G04	Triple inverter	2.0 - 5.5	CMOS	±8	50	3.1	60	-40 to 125
74AHC3G14	Triple inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
74AHC3GU04	Triple inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	2.5	60	-40 to 125
74AHC541	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
74AHC9541A	Octal buffer/line driver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±8	15	3.4	60	-40 to 125
74AHCT04	Hex inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74AHCT04A	Hex inverter; TTL-enabled	4.5 - 5.5	TTL	±8	15	3.1	60	-40 to 125
74AHCT07A	Hex buffer; open-drain; TTL-enabled	4.5 - 5.5	TTL	±8	15	4.0	60	-40 to 125
74AHCT125	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74AHCT126	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74AHCT14	Hex inverting; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT14A	Hex inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	15	3.7	60	-40 to 125
74AHCT17A	Hex buffer; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	15	3.2	60	-40 to 125
74AHCT1G04	Single inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT1G125	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT1G126	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT1G14	Single inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125
74AHCT1G17	Single buffer with Schmitt-trigger inputs; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125
74AHCT240	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125

## Buffers / Inverters

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AHCT244	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.5	60	-40 to 125
74AHCT244A	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	15	3.5	60	-40 to 125
74AHCT2G125	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT2G126	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT2G241	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT3G04	Triple inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74AHCT3G14	Triple inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125
74AHCT541	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.5	60	-40 to 125
74AHCT541A	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	15	3.5	60	-40 to 125
74AHCU04	Hex inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	2.4	60	-40 to 125
74AHCV05A	Hex inverter; Schmitt trigger; open-drain	2.0 - 5.5	CMOS	±16	15	8.5	10	-40 to 125
74AHCV07A	Hex buffer; Schmitt-trigger; open-drain	1.8 - 5.5	CMOS	16	15	3.8	60	-40 to 125
74AHCV14A	Hex inverter; Schmitt-trigger	1.8 - 5.5	CMOS	±16	15	3.2	60	-40 to 125
74AHCV17A	Hex buffer; Schmitt-trigger	1.8 - 5.5	CMOS	±16	15	3.2	60	-40 to 125
74AHCV244A	Octal buffer/line driver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	15	3.0	60	-40 to 125
74AHCV541A	Octal buffer/line driver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	15	3.0	60	-40 to 125
74ALVC04	Hex inverter	1.65 - 3.6	TTL	±24	30	2.0	150	-40 to 85
74ALVC125	Quad buffer/line driver (3-state)	1.65 - 3.6	TTL	±24	30	1.8	145	-40 to 85
74ALVC14	Hex inverter; Schmitt-trigger	1.65 - 3.6	TTL	±24	30	2.4	150	-40 to 85
74ALVC16244	16-bit buffer/line driver (3-state)	1.2 - 3.6	TTL	±24	50	1.9	150	-40 to 85
74ALVC244	Octal buffer/line driver (3-state)	1.65 - 3.6	TTL	±24	30	2.9	130	-40 to 85
74ALVC541	Octal buffer/line driver (3-state)	1.65 - 3.6	TTL	±24	30	2.3	130	-40 to 85
74ALVCH162244	16-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	30	2.7	150	-40 to 85
74ALVCH16244	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	TTL	±24	30	1.9	150	-40 to 85
74ALVCH162827	20-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	30	2.9	150	-40 to 85
74ALVCH16825	18-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	TTL	±24	30	2.0	150	-40 to 85
74ALVCH16827	20-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	TTL	±24	30	2.0	150	-40 to 85
74ALVT16244	16-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	LVTTTL	-32 / 64	50	1.5	200	-40 to 85
74ALVT162827	20-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	LVTTTL	±12	50	2.2	75	-40 to 85
74ALVT16827	20-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	LVTTTL	-32 / 64	50	1.3	200	-40 to 85
74AUP1G04	Single inverter	1.1 - 3.6	CMOS	±1.9	30	4.0	70	-40 to 125
74AUP1G06	Single inverter; open drain	1.1 - 3.6	CMOS	1.9	30	4.5	70	-40 to 125
74AUP1G07	Single buffer; open drain	1.1 - 3.6	CMOS	1.9	30	4.4	70	-40 to 125
74AUP1G125	Single buffer/line driver (3-state)	1.1 - 3.6	CMOS	±1.9	30	4.3	70	-40 to 125
74AUP1G126	Single buffer/line driver (3-state)	1.1 - 3.6	CMOS	±1.9	30	4.3	70	-40 to 125
74AUP1G14	Single inverter; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	30	4.7	70	-40 to 125
74AUP1G16	Single buffer	1.1 - 3.6	CMOS	±1.9	30	4.7	70	-40 to 125
74AUP1G240	Single inverter/line driver (3-state)	1.1 - 3.6	CMOS	±1.9	30	4.2	70	-40 to 125
74AUP1G34	Single buffer	1.1 - 3.6	CMOS	±1.9	30	3.9	70	-40 to 125
74AUP1GU04	Single inverter; unbuffered	1.1 - 3.6	CMOS	±1.9	30	2.3	70	-40 to 125
74AUP1T04	Single supply voltage-translating inverter	2.3 - 3.6	CMOS	±4	15	3.7	70	-40 to 125

## Buffers / Inverters

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AUP1T14	Single supply voltage-translating inverter	2.3 - 3.6	CMOS	±4	15	3.7	70	-40 to 125
74AUP1T17	Single supply voltage-translating buffer	2.3 - 3.6	CMOS	±4	15	3.7	70	-40 to 125
74AUP1T50	Single supply voltage-translating buffer	2.3 - 3.6	CMOS	±4	15	3.7	70	-40 to 125
74AUP2G04	Dual inverter	1.1 - 3.6	CMOS	±1.9	30	4.0	70	-40 to 125
74AUP2G06	Dual inverter; open drain	1.1 - 3.6	CMOS	1.9	30	4.5	70	-40 to 125
74AUP2G07	Dual buffer; open drain	1.1 - 3.6	CMOS	1.9	30	4.4	70	-40 to 125
74AUP2G125	Dual buffer/line driver (3-state)	1.1 - 3.6	CMOS	+1.9	30	4.3	70	-40 to 125
74AUP2G126	Dual buffer/line driver (3-state)	1.1 - 3.6	CMOS	+1.9	30	4.3	70	-40 to 125
74AUP2G14	Dual inverter; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40 to 125
74AUP2G16	Dual buffer	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40 to 125
74AUP2G17	Dual buffer; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	7.8	70	-40 to 125
74AUP2G240	Dual inverter/line driver (3-state)	1.1 - 3.6	CMOS	+1.9	30	4.2	70	-40 to 125
74AUP2G241	Dual buffer/line driver (3-state)	1.1 - 3.6	CMOS	+ 1.9	30	4.3	70	-40 to 125
74AUP2G34	Dual buffer	1.1 - 3.6	CMOS	+1.9	30	3.9	70	-40 to 125
74AUP2GU04	Dual inverter; unbuffered	1.1 - 3.6	CMOS	+1.9	30	2.3	70	-40 to 125
74AUP3G04	Triple inverter	1.1 - 3.6	CMOS	+1.9	30	4.0	70	-40 to 125
74AUP3G07	Triple buffer; open-drain	1.1 - 3.6	CMOS	1.9	30	4.4	70	-40 to 125
74AUP3G14	Triple inverter; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40 to 125
74AUP3G16	Triple buffer	1.1 - 3.6	CMOS	+1.9	30	4.0	70	-40 to 125
74AUP3G17	Triple buffer; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40 to 125
74AUP3G34	Triple buffer	1.1 - 3.6	CMOS	+1.9	30	4.0	70	-40 to 125
74AVC9112	1-to-4 fan-out buffer	0.8 - 3.6	CMOS/LVTTL	±12	15	4.0	200	-40 to 125
74HC04	Hex inverter	2.0 - 6.0	CMOS	+5.2	50	7.0	36	-40 to 125
74HC05	Hex inverter; open drain	2.0 - 6.0	CMOS	5.2	50	11	36	-40 to 125
74HC125	Quad buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40 to 125
74HC126	Quad buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40 to 125
74HC14	Hex inverter; Schmitt-trigger	2.0 - 6.0	CMOS	+5.2	50	12	36	-40 to 125
74HC1G04	Single inverter	2.0 - 6.0	CMOS	+2.6	50	7.0	36	-40 to 125
74HC1G125	Single buffer/line driver (3-state)	2.0 - 6.0	CMOS	+2.6	50	9.0	36	-40 to 125
74HC1G126	Single buffer/line driver (3-state)	2.0 - 6.0	CMOS	+2.6	50	9.0	36	-40 to 125
74HC1G14	Single inverter; Schmitt-trigger	2.0 - 6.0	CMOS	+2.6	50	10	36	-40 to 125
74HC1GU04	Single inverter; unbuffered	2.0 - 6.0	CMOS	+ 2.6	50	5.0	36	-40 to 125
74HC240	Octal inverter/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40 to 125
74HC241	Octal buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	7.0	36	-40 to 125
74HC244	Octal buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40 to 125
74HC2G04	Dual inverter	2.0 - 6.0	CMOS	±5.2	50	8.0	36	-40 to 125
74HC2G125	Dual buffer/line driver (3-state)	2.0 - 6.0	CMOS	±5.2	50	10	36	-40 to 125
74HC2G14	Dual inverter; Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	16	36	-40 to 125
74HC2G16	Dual buffer	2.0 - 6.0	CMOS	±5.2	50	9.0	36	-40 to 125
74HC2G17	Dual buffer; Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	12	36	-40 to 125
74HC2G34	Dual buffer	2.0 - 6.0	CMOS	±5.2	50	9.0	36	-40 to 125

## Buffers / Inverters

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HC2GU04	Single inverter; unbuffered	2.0 - 6.0	CMOS	±2.6	50	5.0	36	-40 to 125
74HC365	Hex buffer/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	9.0	36	-40 to 125
74HC366	Hex inverter/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	10	36	-40 to 125
74HC367	Hex buffer/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	8.0	36	-40 to 125
74HC368	Hex inverter/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	9.0	36	-40 to 125
74HC3G04	Triple inverter	2.0 - 6.0	CMOS	±5.2	50	8.0	36	-40 to 125
74HC3G06	Triple inverter; open drain	2.0 - 6.0	CMOS	5.2	50	9.0	36	-40 to 125
74HC3G07	Triple buffer; open drain	2.0 - 6.0	CMOS	5.2	50	9.0	36	-40 to 125
74HC3G14	Triple inverter; Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	16	36	-40 to 125
74HC3G16	Triple buffer	2.0 - 6.0	CMOS	±5.2	50	9.0	36	-40 to 125
74HC3G34	Triple buffer	2.0 - 6.0	CMOS	±5.2	50	9.0	36	-40 to 125
74HC3GU04	Triple inverter; unbuffered	2.0 - 6.0	CMOS	±5.2	50	6.0	36	-40 to 125
74HC540	Octal inverter/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	9.0	36	-40 to 125
74HC541	Octal buffer/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	10	36	-40 to 125
74HC7014	Hex buffer; precision Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	27	36	-40 to 125
74HC7540	Octal inverter/line driver; Schmitt-trigger (3-State)	2.0 - 6.0	CMOS	±7.8	15	11	36	-40 to 125
74HC7541	Octal buffer/line driver; Schmitt-trigger (3-State)	2.0 - 6.0	CMOS	±7.8	15	10	36	-40 to 125
74HC9114	9-bit inverter; Schmitt-trigger; open-drain (3-state)	2.0 - 6.0	CMOS	5.2	15	12	36	-40 to 125
74HC9115	9-bit buffer; Schmitt-trigger; open-drain (3-state)	2.0 - 6.0	CMOS	5.2	15	12	36	-40 to 125
74HCT04	Hex inverter; TTL-enabled	4.5 - 5.5	TTL	±4	50	8.0	36	-40 to 125
74HCT125	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	12	36	-40 to 125
74HCT126	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT14	Hex inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	50	17	36	-40 to 125
74HCT1G04	Single inverter; TTL-enabled	4.5 - 5.5	TTL	±2	50	8.0	36	-40 to 125
74HCT1G125	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±2	50	10	36	-40 to 125
74HCT1G126	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±2	50	10	36	-40 to 125
74HCT1G14	Single inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±2	50	15	36	-40 to 125
74HCT240	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	9.0	36	-40 to 125
74HCT241	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT244	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT2G04	Dual inverter; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40 to 125
74HCT2G125	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±4	50	12	36	-40 to 125
74HCT2G14	Dual inverter; Schmitt-trigger; TTL-enabled	4.5 to 5.5	TTL	±4	50	21	36	-40 to 125
74HCT2G16	Dual buffer; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	32	-40 to 125
74HCT2G17	Dual buffer; Schmitt-trigger; TTL-enabled	4.5 to 5.5	TTL	±4	50	21	36	-40 to 125
74HCT2G34	Dual buffer; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	32	-40 to 125
74HCT365	Hex buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT366	Hex inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT367	Hex buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT368	Hex inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT3G04	Triple inverter; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40 to 125

## Buffers / Inverters

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74HCT3G06	Triple inverter; open drain; TTL-enabled	4.5 - 5.5	TTL	4	50	9.0	36	-40 to 125
74HCT3G07	Triple buffer; open drain; TTL-enabled	4.5 - 5.5	TTL	4	50	9.0	36	-40 to 125
74HCT3G14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	50	21	36	-40 to 125
74HCT3G34	Triple buffer; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40 to 125
74HCT540	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT541	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	12	36	-40 to 125
74HCT7540	Octal inverter/line driver Schmitt-trigger; TTL-enabled (3-State)	4.5 - 5.5	TTL	±6	15	16	36	-40 to 125
74HCT7541	Octal buffer/line driver Schmitt-trigger; TTL-enabled (3-State)	4.5 - 5.5	TTL	±6	15	16	36	-40 to 125
74HCT9114	9-bit inverter Schmitt-trigger; open-drain; TTL-enabled (3-state)	4.5 - 5.5	TTL	4	15	13	36	-40 to 125
74HCU04	Hex inverter; unbuffered	2.0 - 6.0	CMOS	±5.2	50	5.0	36	-40 to 125
74LV04	Hex inverter	1.0 - 5.5	CMOS	±12	50	6.0	30	-40 to 125
74LV04AT	Hex buffer	4.5 - 5.5	TTL	±12	15	3.3	60	-40 to 125
74LV05A	Hex inverter; open-drain	2.0 - 5.5	CMOS	12	15	2.9	60	-40 to 125
74LV07A	Hex buffer; open-drain	2.0 - 5.5	CMOS	16	15	3.6	60	-40 to 125
74LV07AT	Hex buffer; open-drain; TTL-enabled	4.5 - 5.5	TTL	16	15	3.5	60	-40 to 125
74LV14	Hex inverter; Schmitt-trigger	1.0 - 5.5	TTL	±12	50	13	30	-40 to 125
74LV14A	Hex inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±12	15	3.4	60	-40 to 125
74LV17A	Hex buffer; Schmitt-trigger	2.0 - 5.5	CMOS	±12	15	3.4	60	-40 to 125
74LV1T04	Single supply translating inverter	1.6 - 5.5	CMOS	±8	15	6.2	60	-40 to 125
74LV1T34	Single supply translating buffer	1.6 - 5.5	CMOS	±8	15	6.3	60	-40 to 125
74LV1T125	Single supply translating buffer / line driver (3-state)	1.6 - 5.5	CMOS	±8	15	6.5	60	-40 to 125
74LV1T126	Single supply translating buffer / line driver (3-state)	1.6 - 5.5	CMOS	±8	15	6.5	60	-40 to 125
74LV244	Octal buffer/line driver (3-state)	1.0 - 5.5	CMOS	±16	50	8.0	30	-40 to 125
74LV244A	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±16	15	2.9	60	-40 to 125
74LV244AT	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±16	15	2.8	60	-40 to 125
74LV540A	Octal buffer/line driver (3-state); inverting	1.65 - 5.5	CMOS/LVTTL	±16	15	3.1	60	-40 to 125
74LV541A	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±16	15	2.9	60	-40 to 125
74LV541AT	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±16	15	2.8	60	-40 to 125
74LVC04A	Hex inverter	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVC06A	Hex inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.2	175	-40 to 125
74LVC07A	Hex buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.2	175	-40 to 125
74LVC125A	Quad buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.4	175	-40 to 125
74LVC126A	Quad buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.4	175	-40 to 125
74LVC14A	Hex inverter; Schmitt-trigger	1.2 - 3.6	CMOS/LVTTL	±24	50	3.2	175	-40 to 125
74LVC162244A	16-bit buffer/line driver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.9	175	-40 to 125
74LVC16240A	16-bit inverter/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.7	175	-40 to 125
74LVC16241A	16-bit buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.9	175	-40 to 125
74LVC16244A	16-bit buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.0	175	-40 to 125
74LVC1G04	Single inverter	1.65 - 5.5	CMOS/LVTTL	±32	50	2.0	175	-40 to 125
74LVC1G06	Single inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.3	175	-40 to 125
74LVC1G07	Single buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.2	175	-40 to 125

## Buffers / Inverters

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74LVC1G125	Single buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.1	175	-40 to 125
74LVC1G126	Single buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.0	175	-40 to 125
74LVC1G14	Single inverter; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.0	175	-40 to 125
74LVC1G16	Single buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVC1G17	Single buffer; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.0	175	-40 to 125
74LVC1G240	Single inverter/line driver (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.1	175	-40 to 125
74LVC1G34	Single buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVC1GU04	Single inverter; unbuffered	1.65 - 5.5	CMOS/LVTTL	±32	50	1.6	175	-40 to 125
74LVC2244A	Octal buffer/line driver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	50	3.1	175	-40 to 125
74LVC240A	Octal inverter/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.5	175	-40 to 125
74LVC244A	Octal buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.8	175	-40 to 125
74LVC2G04	Dual inverter	1.65 - 5.5	CMOS/LVTTL	±24	50	2.7	175	-40 to 125
74LVC2G06	Dual inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.3	175	-40 to 125
74LVC2G07	Dual buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.6	175	-40 to 125
74LVC2G125	Dual buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.3	175	-40 to 125
74LVC2G126	Dual buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.4	175	-40 to 125
74LVC2G14	Dual inverter; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.9	175	-40 to 125
74LVC2G16	Dual buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVC2G17	Dual buffer; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.6	175	-40 to 125
74LVC2G240	Dual inverter/line driver (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.5	175	-40 to 125
74LVC2G241	Dual buffer/line driver (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.6	175	-40 to 125
74LVC2G34	Dual buffer	1.65 - 5.5	CMOS/LVTTL	±32	50	2.2	175	-40 to 125
74LVC2GU04	Dual inverter; unbuffered	1.65 - 5.5	CMOS/LVTTL	±32	50	2.3	175	-40 to 125
74LVC3G04	Triple inverter	1.65 - 5.5	CMOS/LVTTL	±32	50	2.7	175	-40 to 125
74LVC3G06	Triple inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.0	175	-40 to 125
74LVC3G07	Triple buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.1	175	-40 to 125
74LVC3G14	Triple inverter; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.2	175	-40 to 125
74LVC3G16	Triple buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVC3G17	Triple buffer; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.6	175	-40 to 125
74LVC3G34	Triple buffer	1.65 - 5.5	CMOS/LVTTL	±32	50	2.2	175	-40 to 125
74LVC3GU04	Triple inverter; unbuffered	1.65 - 5.5	CMOS/LVTTL	±32	50	2.3	175	-40 to 125
74LVC541A	Octal buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.3	175	-40 to 125
74LVCH162244A	16-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	50	2.9	175	-40 to 125
74LVCH16244A	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.0	175	-40 to 125
74LVCH16541A	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.7	175	-40 to 125
74LVCH244A	Octal buffer/line driver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.8	175	-40 to 125
74LVCU04A	Hex inverter; unbuffered	1.2 - 3.6	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVT04	Hex inverter	2.7 - 3.6	TTL	-20 / 32	50	2.6	150	-40 to 85
74LVT125	Quad buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.9	150	-40 to 85
74LVT126	Quad buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.4	150	-40 to 85
74LVT14	Hex inverter; Schmitt-trigger	2.7 - 3.6	TTL	-32 / 64	50	3.8	150	-40 to 85

## Buffers / Inverters

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74LVT162240A	16-bit inverter/line driver with bus hold and 30 Ω termination (3-state)	2.7 - 3.6	TTL	±12	50	2.6	150	-40 to 85
74LVT162244B	16-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	50	2.8	150	-40 to 85
74LVT16240A	16-bit inverter/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.0	150	-40 to 85
74LVT16244B	16-bit buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	1.8	150	-40 to 85
74LVT2241	Octal buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	50	3.3	150	-40 to 85
74LVT2244	Octal buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	50	2.9	150	-40 to 85
74LVT240	Octal inverter/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.5	150	-40 to 85
74LVT241	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.8	150	-40 to 85
74LVT244A	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.6	150	-40 to 85
74LVT244B	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.0	150	-40 to 85
74LVTH125	Quad buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.9	150	-40 to 85
74LVTH16244B	16-bit buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	1.8	150	-40 to 85
74LVTH244A	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.6	150	-40 to 85
74LVTH244B	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.0	150	-40 to 85
74LVTN16244B	16-bit buffer/line driver (3-state)	2.7 - 3.6	TTL	-32 / 64	50	1.8	150	-40 to 85
74VHC125	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.0	60	-40 to 125
74VHC126	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.3	60	-40 to 125
74VHC14	Hex inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
74VHC244	Octal inverter/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
74VHC541	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
74VHCT125	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74VHCT126	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74VHCT14	Hex inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125
74VHCT244	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	5.0	60	-40 to 125
74VHCT541	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.5	60	-40 to 125
HEF40244B	Octal buffer/line driver (3-state)	3.0 - 15.0	CMOS	-62 / 45	50	30	10	-40 to 125
HEF4049B	Hex inverter/line driver	3.0 - 15.0	CMOS	-3 / 20	50	20	10	-40 to 125
HEF4050B	Hex buffer/line driver	3.0 - 15.0	CMOS	-3 / 20	50	40	10	-40 to 125
HEF4069UB	Hex inverter; unbuffered	3.0 - 15.0	CMOS	±3.4	50	15	10	-40 to 125
XC7SET04	Single inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.5	60	-40 to 125
XC7SET125	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
XC7SET14	Single inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125
XC7SH04	Single inverter	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
XC7SH125	Single buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
XC7SH14	Single inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
XC7SHU04	Single inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
XC7WH126	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
XC7WH14	Triple inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
XC7WT14	Triple inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125

## Transceivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Number of bits	f <sub>max</sub> (MHz)	T <sub>vj</sub> (°C)
74ABT162245A	16-bit transceiver with 30 ohm termination resistors (3-state)	4.5 - 5.5	TTL	-32 / 12	3.0	16	100	-40 to 85
74ABT16245B	16-bit transceiver (3-state)	4.5 - 5.5	TTL	-32 / 64	2.3	16	150	-40 to 85
74ABT245	Octal transceiver (3-state)	4.5 - 5.5	TTL	-32 / 64	2.9	8	100	-40 to 85
74ABTH162245A	16-bit transceiver with bus hold and 30 ohm termination resistors (3-state)	4.5 - 5.5	TTL	-32 / 12	3.0	16	80	-40 to 85
74AHC245	Octal transceiver (3-state)	2.0 - 5.5	CMOS	±8	3.5	8	60	-40 to 125
74AHCT245	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	5.0	8	60	-40 to 125
74AHCT245A	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	3.0	8	60	-40 to 125
74AHCV245A	Octal transceiver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.2	8	60	-40 to 125
74ALVC16245	16-bit transceiver (3-state)	1.65 - 3.6	TTL	±24	1.9	16	150	-40 to 85
74ALVC245	Octal transceiver (3-state)	1.65 - 3.6	TTL	±24	2.3	8	130	-40 to 85
74ALVCH162245	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±12	2.4	16	150	-40 to 85
74ALVCH16245	16-bit transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	1.9	16	150	-40 to 85
74ALVCH162601	18-bit universal bus transceiver with bus hold and 30 Ω termination resistors; positive-edge trigger (3-state)	1.65 - 3.6	TTL	±12	3.1	18	150	-40 to 85
74ALVCH16500	18-bit universal bus transceiver with bus hold; negative edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.9	18	150	-40 to 85
74ALVCH16501	18-bit universal bus transceiver with bus hold; positive edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.8	18	150	-40 to 85
74ALVCH16543	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	3.8	16	150	-40 to 85
74ALVCH16600	18-bit universal bus transceiver with bus hold; negative edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.8	18	150	-40 to 85
74ALVCH16601	18-bit universal bus transceiver with bus hold; positive edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.8	18	150	-40 to 85
74ALVCH16646	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	2.6	16	150	-40 to 85
74ALVCH16652	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	2.6	16	150	-40 to 85
74ALVCH16952	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	3.2	16	150	-40 to 85
74ALVT162245	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	2.3	16	75	-40 to 85
74HC245	Octal transceiver (3-state)	2.0 - 6.0	CMOS	±7.8	7.0	8	36	-40 to 125
74HCT245	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	10	8	36	-40 to 125
74LV245	Octal transceiver (3-state)	1.0 - 5.5	TTL	±16	7.0	8	30	-40 to 125
74LV245A	Octal transceiver (3-state)	2.0 - 5.5	CMOS	±16	3	8	60	-40 to 125
74LV245AT	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±16	3	8	60	-40 to 125
74LVC162245A	16-bit transceiver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±12	3.3	16	175	-40 to 125
74LVC16245A	16-bit transceiver (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	3.0	16	175	-40 to 125
74LVC2245A	Octal transceiver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±12	3.3	8	175	-40 to 125
74LVC245A	Octal transceiver (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	2.9	8	175	-40 to 125
74LVCH162245A	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±12	3.3	16	175	-40 to 125
74LVCH16245A	16-bit transceiver with bus hold (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	3.0	16	175	-40 to 125
74LVCH245A	Octal transceiver with bus hold (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	2.9	8	175	-40 to 125
74LVT162245B	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	2.5	16	150	-40 to 85
74LVT16245B	16-bit transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	16	150	-40 to 85
74LVT16543A	16-bit registered transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	2.2	16	150	-40 to 85

## Transceivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Number of bits	f <sub>max</sub> (MHz)	T <sub>v</sub> (°C)
74LVT16543A	16-bit registered transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	2	16	150	-40 to 85
74LVT2245	Octal transceiver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	3.2	8	150	-40 to 85
74LVT245	Octal transceiver (3-state)	2.7 - 3.6	TTL	-32 / 64	2.4	8	150	-40 to 85
74LVT245B	Octal transceiver (3-state)	2.7 - 3.6	TTL	-32 / 64	2	8	150	-40 to 85
74LVT640	Octal transceiver with bus hold; inverting (3-state)	2.7 - 3.6	TTL	-32 / 64	2.4	8	150	-40 to 85
74LVTH16245B	16-bit transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	16	150	-40 to 85
74LVTH2245	Octal transceiver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	3.2	8	150	-40 to 85
74LVTN16245B	16-bit transceiver (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	16	150	-40 to 85
74VHC245	Octal transceiver (3-state)	2.0 - 5.5	CMOS	±8	3.5	8	60	-40 to 125
74VHCT245	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	5.0	8	60	-40 to 125

## AND gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74ABT08	Quad 2-input AND gate	4.5 - 5.5	TTL	-15 / 20	2.4	50	100	4	-40 to 85
74AHC08	Quad 2-input AND gate	2.0 - 5.5	CMOS	±8	3.5	50	60	4	-40 to 125
74AHC1G08	Single 2-input AND gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHC1G09	Single 2-input AND gate; open drain	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHC2G08	Dual 2-input AND gate	2.0 - 5.5	CMOS	±8	3.2	50	60	2	-40 to 125
74AHCT08	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	60	4	-40 to 125
74AHCT1G08	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	1	-40 to 125
74AHCT2G08	Dual 2-Input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	2	-40 to 125
74ALVC08	Quad 2-input AND gate	1.65 - 3.6	CMOS/ LVTTTL	±24	2.0	50	145	4	-40 to 85
74AUP1T08	Single supply 2-input voltage-translating AND gate	2.3 - 3.6	CMOS	±4	3.8	15	70	1	-40 to 125
74AUP2G08	Dual 2-input AND gate	1.1 - 3.6	CMOS	±1.9	8.2	30	70	2	-40 to 125
74AXP1G08	Single 2-input AND gate	0.7 - 2.75	CMOS	±4.5	2.6	5	70	1	-40 to 85
74AXP1G09	Single 2-input AND gate with open-drain output	0.7 - 2.75	CMOS	±4.5	2.6	5	70	1	-40 to 85
74AXP1G11	Single 3-input AND gate	0.7 - 2.75	CMOS	±4.5	2.6	5	70	1	-40 to 85
74HC08	Quad 2-input AND gate	2.0 - 6.0	CMOS	±5.2	7.0	50	36	4	-40 to 125
74HC11	Triple 3-input AND gate	2.0 - 6.0	CMOS	±5.2	10	50	36	3	-40 to 125
74HC1G08	Single 2-input AND gate	2.0 - 6.0	CMOS	±5.2	7.0	50	36	1	-40 to 125
74HC21	Dual 4-input AND gate	2.0 - 6.0	CMOS	±5.2	10	50	36	2	-40 to 125
74HC2G08	Dual 2-input AND gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	2	-40 to 125
74HCT08	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±4	11	50	36	4	-40 to 125
74HCT11	Triple 3-input AND gate	4.5 - 5.5	TTL	±4	11	50	36	3	-40 to 125
74HCT1G08	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±2	11	50	36	1	-40 to 125
74HCT2G08	Dual 2-Input AND gate; TTL-enabled	4.5 - 5.5	TTL	±4	14	50	36	2	-40 to 125
74LV08	Quad 2-input AND gate	1.0 - 5.5	TTL	±12	7.0	50	30	4	-40 to 125
74LV08A	Quad 2-input AND gate	2.0 - 5.5	CMOS	±12	4.3	15	45	4	-40 to 125
74LV1T08	Single supply 2-input translating AND gate	1.6 - 5.5	CMOS	±8	6.5	15	60	1	-40 to 125
74LVC08A	Quad 2-input AND gate	1.2 - 3.6	CMOS/ LVTTTL	±24	2.1	50	150	4	-40 to 125
74LVC11	Triple 3-input AND gate	1.2 - 3.6	CMOS/ LVTTTL	±24	3.7	50	150	3	-40 to 125
74LVC1G08	Single 2-input AND gate	1.65 - 5.5	CMOS/ LVTTTL	±24	2.1	50	150	1	-40 to 125
74LVC1G11	Single 3-input AND gate	1.65 - 5.5	CMOS/ LVTTTL	±24	2.6	50	150	1	-40 to 125
74LVC2G08	Dual 2-input AND gate	1.65 - 5.5	CMOS/ LVTTTL	±24	2.1	50	150	2	-40 to 125
74LVT08	Quad 2-input AND gate	2.7 - 3.6	TTL	-20 / 32	3.4	50	150	4	-40 to 85
74VHC08	Quad 2-input AND gate	2.0 - 5.5	CMOS	±8	3.5	50	60	4	-40 to 125
74VHCT08	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	60	4	-40 to 125
HEF4073B	Triple 3-input AND gate	3.0 - 15	CMOS	±2.4	20	50	10	3	-40 to 85
HEF4081B	Quad 2-input AND gate	3.0 - 15	CMOS	±2.4	20	50	10	4	-40 to 85
HEF4082B	Dual 4-input AND gate	3.0 - 15	CMOS	±2.4	25	50	10	2	-40 to 85
XC7SET08	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	1	-40 to 125
XC7SH08	Single 2-input AND gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125

## NAND gates

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74ABT00	Quad 2-input NAND gate	4.5 - 5.5	TTL	-15 / 20	2.5	50	100	4	-40 to 85
74AHC00	Quad 2-input NAND gate	2.0 - 5.5	CMOS	±8	3.2	50	60	4	-40 to 125
74AHC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.3	50	60	4	-40 to 125
74AHC1G00	Single 2-input NAND gate	2.0 - 5.5	CMOS	±8	3.5	50	60	1	-40 to 125
74AHC2G00	Dual 2-input NAND gate	2.0 - 5.5	CMOS	±8	3.5	50	60	2	-40 to 125
74AHCT00	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	60	4	-40 to 125
74AHCT132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	4	-40 to 125
74AHCT1G00	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	1	-40 to 125
74AHCT2G00	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	2	-40 to 125
74AUP1T00	Single supply 2-input voltage-translating NAND gate	2.3 - 3.6	CMOS	±4	3.8	15	70	1	-40 to 125
74AUP2G132	Dual 2-input NAND gate Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	10	30	70	2	-40 to 125
74HC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	11	50	36	4	-40 to 125
74HCT132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	36	4	-40 to 125
74LV00A	Quad 2-input NAND gate	2.0 - 5.5	CMOS	±12	4.3	15	45	4	-40 to 125
74LV132	Quad 2-input NAND gate Schmitt-trigger	1.0 - 5.5	TTL	±12	10	50	30	4	-40 to 125
74LVC132A	Quad 2-input NAND gate Schmitt-trigger	1.2 - 3.6	CMOS/ LVTTTL	±24	3.4	50	175	4	-40 to 125
HEF4093B	Quad 2-input NAND gate Schmitt-trigger	3.0 - 15	CMOS	±2.4	3.0	50	10	4	-40 to 85
74AHC30	8-input NAND gate	2.0 - 5.5	CMOS	±8	3.6	50	60	1	-40 to 125
74AHCT30	8-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	60	1	-40 to 125
74ALVC00	Quad 2-input NAND gate	1.65 - 3.6	CMOS/ LVTTTL	±24	2.1	50	145	4	-40 to 85
74AUP1G00	Single 2-input NAND gate	1.1 - 3.6	CMOS	±1.9	8.3	30	70	1	-40 to 125
74AUP1G132	Single 2-input NAND gate Schmitt trigger	1.1 - 3.6	CMOS	±1.9	10	30	70	1	-40 to 125
74AUP1G38	Single 2-input NAND gate; open drain	1.1 - 3.6	CMOS	1.9	8.5	30	70	1	-40 to 125
74AUP2G00	Dual 2-input NAND gate	1.1 - 3.6	CMOS	±1.9	8.3	30	70	2	-40 to 125
74AUP2G38	Dual 2-input NAND gate; open drain	1.1 - 3.6	CMOS	1.9	8.5	30	70	2	-40 to 125
74HC00	Quad 2-input NAND gate	2.0 - 6.0	CMOS	±5.2	7.0	50	36	4	-40 to 125
74HC03	Quad 2-input NAND gate; open drain	2.0 - 6.0	CMOS	5.2	8.0	50	36	4	-40 to 125
74HC10	Triple 3-input NAND gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	3	-40 to 125
74HC1G00	Single 2-input NAND gate	2.0 - 6.0	CMOS	±2.6	7.0	50	36	1	-40 to 125
74HC20	Dual 4-input NAND gate	2.0 - 6.0	CMOS	±5.2	8.0	50	36	2	-40 to 125
74HC2G00	Dual 2-input NAND gate	2.0 - 6.0	CMOS	±5.6	9.0	50	36	2	-40 to 125
74HC30	8-input NAND gate	2.0 - 6.0	CMOS	±5.2	12	50	36	1	-40 to 125
74HCT00	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	10	50	36	4	-40 to 125
74HCT03	Quad 2-input NAND gate; TTL-enabled; open drain	4.5 - 5.5	TTL	±4	10	50	36	4	-40 to 125
74HCT10	Triple 3-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	11	50	36	3	-40 to 125
74HCT1G00	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±2	10	50	36	1	-40 to 125
74HCT2G00	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	12	50	36	2	-40 to 125
74HCT30	8-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	12	50	36	1	-40 to 125
74LV00	Quad 2-input NAND gate	1.0 - 5.5	TTL	±12	7	50	30	4	-40 to 125
74LV03	Quad 2-input NAND gate; TTL-enabled; open drain	1.0 - 5.5	TTL	±12	8.0	50	30	4	-40 to 125
74LV1T00	Single supply 2-input translating NAND gate	1.6 - 5.5	CMOS	±8	6.4	15	60	1	-40 to 125
74LVC00A	Quad 2-input NAND gate	1.2 - 3.6	CMOS/ LVTTTL	±24	2.1	50	150	4	-40 to 125
74LVC10A	Triple 3-input NAND gate	1.2 - 3.6	CMOS/ LVTTTL	±24	3.9	50	150	3	-40 to 125

## NAND gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74LVC1G00	Single 2-input NAND gate	1.65 - 5.5	CMOS/LVTTL	±32	2.2	50	175	1	-40 to 125
74LVC1G10	Single 3-input NAND gate	1.65 - 5.5	CMOS/LVTTL	±32	2.6	50	175	1	-40 to 125
74LVC1G38	Single 2-input NAND gate; open drain	1.65 - 5.5	CMOS/LVTTL	32	2.3	50	175	1	-40 to 125
74LVC2G00	Dual 2-input NAND gate	1.65 - 5.5	CMOS/LVTTL	±32	2.2	50	175	2	-40 to 125
74LVC2G38	Dual 2-input NAND gate; open drain	1.65 - 5.5	CMOS/LVTTL	32	2.1	50	175	2	-40 to 125
HEF4011B	Quad 2-input NAND gate	3.0 - 15	CMOS	±2.4	20	50	10	4	-40 to 85

## OR gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74ABT32	Quad 2-input OR gate	4.5 - 5.5	TTL	-15 / 20	2.3	50	100	4	-40 to 85
74AHC1G32	Single 2-input OR gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHCT1G32	Single 2-input OR gate	4.5 - 5.5	TTL	±8	3.3	50	60	1	-40 to 125
74AHC2G32	Dual 2-input OR gate	2.0 - 5.5	CMOS	±8	3.2	50	60	2	-40 to 125
74AHCT2G32	Dual 2-input OR gate	4.5 - 5.5	TTL	±8	3.3	50	60	2	-40 to 125
74AHC32	Quad 2-input OR gate	2.0 - 5.5	CMOS	±8	3.5	50	60	4	-40 to 125
74AHCT32	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	60	4	-40 to 125
74ALVC32	Quad 2-input OR gate	1.65 - 3.6	CMOS/LVTTL	±24	2.0	50	150	4	-40 to 125
74AUP1G32	Single 2-input OR gate	1.1 - 3.6	CMOS	±1.9	7.9	30	70	1	-40 to 125
74AUP1G332	Single 3-input OR gate	1.1 - 3.6	CMOS	±1.9	6.8	30	70	1	-40 to 125
74AUP1T32	Single supply 2-input voltage-translating OR gate	2.3 - 3.6	CMOS	±4	3.7	15	70	1	-40 to 125
74AUP2G32	Dual 2-input OR gate	1.1 - 3.6	CMOS	±1.9	7.9	30	70	2	-40 to 125
74HC1G32	Single 2-input OR gate	2.0 - 6.0	CMOS	±2.6	8.0	50	36	1	-40 to 125
74HCT1G32	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±2.0	10	50	36	1	-40 to 125
74HC2G32	Dual 2-input OR gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	2	-40 to 125
74HCT2G32	Dual 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±4.0	13	50	36	2	-40 to 125
74HC32	Quad 2-input OR gate	2.0 - 6.0	CMOS	±5.2	6.0	50	36	4	-40 to 125
74HCT32	Quad 2-input OR gate	4.5 - 5.5	TTL	±4.0	9.0	50	36	4	-40 to 125
74HC4075	Triple 3-input OR gate	2.0 - 6.0	CMOS	±5.2	8.0	50	36	3	-40 to 125
74HCT4075	Triple 3-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±4	10	50	36	3	-40 to 125
74LV1T32	Single supply 2-input translating OR gate	1.6 - 5.5	CMOS	±8	6.6	15	60	1	-40 to 125
74LV32A	Quad 2-input OR gate	2.0 - 5.5	CMOS	±12	4.2	15	45	4	-40 to 125
74LV7032A	Quad 2-input OR gate; Schmitt trigger	2.0 - 5.5	CMOS	±12	4.3	15	45	4	-40 to 125
74LVC1G32	Single 2-input OR gate	1.65 - 5.5	CMOS/LVTTL	±32	2.1	50	150	1	-40 to 125
74LVC1G332	Single 3-input OR gate	1.65 - 5.5	CMOS/LVTTL	±32	2.6	50	150	1	-40 to 125
74LVC2G32	Dual 2-input OR gate	1.65 - 5.5	CMOS/LVTTL	±32	2.2	50	150	2	-40 to 125
74LVC32A	Quad 2-input OR gate	1.2 - 3.6	CMOS/LVTTL	±24	2.1	50	150	4	-40 to 125
74VHC32	Quad 2-input OR gate	2.0 - 5.5	CMOS	±8	3.5	50	60	4	-40 to 125
74VHCT32	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	60	4	-40 to 125
HEF4071B	Quad 2-input OR gate	3.0 - 15	CMOS	±2.4	20	50	10	4	-40 to 125
XC7SET32	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	60	1	-40 to 125
XC7SH32	Single 2-input OR gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125

## NOR gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHC02	Quad 2-input NOR gate	2.0 - 5.5	CMOS	±8	2.9	50	60	4	-40 to 125
74AHCT02	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.8	50	60	4	-40 to 125
74AHC1G02	Single 2-input NOR gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHCT1G02	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	1	-40 to 125
74ALVC02	Quad 2-input NOR gate	1.65 - 3.6	CMOS/ LVTTTL	±24	2.2	50	150	4	-40 to 85
74AUP1G02	Single 2-input NOR gate	1.1 - 3.6	CMOS	±1.9	8.3	30	70	1	-40 to 125
74AUP1T02	Single supply 2-input voltage-translating NOR gate	2.3 - 3.6	CMOS	±4	3.8	15	70	1	-40 to 125
74AUP2G02	Dual 2-input NOR gate	1.1 - 3.6	CMOS	±1.9	8.3	30	70	2	-40 to 125
74HC02	Quad 2-input NOR gate	2.0 - 6.0	CMOS	±5.2	7.0	50	36	4	-40 to 125
74HCT02	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	9.0	50	36	4	-40 to 125
74HC1G02	Single 2-input NOR gate	2.0 - 6.0	CMOS	±2.6	7.0	50	36	1	-40 to 125
74HCT1G02	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±2.0	9.0	50	36	1	-40 to 125
74HC27	Triple 3-input NOR gate	2.0 - 6.0	CMOS	±5.2	8.0	50	36	3	-40 to 125
74HCT27	Triple 3-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	10	50	36	3	-40 to 125
74HC2G02	Dual 2-input NOR gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	2	-40 to 125
74HCT2G02	Dual 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	12	50	36	2	-40 to 125
74HC4002	Dual 4-input NOR gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	2	-40 to 125
74LV02A	Quad 2-input NOR gate	2.0 - 5.5	CMOS	±12	4.3	15	45	4	-40 to 125
74LV1T02	Single supply 2-input translating NOR gate	1.6 - 5.5	CMOS	±8	6.6	15	60	1	-40 to 125
74LVC02A	Quad 2-input NOR gate	1.2 - 3.6	CMOS/ LVTTTL	±24	2.1	50	150	4	-40 to 125
74LVC1G02	Single 2-input NOR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.1	50	150	1	-40 to 125
74LVC1G27	Single 3-input NOR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.6	50	150	1	-40 to 125
74LVC2G02	Dual 2-input NOR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.4	50	150	2	-40 to 125
74LVT02	Quad 2-input NOR gate	2.7 - 3.6	TTL	-20 / 32	2.8	50	150	4	-40 to 85
74VHC02	Quad 2-input NOR gate	2.0 - 5.5	CMOS	±8	2.9	50	60	4	-40 to 125
74VHCT02	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.8	50	60	4	-40 to 125
HEF4001B	Quad 2-input NOR gate	3.0 - 15	CMOS	±2.4	20	50	10	4	-40 to 85
XC7SET02	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	1	-40 to 125
XC7SH02	Single 2-input NOR gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125

## EXCLUSIVE-OR gates

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHC1G86	2-input EXCLUSIVE-OR gate	2.0 - 5.5	CMOS	±8	3.4	50	60	1	-40 to 125
74AHCT1G86	2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	1	-40 to 125
74AHC86	Quad 2-input EXCLUSIVE-OR gate	2.0 - 5.5	CMOS	±8	3.4	50	60	4	-40 to 125
74AHCT86	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.4	50	60	4	-40 to 125
74AUP1G386	Single 3-input EXCLUSIVE-OR gate	1.1 - 3.6	CMOS	±1.9	8.6	30	70	1	-40 to 125
74AUP1G86	Single 2-input Exclusive-OR gate	1.1 - 3.6	CMOS	±1.9	9.0	30	70	1	-40 to 125
74AUP1T86	Single supply 2-input translating EXCLUSIVE-OR gate	2.3 - 3.6	CMOS	±1.9	3.9	15	70	1	-40 to 125
74AUP2G86	Dual 2-input EXCLUSIVE-OR gate	1.1 - 3.6	CMOS	±1.9	9.0	30	70	2	-40 to 125
74HC1G86	Single 2-input EXCLUSIVE-OR gate	2.0 - 6.0	CMOS	±2.6	9.0	50	36	1	-40 to 125
74HCT1G86	Single 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±2.0	10	50	36	1	-40 to 125
74HC2G86	Dual 2-input EXCLUSIVE-OR gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	2	-40 to 125
74HCT2G86	Dual 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±4.0	11	50	36	2	-40 to 125
74HC86	Quad 2-input EXCLUSIVE-OR gate	2.0 - 6.0	CMOS	±5.2	11	50	36	4	-40 to 125
74HCT86	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±4	14	50	36	4	-40 to 125
74LV1T86	Single supply 2-input translating EXCLUSIVE-OR gate	1.6 - 5.5	CMOS	±8	7.3	15	60	1	-40 to 125
74LVC1G386	Single 3-Input EXCLUSIVE-OR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	4.5	50	150	1	-40 to 125
74LVC1G86	Single 2-input EXCLUSIVE-OR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.4	50	150	1	-40 to 125
74LVC2G86	Dual 2-input EXCLUSIVE-OR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.3	50	150	2	-40 to 125
74LVC86A	Quad 2-input EXCLUSIVE-OR gate	1.2 - 3.6	CMOS/ LVTTTL	±24	3.0	50	150	4	-40 to 125
HEF4030B	Quad 2-input EXCLUSIVE-OR gate	3.0 - 15	CMOS	±2.4	30	50	10	4	-40 to 85
HEF4070B	Quad 2-input EXCLUSIVE-OR gate	3.0 - 15	CMOS	±2.4	30	50	10	4	-40 to 85
XC7SET86	2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	1	-40 to 125
XC7SH86	2-input EXCLUSIVE-OR gate	2.0 - 5.5	CMOS	±8	3.4	50	60	1	-40 to 125

## EXCLUSIVE-NOR gates

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AUP1T87	Single supply 2-input translating EXCLUSIVE-NOR gate	2.3 - 3.6	CMOS	±4	4		70	-40 to 125
74LV1T87	Single supply 2-input translating EXCLUSIVE-NOR gate	1.6 - 5.5	CMOS	±8	7.3		60	-40 to 125
HEF4077B	Quad 2-input EXCLUSIVE-NOR gate	3.0 - 15	CMOS	±2.4	30	50	10	-40 to 85

## Combination gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AUP1G0832	Single 3-input AND-OR gate	1.1 - 3.6	CMOS	±1.9	6.7	30	70	1	-40 to 125
74AUP1G3208	Single 3-input OR-AND gate	1.1 - 3.6	CMOS	±1.9	7.4	30	70	1	-40 to 125
74AUP1G885	Dual function gate	1.1 - 3.6	CMOS	±1.9	7.6	30	70	1	-40 to 125
74AUP1Z04	Crystal driver with enable and internal resistor	1.1 - 3.6	CMOS	±1.9	5.6	30	70	1	-40 to 125
74AUP1Z125	Crystal driver with enable and internal resistor (3-state)	1.1 - 3.6	CMOS	±1.9	4.7	30	70	1	-40 to 125
74AUP2G0604	Inverter with open drain and inverter	1.1 - 3.6	CMOS	±1.9	4.0	30	70	2	-40 to 125
74AUP2G3404	Buffer and inverter	1.1 - 3.6	CMOS	±1.9	4.0	30	70	2	-40 to 125
74AUP2G3407	Buffer and buffer with open drain	1.1 - 3.6	CMOS	±1.9	4.1	30	70	2	-40 to 125
74AUP3G0434	Dual inverter and single buffer	1.1 - 3.6	CMOS	±1.9	4.0	30	70	3	-40 to 125
74AUP3G3404	Dual buffer and single inverter	1.1 - 3.6	CMOS	±1.9	4.0	30	70	3	-40 to 125
74LVC1GX04	Crystal driver	1.65 - 5.5	CMOS/ LVTTTL	±24	2.8	50	150	1	-40 to 125
HEF4007UB	Dual complementary pair and inverter	3.0 - 15	CMOS	±3.4	15	50	10	2	-40 to 85

## Configurable gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AUP1G57	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G58	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G97	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G98	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.9	30	70	1	-40 to 125
74AUP1G3208	Configurable multiple function gate	0.8 - 3.6	CMOS	±4	6.6	30	70	1	-40 to 125
74AUP1T57	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±4	3.9	15	70	1	-40 to 125
74AUP1T58	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±4	3.9	15	70	1	-40 to 125
74AUP1T97	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±4	3.9	15	70	1	-40 to 125
74AUP1T98	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±4	3.9	15	70	1	-40 to 125
74AUP2G57	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30	70	1	-40 to 125
74AUP2G58	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30	70	1	-40 to 125
74AUP2G97	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30	70	1	-40 to 125
74AUP2G98	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30	70	1	-40 to 125
74LVC1G57	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G58	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G97	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G98	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G99	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	8.4	50	150	1	-40 to 125

## Schmitt-triggers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.3	50	60	4	-40 to 125
74AHC14	Hex inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	6	-40 to 125
74AHC1G14	Single inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHC1G17	Single buffer Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHC3G14	Triple inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	3	-40 to 125
74AHCT132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	4	-40 to 125
74AHCT14	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.0	50	60	6	-40 to 125
74AHCT17A	Hex buffer Schmitt-trigger	4.5 - 5.5	TTL	±8	3.2	50	60	8	-40 to 125
74AHCT1G14	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	1	-40 to 125
74AHCT1G17	Single buffer Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	1	-40 to 125
74AHCT3G14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	3	-40 to 125
74AHCV05A	Hex inverter; Schmitt trigger; open-drain	2.0 - 5.5	CMOS	±16	5.8	15	10	6	-40 to 125
74AHCV07A	Hex buffer Schmitt-trigger; open-drain	1.8 - 5.5	CMOS	16	3.8	15	60	6	-40 to 125
74AHCV14A	Hex inverter Schmitt-trigger	1.8 - 5.5	CMOS	±16	3.2	15	60	6	-40 to 125
74AHCV17A	Hex buffer Schmitt-trigger	1.8 - 5.5	CMOS	±16	3.2	15	60	6	-40 to 125
74AHCV244A	Octal buffer/line driver Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.0	15	60	8	-40 to 125
74AHCV245A	Octal transceiver Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.2	15	60	8	-40 to 125
74AHCV541A	Octal buffer/line driver Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.0	15	60	8	-40 to 125
74ALVC14	Hex inverter Schmitt-trigger	1.65 - 3.6	TTL	±24	2.4	50	150	6	-40 to 85
74AUP1G132	Single 2-input NAND gate Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	10.0	30	70	1	-40 to 125
74AUP1G14	Single inverter Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	4.7	30	70	1	-40 to 125
74AUP1G17	Single buffer Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	7.8	30	70	1	-40 to 125
74AUP1G57	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G58	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G97	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G98	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.9	30	70	1	-40 to 125
74AUP2G132	Dual 2-input NAND gate Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	10	30	70	2	-40 to 125
74AUP2G14	Dual inverter Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	4.7	30	70	2	-40 to 125
74AUP2G17	Dual buffer Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	7.8	30	70	2	-40 to 125
74AUP2G58	Dual configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	2	-40 to 125
74AUP2G97	Dual configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	2	-40 to 125
74AUP2G98	Dual configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.9	30	70	2	-40 to 125
74AUP3G14	Triple inverter Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	2.4	30	70	3	-40 to 125

## Schmitt-triggers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AUP3G17	Triple Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	2.4	30	70	3	-40 to 125
74HC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	11	50	36	4	-40 to 125
74HC14	Hex inverter Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	12	50	36	6	-40 to 125
74HC1G14	Single inverter Schmitt-trigger	2.0 - 6.0	CMOS	±2.6	10	50	36	1	-40 to 125
74HC2G14	Dual inverter Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	16	50	36	2	-40 to 125
74HC2G17	Dual buffer Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	12	50	36	2	-40 to 125
74HC3G14	Triple inverter Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	16	50	36	3	-40 to 125
74HC7014	Hex buffer precision Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	27	50	36	6	-40 to 125
74HC7540	Octal inverter/line driver Schmitt-trigger (3-state)	2.0 - 6.0	CMOS	±7.8	11	50	36	8	-40 to 125
74HC7541	Octal buffer/line driver Schmitt-trigger (3-state)	2.0 - 6.0	CMOS	±7.8	11	50	36	8	-40 to 125
74HC9114	9-bit inverter Schmitt-trigger; open drain (3-state)	2.0 - 6.0	CMOS	5.2	12	50	36	9	-40 to 125
74HC9115	9-bit buffer Schmitt-trigger; open drain (3-state)	2.0 - 6.0	CMOS	5.2	12	50	36	9	-40 to 125
74HCT132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	36	4	-40 to 125
74HCT14	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	36	6	-40 to 125
74HCT1G14	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±2.0	15	50	36	1	-40 to 125
74HCT2G14	Dual inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4.0	21	50	36	2	-40 to 125
74HCT2G17	Dual buffer Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4.0	21	50	36	2	-40 to 125
74HCT3G14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4.0	21	50	36	3	-40 to 125
74HCT7540	Octal inverter/line driver Schmitt-trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	16	50	36	8	-40 to 125
74HCT7541	Octal buffer/line driver Schmitt-trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	16	50	36	8	-40 to 125
74HCT9114	9-bit inverter Schmitt-trigger; open drain; TTL-enabled (3-state)	4.5 - 5.5	TTL	4	13	50	36	9	-40 to 125
74LV132	Quad 2-input NAND gate Schmitt-trigger	1.0 - 5.5	TTL	±12	10	50	30	4	-40 to 125
74LV14	Hex inverter Schmitt-trigger	1.0 - 5.5	TTL	±12	13	50	30	6	-40 to 125
74LV14A	Hex inverter Schmitt-trigger	2.0 - 5.5	CMOS	±12	3.4	15	60	6	-40 to 125
74LV7032A	Quad 2-input OR gate; Schmitt trigger	2.0 - 5.5	CMOS	±12	4.3	15	45	4	-40 to 125
74LVC132A	Quad 2-input NAND gate Schmitt-trigger	1.2 - 3.6	CMOS/LVTTL	±24	3.4	50	175	4	-40 to 125
74LVC14A	Hex inverter Schmitt-trigger	1.2 - 3.6	CMOS/LVTTL	±24	3.2	50	175	6	-40 to 125
74LVC1G14	Single inverter Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.0	50	175	1	-40 to 125
74LVC1G17	Single buffer Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.0	50	175	1	-40 to 125
74LVC1G57	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G58	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G97	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40 to 125

## Schmitt-triggers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74LVC1G98	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G99	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	8.4	50	150	1	-40 to 125
74LVC2G14	Dual inverter Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.9	50	175	2	-40 to 125
74LVC2G17	Dual buffer Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.6	50	175	2	-40 to 125
74LVC3G14	Triple inverter Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.2	50	175	3	-40 to 125
74LVC3G17	Triple buffer Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.6	50	175	3	-40 to 125
74LVT14	Hex inverter Schmitt-trigger	2.7 - 3.6	TTL	±32	3.8	50	150	6	-40 to 125
74VHC14	Hex inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	6	-40 to 125
74VHCT14	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	6	-40 to 125
HEF40106B	Hex inverter Schmitt-trigger	3.0 - 15	CMOS	±2.4	30	50	10	6	-40 to 85
HEF4093B	Quad 2-input NAND gate Schmitt-trigger	3.0 - 15	CMOS	±2.4	30	50	10	4	-40 to 125
XC7SET14	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	1	-40 to 125
XC7SH14	Single inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
XC7WH14	Triple inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	3	-40 to 125
XC7WT14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	3	-40 to 125

## Flip-flops

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74ABT74	Dual D-type flip-flop with set and reset; positive-edge trigger	4.5 - 5.5	TTL	-0.75	3.0	50	250	-40 to 85
74AHC1G79	Single D-type flip-flop; positive-edge trigger	2.0 - 5.5	CMOS	±8	3.5	50	90	-40 to 125
74AHC273	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 5.5	CMOS	±8	4.2	50	165	-40 to 125
74AHC374	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 5.5	CMOS	±8	4.4	50	185	-40 to 125
74AHC574	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 5.5	CMOS	±8	4.4	50	130	-40 to 125
74AHC74	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 5.5	CMOS	±8	3.7	50	170	-40 to 125
74AHCT1G79	Single D-type flip-flop; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	90	-40 to 125
74AHCT273	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.0	50	120	-40 to 125
74AHCT374	Octal D-type flip-flop; positive-edge trigger (3-state)	4.5 - 5.5	TTL	±8	4.3	50	140	-40 to 125
74AHCT574	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	4.4	50	130	-40 to 125
74AHCT74	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	160	-40 to 125
74ALVC374	Octal D-type flip-flop; positive-edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.5	50	300	-40 to 85
74ALVC574	Octal D-type flip-flop; positive-edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.5	50	300	-40 to 85
74ALVC74	Dual D-type flip-flop with set and reset; positive-edge trigger	1.65 - 3.6	TTL	±24	2.3	50	425	-40 to 85
74ALVCH16374	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	TTL	±24	2.3	50	350	-40 to 85
74ALVCH16821	20-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	2.3 - 3.6	TTL	±24	2.5	50	350	-40 to 85
74ALVCH16823	18-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	TTL	±24	2.1	50	350	-40 to 85
74ALVT162821	20-bit D-type flip-flop with source termination; positive-edge trigger (3-state)	2.3 - 3.6	TTL	±12	3.2	50	150	-40 to 85
74ALVT162823	18-bit D-type flip-flop with source termination; positive-edge trigger (3-state)	2.3 - 3.6	TTL	±12	3.0	50	150	-40 to 85
74ALVT16821	20-bit D-type flip-flop; positive-edge trigger (3-state)	2.3 - 3.6	TTL	-32 / 64	1.8	50	150	-40 to 85
74ALVT16823	18-bit D-type flip-flop; positive-edge trigger (3-state)	2.3 - 3.6	TTL	-32 / 64	1.9	50	250	-40 to 85
74AUP1G175	Single D flip-flop with reset; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	7.4	30	70	-40 to 125
74AUP1G374	Single D-type flip-flop; positive-edge trigger (3-state)	1.1 - 3.6	CMOS	±1.9	7.9	30	400	-40 to 125
74AUP1G74	Single D-type flip-flop with set and reset; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.2	30	400	-40 to 125
74AUP1G79	Single D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.1	30	400	-40 to 125
74AUP1G80	Single D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.1	30	400	-40 to 125
74AUP2G79	Dual D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	8.5	30	400	-40 to 125
74AUP2G80	Dual D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.1	30	400	-40 to 125
74HC107	Dual JK-type flip-flop with reset; negative-edge trigger	2.0 - 6.0	CMOS	±5.2	16	50	78	-40 to 125
74HC109	Dual JK-type flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	15	50	75	-40 to 125
74HC112	Dual JK-type flip-flop with set and reset; negative-edge trigger	2.0 - 6.0	CMOS	±5.2	15	50	66	-40 to 125
74HC173	Quad D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	CMOS	±7.8	17	50	88	-40 to 125
74HC174	Hex D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	17	50	99	-40 to 125
74HC175	Quad D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	17	50	83	-40 to 125
74HC273	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	15	50	122	-40 to 125
74HC374	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	CMOS	±7.8	14	50	83	-40 to 125

## Flip-flops

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HC377	Octal D-type flip-flop with data enable; positive-edge trigger	2.0 - 6.0	CMOS	±7.8	13	50	83	-40 to 125
74HC574	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	CMOS	±7.8	14	50	133	-40 to 125
74HC73	Dual JK-type flip-flop with reset; negative-edge trigger	2.0 - 6.0	CMOS	±5.2	16	50	77	-40 to 125
74HC74	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	14	50	82	-40 to 125
74HCT107	Dual JK-type flip-flop with reset; negative-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	16	50	73	-40 to 125
74HCT109	Dual JK-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	61	-40 to 125
74HCT112	Dual JK-type flip-flop with set and reset; negative-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	19	50	70	-40 to 125
74HCT173	Quad D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	17	50	88	-40 to 125
74HCT174	Hex D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	18	50	69	-40 to 125
74HCT175	Quad D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	16	50	54	-40 to 125
74HCT273	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	15	50	36	-40 to 125
74HCT374	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	13	50	48	-40 to 125
74HCT377	Octal D-type flip-flop with data enable; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±6	14	50	53	-40 to 125
74HCT574	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	15	50	76	-40 to 125
74HCT74	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	15	50	59	-40 to 125
74LV74	Dual D-type flip-flop with set and reset; positive-edge trigger	1.0 - 5.5	TTL	±12	11	50	75	-40 to 125
74LVC16374A	16-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.8	50	150	-40 to 125
74LVC1G175	Single D flip-flop with reset; positive-edge trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.1	50	300	-40 to 125
74LVC1G74	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.5	50	280	-40 to 125
74LVC1G79	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	CMOS/LVTTL	±32	2.2	50	450	-40 to 125
74LVC1G80	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	CMOS/LVTTL	±32	2.4	50	450	-40 to 125
74LVC273	Octal D-type flip-flop with reset; positive-edge trigger	1.2 - 3.6	CMOS/LVTTL	±24	6.0	50	230	-40 to 125
74LVC2G74	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.5	50	280	-40 to 125
74LVC374A	Octal D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	2.7	50	100	-40 to 125
74LVC377	Octal D-type flip-flop with data enable; positive-edge trigger	1.2 - 3.6	CMOS/LVTTL	±24	6.0	50	230	-40 to 125
74LVC574A	Octal D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.2	50	150	-40 to 125
74LVC74A	Dual D-type flip-flop with set and reset; positive-edge trigger	1.2 - 3.6	CMOS/LVTTL	±24	2.5	50	250	-40 to 125
74LVCH162374A	16-bit D-type flip-flop with bus hold and 30 Ω termination resistors; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.8	50	150	-40 to 125
74LVCH16374A	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.8	50	150	-40 to 125
74LVT162374	16-bit D-type flip-flop with bus hold and 30 Ω termination resistors; positive-edge trigger (3-state)	2.7 - 3.6	TTL	±12	3.0	50	150	-40 to 85
74LVT16374A	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	2.7 - 3.6	TTL	-32 / 64	3.0	50	150	-40 to 85
74LVTH16374A	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	2.7 - 3.6	TTL	-32 / 64	3.0	50	150	-40 to 85
HEF4013B	Dual D-type flip-flop with set and reset; positive-edge trigger	3.0 - 15.0	CMOS	±2.4	30	50	40	-40 to 85
HEF40175B	Quad D-type flip-flop with reset; positive-edge trigger	3.0 - 15.0	CMOS	±2.4	25	50	45	-40 to 85
HEF4027B	Dual JK-type flip-flop	3.0 - 15.0	CMOS	±2.4	30	50	30	-40 to 85

## Latches / Registered drivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
74AHC373	Octal D-type transparent latch (3-state)	2.0 - 5.5	CMOS	±8	4.3	50	8	-40 to 125
74AHC573	Octal D-type transparent latch (3-state)	2.0 - 5.5	CMOS	±8	4.2	50	8	-40 to 125
74AHT573	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	3.9	50	8	-40 to 125
74ALVC373	Octal D-type transparent latch (3-state)	1.65 - 3.6	TTL	±24	2.2	50	8	-40 to 85
74ALVC573	Octal D-type transparent latch (3-state)	1.65 - 3.6	TTL	±24	2.2	50	8	-40 to 85
74ALVCH16373	16-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	±24	2.1	50	16	-40 to 85
74ALVCH16841	20-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	±24	2.4	50	20	-40 to 85
74ALVCH16843	18-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	±24	2.1	50	18	-40 to 85
74ALVT16373	16-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	-32 / 64	1.8	50	16	-40 to 85
74AUP1G373	Single D-type transparent latch (3-state)	1.1 - 3.6	CMOS	±1.9	8.5	30	1	-40 to 125
74HC259	8-bit addressable latch	2.0 - 6.0	CMOS	±5.2	18	50	8	-40 to 125
74HC373	Octal D-type transparent latch (3-state)	2.0 - 6.0	CMOS	±7.8	12	50	8	-40 to 125
74HC573	Octal D-type transparent latch (3-state)	2.0 - 6.0	CMOS	±7.8	14	50	8	-40 to 125
74HC75	Quad bistable transparent latch	2.0 - 6.0	CMOS	±5.2	11	50	4	-40 to 125
74HCT259	8-bit addressable latch; TTL-enabled	4.5 - 5.5	TTL	±4	20	50	8	-40 to 125
74HCT373	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	14	50	8	-40 to 125
74HCT573	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	17	50	8	-40 to 125
74LVC162373A	16-bit D-type transparent latch with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	3.2	50	16	-40 to 125
74LVC16373A	16-bit D-type transparent latch (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	50	16	-40 to 125
74LVC373A	Octal D-type transparent latch (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	50	8	-40 to 125
74LVC573A	Octal D-type transparent latch (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.4	50	8	-40 to 125
74LVCH162373A	16-bit D-type transparent latch with bus hold and 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.2	50	16	-40 to 125
74LVCH16373A	16-bit D-type transparent latch with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	50	16	-40 to 125
74LVT162373	16-bit D-type transparent latch with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	2.5	50	16	-40 to 85
74LVT16373A	16-bit D-type transparent latch with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	50	16	-40 to 85
74LVT573	Octal D-type transparent latch (3-state)	2.7 - 3.6	TTL	-32 / 64	2.7	50	8	-40 to 85
HEF4043B	Quad R/S latch with set and reset (3-state)	3.0 - 15.0	CMOS	±2.4	25	50	4	-40 to 85

## Shift registers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHC164	8-bit serial-in/parallel-out shift register	2.0 - 5.5	CMOS	+/- 8	4.5	115	8	-40 to 125
74AHCT164	8-bit serial-in/parallel-out shift register; TTL enabled	4.5 - 5.5	TTL	+/- 8	3.4	115	8	-40 to 125
74AHC594	8-bit serial-in/parallel-out shift register with output storage register	2.0 - 5.5	CMOS	+/- 8	4.1	160	8	-40 to 125
74AHCT594	8-bit serial-in/parallel-out shift register with output storage register; TTL enabled	4.5 - 5.5	TTL	+/- 8	3.8	160	8	-40 to 125
74AHC595	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 5.5	CMOS	+/- 8	4	170	8	-40 to 125
74AHCT595	8-bit serial-in/parallel-out shift register with output storage register; TTL enabled (3-state)	4.5 - 5.5	TTL	+/- 8	3.8	170	8	-40 to 125
74HC299	8-bit universal shift register (3-state)	2.0 - 6.0	CMOS	+/- 7.8	19	54	8	-40 to 125
74HC164	8-bit serial-in/parallel-out shift register	2.0 - 6.0	CMOS	+/- 5.2	12	78	8	-40 to 125
74HCT164	8-bit serial-in/parallel-out shift register; TTL enabled	2.0 - 6.0	TTL	+/- 5.2	12	78	8	-40 to 125
74HC165	8-bit parallel or serial-in/serial-out shift register	2.0 - 6.0	CMOS	+/- 5.2	16	56	8	-40 to 125
74HCT165	8-bit parallel or serial-in/serial-out shift register; TTL enabled	4.5 - 5.5	TTL	+/- 4	14	48	8	-40 to 125
74HC166	8-bit parallel or serial-in/serial-out shift register	2.0 - 6.0	CMOS	+/- 5.2	15	63	8	-40 to 125
74HCT166	8-bit parallel or serial-in/serial-out shift register; TTL enabled	4.5 - 5.5	TTL	+/- 4.0	23	50	8	-40 to 125
74HC594	8-bit serial-in/parallel-out shift register with output storage register	2.0 - 6.0	CMOS	+/- 7.8	14	109	8	-40 to 125
74HCT594	8-bit serial-in/parallel-out shift register with output storage register; TTL enabled	4.5 - 5.5	TTL	+/- 6	15	100	8	-40 to 125
74HC595	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 6.0	CMOS	+/- 7.8	16	108	8	-40 to 125
74HCT595	8-bit serial-in/parallel-out shift register with output storage register; TTL enabled (3-state)	4.5 - 5.5	TTL	+/- 6	25	57	8	-40 to 125
74HC597	8-bit parallel or serial-in/parallel-out shift register with parallel input storage register	2.0 - 6.0	CMOS	+/- 5.2	16	108	8	-40 to 125
74HCT597	8-bit parallel or serial-in/parallel-out shift register with parallel input storage register; TTL enabled	4.5 - 5.5	TTL	+/- 4	20	83	8	-40 to 125
74HC4094	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	2.0 - 6.0	CMOS	+/- 5.2	15	95	8	-40 to 125
74HCT4094	8-bit serial-in/serial or parallel-out shift register with output register; TTL enabled (3-state)	4.5 - 5.5	TTL	+/- 4	19	86	8	-40 to 125
74LV164	8-bit serial-in/parallel-out shift register	1.0 - 5.5	CMOS	+/- 12	12	78	8	-40 to 125
74LV165	8-bit parallel or serial-in/serial-out shift register	1.0 - 5.5	CMOS	+/- 12	18	78	8	-40 to 125
74LV165A	8-bit parallel or serial-in/serial-out shift register	1.0 - 5.5	CMOS	+/- 12	7.5	115	8	-40 to 125
74LV595	8-bit serial-in/parallel-out shift register with output storage register (3-state)	1.0 - 3.6	CMOS	+/- 8	15	77	8	-40 to 125
74LV4094	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	1.0 - 3.6	CMOS	+/- 6	14	95	8	-40 to 125
74LVC594A	8-bit serial-in/parallel-out shift register with output storage register	1.2 - 5.5	CMOS/LVTTL	+/- 24	3.1	180	8	-40 to 125
74LVC595A	8-bit serial-in/parallel-out shift register with output storage register (3-state)	1.2 - 5.5	CMOS/LVTTL	+/- 24	4	180	8	-40 to 125
74LVC8T595	Dual supply 8-bit serial-in/serial-out or parallel-out shift register; 3-state	1.1 - 5.5	CMOS/ LVTTTL	±24	4.1	15	8	-40 to 125
74VHC595	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 5.5	CMOS	+/- 8	4	170	8	-40 to 125
74VHCT595	8-bit serial-in/parallel-out shift register with output storage register; TTL enabled (3-state)	4.5 - 5.5	TTL	+/- 8	3.8	170	8	-40 to 125
HEF4014B	8-bit shift register with synchronous parallel enable	4.5 - 15	CMOS	+/- 2.4	40	40	8	-40 to 85
HEF4015B	dual 4-bit serial-in/parallel-out shift register	4.5 - 15	CMOS	+/- 2.4	40	44	2	-40 to 85
HEF4021B	8-bit shift register with asynchronous parallel load	4.5 - 15	CMOS	+/- 2.4	40	40	8	-40 to 85
HEF4094B	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	4.5 - 15	CMOS	+/- 2.4	50	28	8	-40 to 85
HEF4794B	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	4.5 - 15	CMOS	-20	45	28	8	-40 to 85
HEF4894B	12-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	4.5 - 15	CMOS	-20	45	28	12	-40 to 85

## Counters / Frequency dividers

Type number	Description	V <sub>CC</sub> (V)	Output drive capability (mA)	Logic switching levels	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AHC1G4208	08-stage divider and oscillator	2.0 - 5.5	±8	CMOS	14	15	165	-40 to 125
74AHC1G4210	10-stage divider and oscillator	2.0 - 5.5	±5.2	CMOS	17	15	125	-40 to 125
74AHC1G4212	12-stage divider and oscillator	2.0 - 5.5	±5.2	CMOS	20	15	125	-40 to 125
74AHC1G4214	14-stage divider and oscillator	2.0 - 5.5	±5.2	CMOS	23	15	125	-40 to 125
74AHC1G4215	14-stage divider and oscillator	2.0 - 5.5	± 8	CMOS	24	15	165	-40 to 125
74HC161	Presetable synchronous 4-bit binary counter; asynchronous reset	2.0 - 6.0	±5.2	CMOS	19	50	48	-40 to 125
74HC191	Presetable synchronous 4-bit binary up/down counter	2.0 - 6.0	±5.2	CMOS	22	50	36	-40 to 125
74HC193	Presetable synchronous 4-bit binary up/down counter; separate up/down clocks	2.0 - 6.0	±5.2	CMOS	20	50	49	-40 to 125
74HCT193	Presetable synchronous 4-bit binary up/down counter; separate up/down clocks; TTL-enabled	4.5 - 5.5	±4.0	TTL	20	50	43	-40 to 125
74HC390	Dual decade ripple counter	2.0 - 6.0	±5.2	CMOS	14	50	60	-40 to 125
74HCT390	Dual decade ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	18	50	55	-40 to 125
74HC393	Dual 4-bit binary ripple counter	2.0 - 6.0	±5.2	CMOS	12	50	107	-40 to 125
74HCT393	Dual 4-bit binary ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	20	50	53	-40 to 125
74HC4017	Johnson decade counter with 10 decoded outputs	2.0 - 6.0	±5.2	CMOS	18	50	77	-40 to 125
74HCT4017	Johnson decade counter with 10 decoded outputs; TTL-enabled	4.5 - 5.5	±4.0	TTL	21	50	67	-40 to 125
74HC4020	14-stage binary ripple counter	2.0 - 6.0	±5.2	CMOS	11	50	52	-40 to 125
74HCT4020	14-stage binary ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	15	50	52	-40 to 125
74HC4040	12-stage binary ripple counter	2.0 - 6.0	±5.2	CMOS	14	50	90	-40 to 125
74HCT4040	12-stage binary ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	16	50	79	-40 to 125
74HC4060	14-stage binary ripple counter with oscillator	2.0 - 6.0	±5.2	CMOS	31	50	95	-40 to 125
74HCT4060	14-stage binary ripple counter with oscillator; TTL-enabled	4.5 - 5.5	±4.0	TTL	31	50	88	-40 to 125
74HC4520	Dual 4-bit synchronous binary counter	2.0 - 6.0	±5.2	CMOS	24	50	64	-40 to 125
74HCT4520	Dual 4-bit synchronous binary counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	24	50	64	-40 to 125
74HC40103	8-bit synchronous binary down counter	2.0 - 6.0	±5.2	CMOS	15	50	14	-40 to 125
74HC4024	7-stage binary ripple counter	2.0 - 6.0	±5.2	CMOS	14	50	90	-40 to 125
74HC590	8-bit binary counter with output register (3-state)	2.0 - 6.0	±5.2	CMOS	19	50	61	-40 to 125
74LV393	Dual 4-bit binary ripple counter	1.0 - 3.6	±6	TTL	12	50	90	-40 to 125
74LV4060	14-stage binary ripple counter with oscillator	1.0 - 5.5	±6	TTL	29	50	100	-40 to 125
74LVC161	Presetable synchronous 4-bit binary counter; asynchronous reset	1.2 - 3.6	±24	CMOS/ LVTTTL	4.9	50	200	-40 to 125
74LVC163	Presetable synchronous 4-bit binary counter; synchronous reset	1.2 - 3.6	±24	CMOS/ LVTTTL	4.9	50	200	-40 to 125
HEF4017B	Johnson decade counter with 10 decoded outputs	3.0 - 15	±2.4	CMOS	40	50	30	-40 to 85
HEF4020B	14-stage binary ripple counter	3.0 - 15	±2.4	CMOS	35	50	35	-40 to 85
HEF4040B	12-stage binary ripple counter	3.0 - 15	±2.4	CMOS	35	50	50	-40 to 85
HEF4060B	14-stage binary ripple counter with oscillator	3.0 - 15	±2.4	CMOS	50	50	30	-40 to 85
HEF4518B	Dual BCD counter	3.0 - 15	±2.4	CMOS	40	50	40	-40 to 85
HEF4520B	Dual 4-bit synchronous binary counter	3.0 - 15	±2.4	CMOS	15	50	40	-40 to 85
HEF4521B	24-stage frequency divider and oscillator	3.0 - 15	±2.4	CMOS	220	50	35	-40 to 85
HEF4541B	Programmable timer	3.0 - 15	- 4/ 2.7	CMOS	38	50	150	-40 to 85

## Decoders and Demultiplexers

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
74AHC138	3-to-8 line decoder/demultiplexer; inverting	2.0 - 5.5	CMOS	±8	4.4	50	-40 to 125
74AHC139	Dual 2-to-4 line decoder/demultiplexer	2.0 - 5.5	CMOS	±8	3.9	50	-40 to 125
74AHCT138	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	TTL	±8	4.4	50	-40 to 125
74AHCT139	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	-40 to 125
74AUP1G18	1-to-2 demultiplexer (3-state)	1.1 - 3.6	CMOS	±1.9	3.2	30	-40 to 125
74AUP1G19	1-to-2 decoder/demultiplexer	1.1 - 3.6	CMOS	±1.9	3.0	30	-40 to 125
74HC137	3-to-8 line decoder/demultiplexer with address latches; inverting	2.0 - 6.0	CMOS	±5.2	18	50	-40 to 125
74HC138	3-to-8 line decoder/demultiplexer; inverting	2.0 - 6.0	CMOS	±5.2	12	50	-40 to 125
74HC139	Dual 2-to-4 line decoder/demultiplexer	2.0 - 6.0	CMOS	±5.2	14	50	-40 to 125
74HC154	4-to-16 line decoder/demultiplexer	2.0 - 6.0	CMOS	±5.2	11	50	-40 to 125
74HC237	3-to-8 decoder/demultiplexer with address latches	2.0 - 6.0	CMOS	±5.2	18	50	-40 to 125
74HC238	3-to-8 decoder/demultiplexer	2.0 - 6.0	CMOS	±5.2	14	50	-40 to 125
74HC42	BCD to decimal decoder (1-of-10)	2.0 - 6.0	CMOS	±5.2	17	50	-40 to 125
74HC4511	BCD to 7-segment latch/decoder/driver with lamp test input	2.0 - 6.0	CMOS	-10	28	50	-40 to 125
74HC4514	4-to-16 decoder/demultiplexer with address latches	2.0 - 6.0	CMOS	±5.2	27	50	-40 to 125
74HCT138	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	TTL	±4	19	50	-40 to 125
74HCT139	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	16	50	-40 to 125
74HCT154	4-to-16 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	13	50	-40 to 125
74HCT238	3-to-8 decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	18	50	-40 to 125
74HCT4511	BCD to 7-segment latch/decoder/driver with lamp test input; TTL-enabled	4.5 - 5.5	TTL	-10	28	50	-40 to 125
74HCT4514	4-to-16 decoder/demultiplexer with address latches; TTL-enabled	4.5 - 5.5	TTL	±4	30	50	-40 to 125
74LV138	3-to-8 line decoder/demultiplexer; inverting	1.0 - 5.5	TTL	±12	12	50	-40 to 125
74LVC138A	3-to-8 line decoder/demultiplexer; inverting	1.2 - 3.6	CMOS/LVTTL	±24	2.7	50	-40 to 125
74LVC139	Dual 2-to-4 line decoder/demultiplexer	1.2 - 3.6	CMOS/LVTTL	±24	2.5	50	-40 to 125
74LVC1G18	1-to-2 demultiplexer (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	2.3	50	-40 to 125
74LVC1G19	1-to-2 decoder/demultiplexer	1.65 - 5.5	CMOS/LVTTL	±32	1.8	50	-40 to 125
HEF4028B	1-of-10 decoder	3.0 - 15.0	CMOS	±2.4	30	50	-40 to 85
HEF4543B	BCD to 7-segment latch/decoder/driver with phase input	3.0 - 15.0	CMOS	±2.4	55	50	-40 to 85
HEF4555B	Dual 1-to-4 line decoder/demultiplexer	3.0 - 15.0	CMOS	±2.4	30	50	-40 to 85

## Digital multiplexers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load C <sub>L</sub> (pF)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)
74AHC157	Quad 2-input multiplexer	2.0 - 5.5	CMOS	±8	50	3.2	-40 to 125
74AHC257	Quad 2-input multiplexer (3-state)	2.0 - 5.5	CMOS	±8	50	2.9	-40 to 125
74AHCT157	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.2	-40 to 125
74AHCT257	Quad 2-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.7	-40 to 125
74AUP1G157	Single 2-input multiplexer	1.1 - 3.6	CMOS	±1.9	30	3.2	-40 to 125
74AUP1G158	Single 2-input multiplexer; inverting	1.1 - 3.6	CMOS	±1.9	30	3.2	-40 to 125
74AUP2G157	Single 2-input multiplexer	1.1 - 3.6	CMOS	±1.9	30	3.4	-40 to 125
74HC151	8-input multiplexer	2.0 - 6.0	CMOS	±5.2	50	17	-40 to 125
74HC153	Dual 4-input multiplexer	2.0 - 6.0	CMOS	±5.2	50	17	-40 to 125
74HC157	Quad 2-input multiplexer	2.0 - 6.0	CMOS	±5.2	50	11	-40 to 125
74HC251	8-input multiplexer (3-state)	2.0 - 6.0	CMOS	±5.2	50	18	-40 to 125
74HC253	Dual 4-input multiplexer (3-state)	2.0 - 6.0	CMOS	±7.8	50	17	-40 to 125
74HC257	Quad 2-input multiplexer (3-state)	2.0 - 6.0	CMOS	±7.8	50	11	-40 to 125
74HCT151	8-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	50	19	-40 to 125
74HCT153	Dual 4-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	50	19	-40 to 125
74HCT157	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	50	13	-40 to 125
74HCT251	8-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±4	50	22	-40 to 125
74HCT253	Dual 4-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	17	-40 to 125
74HCT257	Quad 2-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	13	-40 to 125
74LVC157A	Quad 2-input multiplexer	1.2 - 3.6	CMOS/LVTTL	±24	50	2.5	-40 to 125
74LVC1G157	Single 2-input multiplexer	1.65 - 5.5	CMOS/LVTTL	±32	50	2.2	-40 to 125
74LVC257A	Quad 2-input multiplexer (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.4	-40 to 125

## Speciality logic

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	F <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HC280	9-bit odd/even parity generator/checker	2.0 - 6.0	CMOS	±5.2	17	50		-40 to 125
74HCT280	9-bit odd/even parity generator/checker; TTL-enabled	4.5 - 5.5	TTL	±4	18	50		-40 to 125
74HC688	8-bit magnitude comparator	2.0 - 6.0	CMOS	±5.2	17	50		-40 to 125
74HCT688	8-bit magnitude comparator; TTL-enabled	4.5 - 5.5	TTL	±4	17	50		-40 to 125
74HC85	4-bit magnitude comparator	2.0 - 6.0	CMOS	±5.2	23	50		-40 to 125
74HCT85	4-bit magnitude comparator; TTL-enabled	4.5 - 5.5	TTL	±4	26	50		-40 to 125
74HC4046A	Phase-locked loop with VCO	3.0 - 6.0	CMOS	±5.2	18	50	21	-40 to 125
74HCT4046A	Phase-locked loop with VCO; TTL-enabled	4.5 - 5.5	TTL	±4	23	50	19	-40 to 125
HEF4046B	Phase-locked loop with VCO	3.0 - 15.0	CMOS	±2.4		50	2.7	-40 to 125

## Specialty logic - Multivibrators

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
74AHC123A	Dual retriggerable monostable multivibrator with reset	2.0 - 5.5	CMOS	±8	5.1	50	-40 to 125
74AHCT123A	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	-40 to 125
74HC123	Dual retriggerable monostable multivibrator with reset	2.0 - 6.0	CMOS	±7.8	9.0	50	-40 to 125
74HCT123	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±4	26	50	-40 to 125
74HCT221	dual non-retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±4	32	50	-40 to 125
74HC423	Dual retriggerable monostable multivibrator with reset	2.0 - 6.0	CMOS	±5.2	23	50	-40 to 125
74HC4538	Dual retriggerable precision monostable multivibrator	2.0 - 6.0	CMOS	±5.2	27	50	-40 to 125
74HCT4538	Dual retriggerable precision monostable multivibrator; TTL-enabled	4.5 - 5.5	TTL	±4	30	50	-40 to 125
74LV123	Dual retriggerable monostable multivibrator with reset	1.0 - 5.5	TTL	±12	20	50	-40 to 125
74LVC1G123	Single retriggerable monostable multivibrator	1.65 - 5.5	CMOS/LVTTL	±32	3.5	50	-40 to 125
HEF4047B	Monostable/astable multivibrator	3.0 - 15	CMOS	±2.4	50	50	-40 to 85
HEF4528B	Dual retriggerable monostable multivibrator with reset	3.0 - 15	CMOS	±2.4	40	50	-40 to 85
HEF4538B	Dual retriggerable precision monostable multivibrator	3.0 - 15	CMOS	±2.4	60	50	-40 to 85

## Voltage translators (level-shifters)

### Uni-directional

Type number	Description	V <sub>CC(A)</sub> (V)	V <sub>CC(B)</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
74AUP1T00	Single supply 2-input voltage-translating NAND gate	2.3 - 3.6	n.a.	CMOS	±4	3.8	15	1	-40 to 125
74AUP1T02	Single supply 2-input voltage-translating NOR gate	2.3 - 3.6	n.a.	CMOS	±4	3.8	15	1	-40 to 125
74AUP1T04	Single supply voltage-translating inverter	2.3 - 3.6	n.a.	CMOS	±4	3.7	15	1	-40 to 125
74AUP1T08	Single supply 2-input voltage-translating AND gate	2.3 - 3.6	n.a.	CMOS	±4	3.8	15	1	-40 to 125
74AUP1T14	Single supply voltage-translating inverter	2.3 - 3.6	n.a.	CMOS	±4	3.7	15	1	-40 to 125
74AUP1T17	Single supply voltage-translating buffer	2.3 - 3.6	n.a.	CMOS	±4	3.7	15	1	-40 to 125
74AUP1T32	Single supply 2-input voltage-translating OR gate	2.3 - 3.6	n.a.	CMOS	±4	3.7	15	1	-40 to 125
74AUP1T34	Single dual-supply translating buffer	1.1 - 3.6	n.a.	CMOS	±4	5.4	15	1	-40 to 125
74AUP1T45	Single dual-supply voltage-translating transceiver (3-state)	1.1 - 3.6	1.1 - 3.6	CMOS	±4	7.1	15	1	-40 to 125
74AUP1T50	Single supply voltage-translating buffer	2.3 - 3.6	n.a.	CMOS	±4	3.7	15	1	-40 to 125
74AUP1T57	Configurable gate with voltage-level translation	2.3 - 3.6	n.a.	CMOS	±4	3.9	15	1	-40 to 125
74AUP1T58	Configurable gate with voltage-level translation	2.3 - 3.6	n.a.	CMOS	±4	3.9	15	1	-40 to 125
74AUP1T86	Single supply 2-input voltage-translating XOR gate	2.3 - 3.6	n.a.	CMOS	±4	3.9	15	1	-40 to 125
74AUP1T87	Single supply 2-input voltage-translating XNOR gate	2.3 - 3.6	n.a.	CMOS	±4	4	15	1	-40 to 125
74AUP1T97	Configurable gate with voltage-level translation	2.3 - 3.6	n.a.	CMOS	±4	3.9	15	1	-40 to 125
74AUP1T98	Configurable gate with voltage-level translation	2.3 - 3.6	n.a.	CMOS	±4	3.9	15	1	-40 to 125
74AVC1T8128	Single dual-supply translating 2-input NOR with enable	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	4.9	15	1	-40 to 125
74AVC1T8832	Single dual-supply translating 2-input OR with strobe	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.4	15	1	-40 to 125
74AVC1T1004	1-to-4 fan out buffer	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	4.9	15	1	-40 to 125
74AVC1T1022	1-to-4 fan out buffer	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	4.0	30	1	-40 to 125
74AVC4T3144	4-bit dual-supply voltage-translating buffer (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	4.6	15	4	-40 to 125
74LV1T00	2-input single supply translating NAND gate	1.6 - 5.5	n.a.	CMOS	±8	6.4	15	1	-40 to 125
74LV1T02	2-input single supply translating NOR gate	1.6 - 5.5	n.a.	CMOS	±8	6.6	15	1	-40 to 125
74LV1T04	Single supply translating inverter	1.6 - 5.5	n.a.	CMOS	±8	6.2	15	1	-40 to 125
74LV1T08	2-input single supply translating AND gate	1.6 - 5.5	n.a.	CMOS	±8	6.5	15	1	-40 to 125
74LV1T32	2-input single supply translating OR gate	1.6 - 5.5	n.a.	CMOS	±8	6.6	15	1	-40 to 125
74LV1T34	Single supply translating buffer	1.6 - 5.5	n.a.	CMOS	±8	6.3	15	1	-40 to 125
74LV1T86	2-input single supply translating X-OR gate	1.6 - 5.5	n.a.	CMOS	±8	7.3	15	1	-40 to 125
74LV1T87	2-input single supply translating X-NOR gate	1.6 - 5.5	n.a.	CMOS	±8	7.3	15	1	-40 to 125
74LV1T125	Single supply translating buffer (3-state)	1.6 - 5.5	n.a.	CMOS	±8	6.5	15	1	-40 to 125
74LV1T126	Single supply translating buffer (3-state)	1.6 - 5.5	n.a.	CMOS	±8	6.5	15	1	-40 to 125
74LVC4T3144	4-bit dual supply translating buffer; 3-state	1.2 - 5.5	1.2 - 5.5	CMOS	±24	13.2	15	4	-40 to 125
74LVC8T595	Dual supply 8-bit serial-in/serial-out or parallel-out shift register (3-state)	1.1 - 5.5	1.1 - 5.5	CMOS/ LVTTTL	±24	4.1	15	8	-40 to 125
HEF4104B	Quad low-to-high voltage translator (3-state)	3.0 - 15	3.0 - 15	CMOS	±2.4	170	50	16	-40 to 85

## Direction controlled

Type number	Description	V <sub>CC(A)</sub> (V)	V <sub>CC(B)</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
74ALVC164245	16-bit dual-supply voltage-translating transceiver (3-state)	1.5 - 5.5	1.5 - 3.6	CMOS/ LVTTTL	±24	2.9	50	16	-40 to 85
74AVC1T45	Single dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	1	-40 to 125
74AVC2T245	Dual-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	2	-40 to 125
74AVC2T45	Dual-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	2	-40 to 125
74AVC4T245	4-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	4	-40 to 125
74AVC4T774	4-bit dual-supply voltage-translating bus transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	4	-40 to 125
74AVC4TD245	4-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	4	-40 to 125
74AVC8T245	8-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	8	-40 to 125
74AVC16T245	16-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	16	-40 to 125
74AVC20T245	20-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	20	-40 to 125
74AVCH1T45	Single dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	1	-40 to 125
74AVCH2T45	Dual-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	2	-40 to 125
74AVCH4T245	4-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	4	-40 to 125
74AVCH8T245	8-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	8	-40 to 125
74AVCH16T245	16-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	16	-40 to 125
74AVCH20T245	20-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	15	20	-40 to 125
AXP1T34	1-bit dual supply translating buffer (3-state)	0.9 - 5.5	0.9 - 5.5	CMOS	±12	9	5	1	-40 to 125
74AXP1T45	1-bit dual supply translating transceiver; 3-state	0.9 - 5.5	0.9 - 5.5	CMOS	±12	9.0	5	1	-40 to 125
74AXP2T45	2-bit dual supply translating transceiver; 3-state	0.9 - 5.5	0.9 - 5.5	CMOS	±12	9.0	5	2	-40 to 125
74AXP4T245	4-bit dual supply translating transceiver; 3-state	0.9 - 5.5	0.9 - 5.5	CMOS	±12	9.0	5	4	-40 to 125
74AXP8T245	8-bit dual supply translating transceiver; 3-state	0.9 - 5.5	0.9 - 5.5	CMOS	±12	9.0	5	8	-40 to 125
74LVC1T45	Single dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	2.5	50	1	-40 to 125
74LVC2T45	Dual-bit dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	2.5	50	2	-40 to 125
74LVC4245A	8-bit dual-supply voltage-translating transceiver (3-state)	1.5 - 5.5	1.5 - 3.6	CMOS/ LVTTTL	±24	3.5	50	8	-40 to 125
74LVC8T245	8-bit dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	3.5	50	8	-40 to 125
74LVCH1T45	Single dual-supply voltage-translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	2.5	50	1	-40 to 125
74LVCH2T45	Dual-bit dual-supply voltage-translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	2.5	50	2	-40 to 125
74LVCH8T245	8-bit dual-supply voltage-translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	3.5	50	8	-40 to 125

## Voltage translators (level-shifters)

### Auto direction (Autosense)

Type number	Description	V <sub>CC(A)</sub> (V)	V <sub>CC(B)</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
LSF0101	1-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+64	0.7	30	1	-40 to 125
LSF0102	2-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+64	0.7	30	2	-40 to 125
LSF0202	2-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+ 64	0.7	30	2	-40 to 125
LSF0204	4-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+64	0.6	30	4	-40 to 125
LSF0108	8-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+64	1.4	30	8	-40 to 125
NCA9306	2-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+64	0.4	30	2	-40 to 125
NXB0101	1-bit Dual supply translating transceiver; auto direction sensing (3-state)	1.2 - 3.6	1.65 - 5.5	CMOS	± 0.02	5.5	15	1	-40 to 125
NXB0102	2-bit Dual supply translating transceiver; auto direction sensing (3-state)	1.2 - 3.6	1.65 - 5.5	CMOS	± 0.02	5.5	15	2	-40 to 125
NXB0104	4-bit Dual supply translating transceiver; auto direction sensing (3-state)	1.2 - 3.6	1.65 - 5.5	CMOS	± 0.02	5.5	15	4	-40 to 125
NXB0106	6-bit Dual supply translating transceiver; auto direction sensing (3-state)	1.2 - 3.6	1.65 - 5.5	CMOS	± 0.02	5.5	15	6	-40 to 125
NXB0108	8-bit Dual supply translating transceiver; auto direction sensing (3-state)	1.2 - 3.6	1.65 - 5.5	CMOS	± 0.02	5.5	15	8	-40 to 125
NXS0101	1-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	CMOS	- 0.02 / 1.0	4.7	15	1	-40 to 125
NXS0102	2-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	CMOS	- 0.02 / 1.0	5.2	15	2	-40 to 125
NXS0104	4-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	CMOS	- 0.02 / 1.0	6	15	4	-40 to 125
NXS0108	8-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	CMOS	- 0.02 / 1.0	6.3	15	8	-40 to 125

### Application specific

Type number	Description	V <sub>CC(A)</sub> (V)	V <sub>CC(B)</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
NXS0506	SD 3.0-compatible memory card integrated auto-direction control and level translator with EMI filter and ESD protection	1.1 - 1.95	1.7 - 3.6	CMOS	± 2	2.6	15	6	-40 to 85
NXT4556	SIM card interface level translator without enable pin	1.08 - 1.98	1.62 - 3.3	CMOS	± 1	20	50	3	-40 to 85
NXT4556A	SIM card interface level translator without enable pin	1.08 - 1.98	1.62 - 3.3	CMOS	± 1	20	50	3	-40 to 85
NXT4557	SIM card interface level translator with enable pin	1.08 - 1.98	1.62 - 3.3	CMOS	± 1	20	50	3	-40 to 85
NXT4558	SIM card interface level translator with enable pin	1.08 - 1.98	1.62 - 3.3	CMOS	± 1	20	50	3	-40 to 85
NXT4559	SIM card interface level translator with enable pin	1.08 - 1.98	1.62 - 3.3	CMOS	± 1	20	50	3	-40 to 85

## Analog switches

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	R <sub>ON</sub> (Ω)	R <sub>ON(FLAT)</sub> (Ω)	f <sub>(-3dB)</sub> (MHz)	T <sub>HD</sub> (%)	X <sub>talk</sub> (dB)	T <sub>amb</sub> (°C)
74AHC1G66	Single-pole, single-throw analog switch	2.0 - 5.5	CMOS	40	14	280	0.015		-40 to 125
74AHCT1G66	Single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	40	14	280	0.015		-40 to 125
74HC1G66	Single-pole, single-throw analog switch	2.0 - 9.0	CMOS	105	23	200	0.02		-40 to 125
74HC2G66	Dual single-pole, single-throw analog switch	2.0 - 9.0	CMOS	105	23	200	0.02	-60	-40 to 125
74HC4051	Single-pole, octal-throw analog switch	2.0 - 10	CMOS	200	20	180	0.02		-40 to 125
74HC4052	Dual single-pole, quad-throw analog switch	2.0 - 10	CMOS	200	20	180	0.02	-60	-40 to 125
74HC4053	Triple single-pole, double-throw analog switch	2.0 - 10	CMOS	200	20	170	0.02	-60	-40 to 125
74HC4066	Quad single-pole, single-throw analog switch	2.0 - 10	CMOS	105	23	200	0.02	-60	-40 to 125
74HC4067	Single-pole, 16-throw analog switch	2.0 - 10	CMOS	200	25	100	0.02		-40 to 125
74HC4316	Quad single-pole, single-throw analog switch with translation	2.0 - 10	CMOS	300	80	160	0.4	-60	-40 to 125
74HC4351	Single-pole, octal-throw analog switch with latch	2.0 - 10	CMOS	200	20	180	0.02		-40 to 125
74HC4851	Single-pole, octal-throw analog switch	2.0 - 10	CMOS	220					-40 to 125
74HC4852	Dual single-pole, quad-throw analog switch; TTL-enabled	2.0 - 10	CMOS	220					-40 to 125
74HCT1G66	Single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	118	23	180	0.04		-40 to 125
74HCT2G66	Dual single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	118	23	180	0.04	-60	-40 to 125
74HCT4051	Single-pole, octal-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	20	170	0.04		-40 to 125
74HCT4052	Dual single-pole, quad-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	20	170	0.04	-60	-40 to 125
74HCT4053	Triple single-pole, double-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	20	160	0.04		-40 to 125
74HCT4066	Quad single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	118	23	180	0.04	-60	-40 to 125
74HCT4067	Single-pole, 16-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	25	90	0.04		-40 to 125
74HCT4316	Quad single-pole, single-throw analog switch with translation; TTL-enabled	4.5 - 5.5	TTL	400	50	150	0.8	-60	-40 to 125
74HCT4351	Single-pole, octal-throw analog switch with latch; TTL-enabled	4.5 - 5.5	TTL	225	20	170	0.04		-40 to 125
74HCT4851	Single-pole, octal-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	240					-40 to 125
74HCT4852	Dual single-pole, quad-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	240					-40 to 125
74LV4051	Single-pole, octal-throw analog switch	1.0 - 6.0	TTL	135	35	200	0.4	-60	-40 to 125
74LV4052	Dual single-pole, quad-throw analog switch	1.0 - 6.0	TTL	125	15	180	0.4	-60	-40 to 125
74LV4053	Triple single-pole, double-throw analog switch	1.0 - 6.0	TTL	150	30	180	0.4	-60	-40 to 125
74LV4066	Quad single-pole, single-throw analog switch	1.0 - 6.0	TTL	50	3.0	180	0.02	-60	-40 to 125
74LVC1G3157	Single-pole, double-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	300	0.078		-40 to 125
74LVC1G384	Single-pole, single-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	440	0.001		-40 to 125
74LVC1G53	Single-pole, double-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	300	0.078		-40 to 125
74LVC1G66	Single-pole, single-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	440	0.001		-40 to 125
74LVC2G3157	Dual single-pole, double-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	300	0.078	-54	-40 to 125
74LVC2G53	Single-pole, double-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	300	0.078		-40 to 125
74LVC2G66	Dual single-pole, single-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	440	0.005	-56	-40 to 125
74LVC4066	Quad single-pole, single-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	440	0.005	-58	-40 to 125
74LVCV2G66	Dual single-pole, single-throw analog switch; overvoltage tolerant	2.3 - 5.5	CMOS/LVTTL	15	3.0	210	0.01	-55	-40 to 125
HEF4016B	Quad single-pole, single-throw analog switch	3.0 - 15	CMOS	350	65	90	0.04	-50	-40 to 85
HEF4051B	Single-pole, octal-throw analog switch	3.0 - 15	CMOS	175	30	70	0.04	-50	-40 to 85
HEF4052B	Dual single-pole, quad-throw analog switch	3.0 - 15	CMOS	175	30	70	0.04	-50	-40 to 85
HEF4053B	Triple single-pole, double-throw analog switch	3.0 - 15	CMOS	175	30	70	0.04	-50	-40 to 85
HEF4066B	Quad single-pole, single-throw analog switch	3.0 - 15	CMOS	175	20	90	0.04	-50	-40 to 85
HEF4067B	Single-pole, 16-throw analog switch	3.0 - 15	CMOS	175	20	13	0.04	-50	-40 to 85
XS3A1T5157	Low-ohmic single-pole double-throw analog switch	1.4 - 4.3	CMOS/LVTTL	0.5	0.2	40	0.03	-90	-40 to 125
XS3A1T3157	Low-ohmic single-pole double-throw analog switch	1.4 - 4.3	CMOS/LVTTL	0.5	0.2	40	0.03	-90	-40 to 125
XS3A2467	Dual Low-ohmic dual-pole dual-throw Analog Switch	1.4 - 4.3	CMOS/LVTTL	0.5	0.2	40	0.04	-90	-40 to 125
XS3A4051	Low-ohmic single-pole octal-throw Analog Switch	1.4 - 4.3	CMOS/LVTTL	0.5	0.2	15	0.04	-90	-40 to 125
XS3A4052	Low-ohmic dual-pole quad-throw Analog Switch	1.4 - 4.3	CMOS/LVTTL	0.5	0.13	25	0.04	-90	-40 to 125
XS3A4053	Triple Low-ohmic single-pole dual-throw Analog Switch	1.4 - 4.3	CMOS/LVTTL	0.5	0.13	40	0.04	-90	-40 to 125
XS5A1T4157	Single-pole double-throw analog switch	4.5 - 5.5	CMOS/LVTTL	4	0.9	190	-	-76	-40 to 125
NMUX1237	Single-pole double-throw analog switch; overshoot control	1.08 - 5.5	CMOS	4	1	196	-	-77	-40 to 125
NMUX1308	Single-pole octal-throw analog switch; injection current control	1.5 - 5.5	CMOS	60	-	325	-	-105	-40 to 125
NMUX1309	Dual single-pole quad-throw analog switch; injection current control	1.5 - 5.5	CMOS	60	-	380	-	-105	-40 to 125

## Bus switches

Type number	Description	V <sub>CC</sub> (V)	V <sub>PASS</sub> (V)	Logic switching levels	R <sub>ON</sub> (Ω)	f <sub>(-3dB)</sub> (MHz)	Number of bits	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)
74CBTLV1G125	Single bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	1	0.2	-40 to 125
74CBTLV3125	Quad bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	4	0.2	-40 to 125
74CBTLV3126	Quad bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	4	0.2	-40 to 125
74CBTLV3244	Octal bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	8	0.2	-40 to 125
74CBTLV3245	Octal bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	8	0.2	-40 to 125
74CBTLV3306	2-bit bus switch	2.3 - 3.6	5.0	CMOS/LVTTL	7	400	2	0.2	-40 to 125
74CBTLV3384	10-bit bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	10	0.2	-40 to 125
74CBTLV3861	10-bit bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	10	0.2	-40 to 125
74CBTLVD3244	Octal bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	8	0.2	-40 to 125
74CBTLVD3245	Octal bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	8	0.2	-40 to 125
74CBTLVD3384	10-bit bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	10	0.2	-40 to 125
74CBTLVD3861	10-bit bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	10	0.2	-40 to 125
CBT3306	Dual bus switch	4.5 - 5.5	3.9	TTL	7	300	2	0.25	-40 to 85
CBT3384	10-bit bus switch	4.5 - 5.5	3.9	TTL	7	300	10	0.25	-40 to 85
CBTD3306	Dual bus switch level translator	4.5 - 5.5	3.3	TTL	7	300	2	0.25	-40 to 85
CBTD3384	10-bit bus switch level translator	4.5 - 5.5	3.3	TTL	7	300	10	0.25	-40 to 85

## Multiplexer / Demultiplexer

Type number	Description	V <sub>CC</sub> (V)	V <sub>PASS</sub> (V)	Logic switching levels	R <sub>ON</sub> (Ω)	f <sub>(-3dB)</sub> (MHz)	Number of bits	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)
74CB3Q3253	Dual 1-of-4 FET multiplexer/demultiplexer with charge pump	2.3 - 3.6	VCC	CMOS/LVTTL	4	500	2	0.2	-40 to 85
74CB3Q3257	Quad 1-of-2 FET multiplexer/demultiplexer with charge pump	2.3 - 3.6	VCC	CMOS/LVTTL	4	500	4	0.2	-40 to 85
74CBTLV3253	Dual 4:1 mux/demux	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	2	0.2	-40 to 125
74CBTLV3257	Quad 2:1 mux/demux	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	4	0.2	-40 to 125
CBT3251	8:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	8	0.25	-40 to 85
CBT3253A	Dual 4:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	2	0.25	-40 to 85
CBT3257A	Quad 2:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	4	0.25	-40 to 85

## I<sup>2</sup>C General Purpose I/O (GPIO)

Type number	Description	V <sub>cc</sub> (A) (V)	V <sub>cc</sub> (B) (V)	Logic switching levels	Power dissipation considerations	Output drive capability (mA)	Number of bits	T <sub>amb</sub> (°C)
NCA9535	Low-voltage 16-Bit I <sup>2</sup> C and SMBus low-power I/O expander with interrupt output and configuration registers	1.65 - 5.5	n.a.	CMOS	low	- 10 / 25	16	-40 to 85
NCA9539	Low-voltage 16-Bit I <sup>2</sup> C and SMBus low-power I/O expander with interrupt output, reset pin and configuration registers	1.65 - 5.5	n.a.	CMOS	low	- 10 / 25	16	-40 to 85
NCA9555	Low-voltage 16-bit I <sup>2</sup> C and SMBus I/O expander with interrupt output and configuration registers	1.65 - 5.5	n.a.	CMOS	low	- 10 / 25	16	-40 to 85
NCA9595	Low voltage 16-Bit I <sup>2</sup> C and SMBus I/O expander with interrupt output, configuration registers and programmable pull-up resistors	1.65 - 5.5	n.a.	CMOS	low	- 10 / 25	16	-40 to 85
PCA9535	Low-voltage 16-bit I <sup>2</sup> C and SMBus low-power I/O expander with interrupt output and configuration registers	2.3 - 5.5	n.a.	CMOS	low	- 10 / 25	16	-40 to 85
PCA9539	Low-voltage 16-bit I <sup>2</sup> C and SMBus low-power I/O expander with interrupt output, reset pin and configuration registers	2.3 - 5.5	n.a.	CMOS	low	- 10 / 25	16	-40 to 85
PCA9555	Low-voltage 16-bit I <sup>2</sup> C and SMBus I/O expander with interrupt output and configuration registers	2.3 - 5.5	n.a.	CMOS	low	- 10 / 25	16	-40 to 85

## IC's - Battery booster

Type number	Description	Features								Package (suffix)
		V <sub>VBT</sub> (V)	I <sub>O</sub> ACT mode (mA)	I <sub>CH</sub> (mA)	I <sub>Q</sub> standby mode (nA)	Include interface	Capacitor Balance pin	Auto Start mode	T <sub>amb</sub> (°C)	SOT763-1 (BQ)
NBM5100A	Lithium primary battery life booster with adaptive power optimization	2.4 - 3.6	150	2 / 16	50	I <sup>2</sup> C	Y	Y	-40~85	•
NBM5100B	Lithium primary battery life booster with adaptive power optimization	2.4 - 3.6	150	2 / 16	50	SPI	Y	N	-40~85	•
NBM7100A	Lithium primary battery life booster with adaptive power optimization	2.4 - 3.6	200	2 / 16	50	I <sup>2</sup> C	N	Y	-40~85	•
NBM7100B	Lithium primary battery life booster with adaptive power optimization	2.4 - 3.6	200	2 / 16	50	SPI	N	N	-40~85	•
NBM7100A-Q100	Lithium primary battery life booster with adaptive power optimization	2.4 - 3.6	200	2 / 16	50	I <sup>2</sup> C	N	Y	-40~85	•
NBM7100B-Q100	Lithium primary battery life booster with adaptive power optimization	2.4 - 3.6	200	2/16	50	I <sup>2</sup> C	N	N	-40~85	•

## Power management IC's - Energy harvesting

Type number	Description	Features							Package (suffix)
		V <sub>BAT(min)</sub> (V)	V <sub>IN</sub> (V)	I <sub>STBY(min)</sub> / I <sub>STBY</sub> (max) (nA)	P <sub>IN(min)</sub> / P <sub>IN(max)</sub> (mW)	f <sub>CONV(min)</sub> / f <sub>CONV(max)</sub> (MHz)	t <sub>MPPT</sub> (s)	T <sub>amb</sub> (°C)	SOT8076-1 (BY)
NEH2000	Energy harvesting PMIC	2.5	1.65	400 / 1150	0.035 / 2	0.05 / 1.8	0.7	-40~85	•

## LCD bias

Type number	Description	Features										Package (suffix)
		V <sub>in</sub> range	Pos Output range	Neg Output range	I <sub>Q</sub> Standby	I <sub>Q</sub> Shutdown	Output Accuracy	Maximum I <sub>out</sub>	I <sup>2</sup> C	Efficiency	Protection	SOT8076-1 (BY)
NEX10000UB	80mA dual channel LCD bias	2.7V-5V	4V-6V (0.1V Step)	4V-6V (0.1V Step)	0.73mA	0.5uA	1%	80mA	Yes	86% I <sub>out</sub> =40mA	UVLO/OTSD/OCP	CSP 1.155x1.955-15
NEX10000AUB	120mA dual channel LCD bias	2.7V-5V	4V-6.5V (0.1V Step)	4V-6.5V (0.1V Step)	0.73mA	0.5uA	1%	120mA	Yes	86% I <sub>out</sub> =40mA	UVLO/OTSD/OCP	CSP 1.155x1.955-16
NEX10001UB	220mA dual channel LCD bias	2.7V-5V	4V-6.5V (0.1V Step)	-4V- -6.5V (0.1V Step)	0.73mA	0.5uA	1%	220mA	Yes	85% I <sub>out</sub> =80mA	UVLO/OTSD/OCP	CSP 1.155x1.955-15

Low I<sub>Q</sub> buck converter

Type number	Description	Features						Package (suffix)
		V <sub>in</sub> range (V) <sub>q</sub>	V <sub>out</sub> range (V)	I <sub>out(max)</sub> (A)	I <sub>Q</sub>	F <sub>sw</sub> (MHz)	Package	Package Size (L x W x H)mm
NEX30606UAZ	1.8 V to 5.0V, 600 mA, 220 nA quiescent current, step-down converter	1.8-5	0.7 - 3.3	0.6	220nA	1.5	CSP-6	1.09 mm x 0.74 mm x 0.35mm

## Half bridge gate driver

Type number	Description	Features									Package (suffix)
		Power supply range / VDD	Bootstrap supply voltage (max.)	Driving capability Source/ Sink	Input signal Logic level	Switching frequency (max.)	Rise/ Fall time (1000pF load)	Propagation Delay	Turn ON/ OFF delay matching	Ambient temperature range TA	HVSSOP-8
NGD4300D	120V, 4A peak, high performance half bridge gate driver	8-17V	120V	5A/4A	TTL/CMOS	1MHz	4ns/3.5ns	13ns	1ns/1ns	-40 °C to 125 °C	SO-8
NGD4300GC	120V, 4A peak, high performance half bridge gate driver	8-17V	120V	5A/4A	TTL/CMOS	1MHz	4ns/3.5ns	13ns	1ns/1ns	-40 °C to 125 °C	HWSON-8
NGD4300DD	120V, 4A peak, high performance half bridge gate driver	8-17V	120V	5A/4A	TTL/CMOS	1MHz	4ns/3.5ns	13ns	1ns/1ns	-40 °C to 125 °C	HSO-8
NGD4300DD-Q100	120V, 4A peak, automotive high performance half bridge gate driver	8-17V	120V	5A/4A	TTL/CMOS	1MHz	4ns/3.5ns	13ns	1ns/1ns	-40 °C to 125 °C	HSO-8

## PWM controller

Type number	Mode	Max $F_{sw}$ (kHz)	GATE DRIVE High Level (V)	$V_{cc}$ range (V)	Jitter	Standby Power (mW)	Line compensation	Package	Protection
NEX80601DA	QR/DCM/PFM/BM	130	11	10-90	Yes	<75	Yes, by OPP	TSOT23-6FC	Line BNI/BNO Vout OV/UV, VCC OV/UV, SCP, SR short, CS open/short, Int/Ext OTP
NEX80611DA	QR/DCM/PFM/BM	130	5.8	10-90	Yes	<75	Yes, by OPP	TSOT23-6FC	Line BNI/BNO Vout OV/UV, VCC OV/UV, SCP, SR short, CS open/short, Int/Ext OTP
NEX80602DA	QR/DCM/PFM/BM	170	11	10-90	Yes	<75	Yes, by OPP	TSOT23-6FC	Line BNI/BNO Vout OV/UV, VCC OV/UV, SCP, SR short, CS open/short, Int/Ext OTP
NEX80605DA	QR/DCM/PFM/BM	130	11	10-90	Yes	<75	Yes, by OCP	TSOT23-6FC	Line BNI/BNO Vout OV/UV, VCC OV/UV, SCP, SR short, CS open/short, Int/Ext OTP
NEX80801DA	CCM/QR/PFM/BM	65	11	10-90	Yes	<75	Yes, by OPP	TSOT23-6FC	Line BNI/BNO Vout OV/UV, VCC OV/UV, SCP, SR short, CS open/short, Int/Ext OTP
NEX80805DA	CCM/QR/PFM/BM	65	11	10-90	Yes	<75	Yes, by OCP	TSOT23-6FC	Line BNI/BNO Vout OV/UV, VCC OV/UV, SCP, SR short, CS open/short, Int/Ext OTP
NEX80806DA	CCM/QR/PFM/BM	65	11	10-90	Yes	<75	Yes, by OCP	TSOT23-6FC	Line BNI/BNO Vout OV/UV, VCC OV/UV, SCP, SR short, CS open/short, Int/Ext OTP
NEX80808DA	CCM/QR/PFM/BM	65	11	10-90	Yes	<75	Yes, by OPP	TSOT23-6FC	Line BNI/BNO Vout OV/UV, VCC OV/UV, SCP, SR short, CS open/short, Int/Ext OTP
NEX80809DA	CCM/QR/PFM/BM	85	11	10-90	Yes	<75	Yes, by OPP	TSOT23-6FC	Line BNI/BNO Vout OV/UV, VCC OV/UV, SCP, SR short, CS open/short, Int/Ext OTP

## SR controller

Type number	Description	Features							
		Operating Mode	$BV_{dss}$ (V)	Maximum Frequency (kHz)	$V_{cc}$ Reg (V)	DRV Sink Current (A)	Minimum Turn-on Time (us)	Turn-off Propagation (ns)	Package
NEX81801DA	Adaptive Synchronous Rectifier (SR) Controller	CCM/QR/DCM	120	400	6~9	4	1.0~2.0	10	TSOT23-6FC
NEX81802DA	Adaptive Synchronous Rectifier (SR) Controller	CCM/QR/DCM	120	800	6~9	4	0.5~1.5	10	TSOT23-6FC

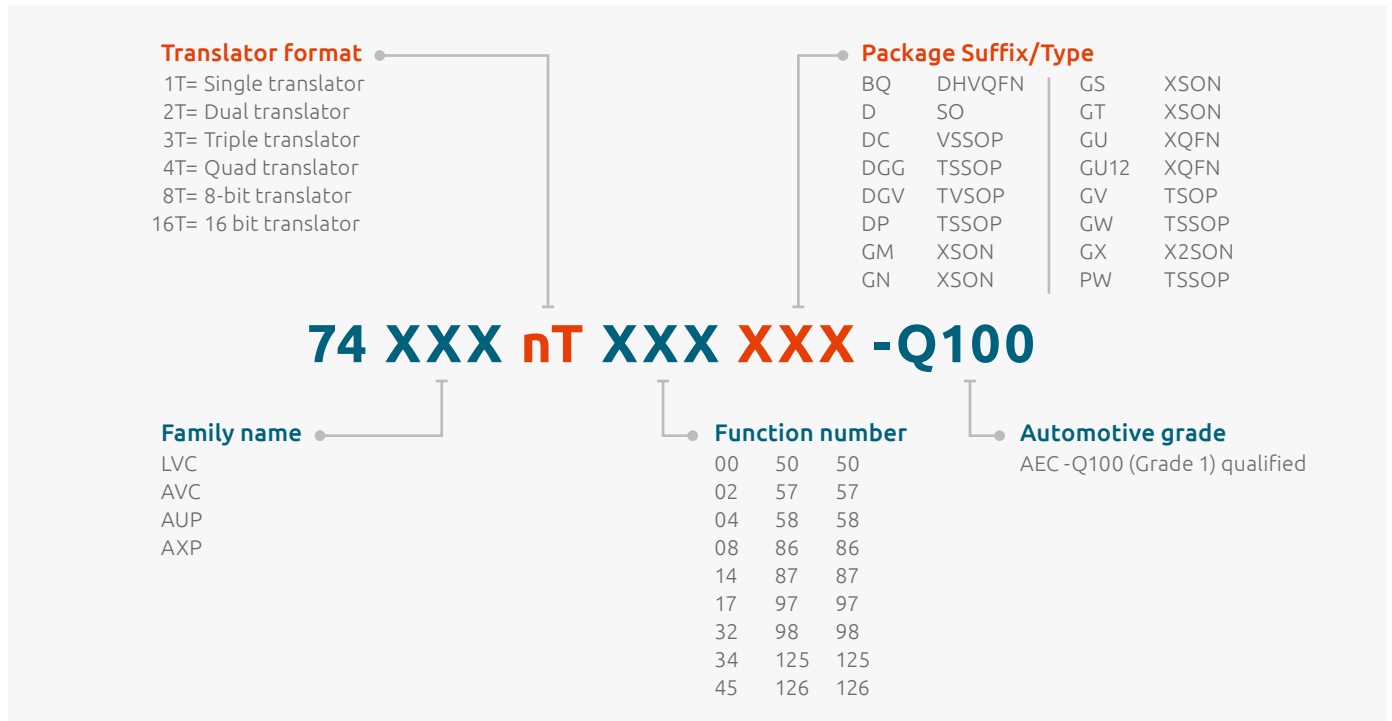
## Battery management IC's - Battery booster

Type number	Description	Features											Package (suffix)	
		Input voltage range	Output voltage	Output current	Iq (typ.)	Shut-down current (typ.)	Dropout voltage (typ.)	PSRR (dB) Vr=0.5 Vpp, fr=100Hz	Enable (Y/N)	PG (Y/N)	Output cap. (min)	Protection	Ambient temperature range TA	HVSSOP-8
NEX90530APA-Q100	300mA, 40V low Iq (5uA) low-dropout regulator with PG	3-40V (45V transient)	3.3V	300mA	5uA	300nA	550mV@300mA	60	Y	Y	1uF	OTP/OC	-40C to 125C	HVSSOP-8
NEX90530BPA-Q100	300mA, 40V low Iq (5uA) low-dropout regulator with PG	3-40V (45V transient)	5V	300mA	5uA	300nA	550mV@300mA	60	Y	Y	1uF	OTP/OC	-40C to 125C	HVSSOP-8
NEX90230APA-Q100	300mA, 40V low Iq (5uA) low-dropout regulator	3-40V (45V transient)	3.3V	300mA	5uA	300nA	550mV@300mA	60	Y	N	1uF	OTP/OC	-40C to 125C	HVSSOP-8
NEX90230BPA-Q100	300mA, 40V low Iq (5uA) low-dropout regulator	3-40V (45V transient)	5V	300mA	5uA	300nA	550mV@300mA	60	Y	N	1uF	OTP/OC	-40C to 125C	HVSSOP-8
NEX90515APA-Q100	150mA, 40V low Iq (5uA) low-dropout regulator with PG	3-40V (45V transient)	3.3V	150mA	5uA	300nA	550mV@300mA	60	Y	Y	1uF	OTP/OC	-40C to 125C	HVSSOP-8
NEX90515BPA-Q100	150mA, 40V low Iq (5uA) low-dropout regulator with PG	3-40V (45V transient)	5V	150mA	5uA	300nA	550mV@300mA	60	Y	Y	1uF	OTP/OC	-40C to 125C	HVSSOP-8

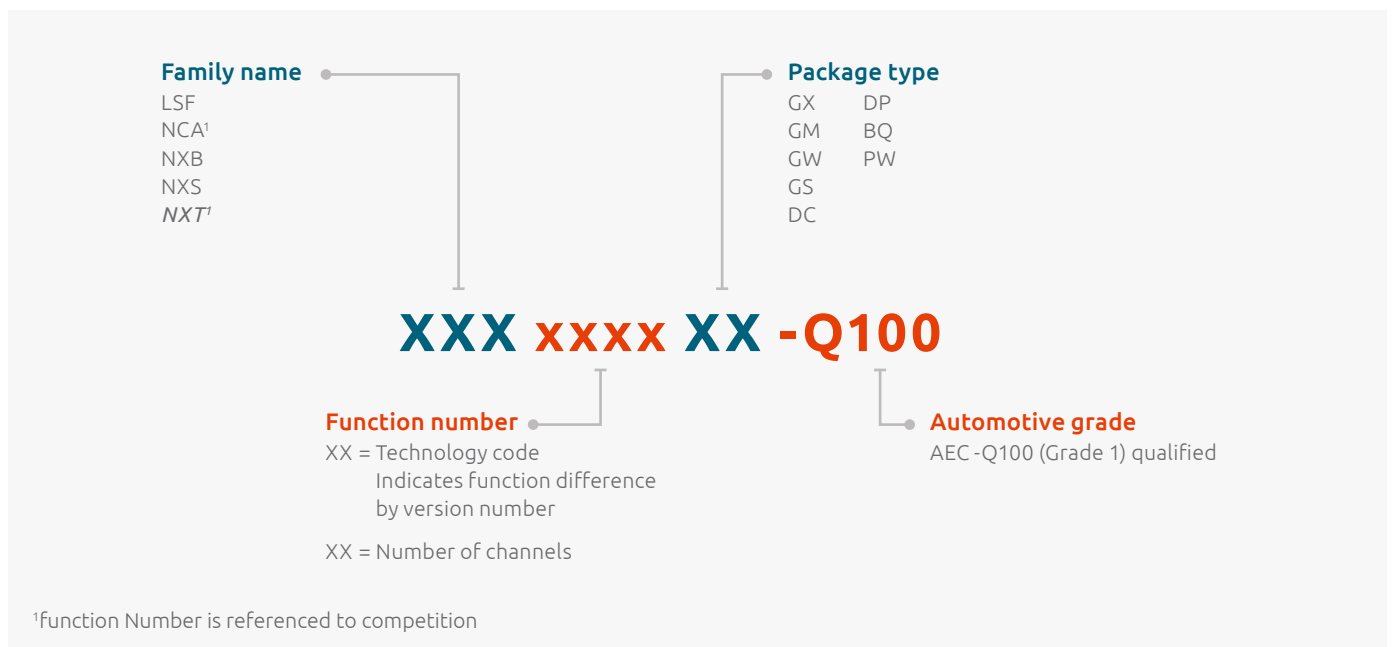
## USB PD Controller

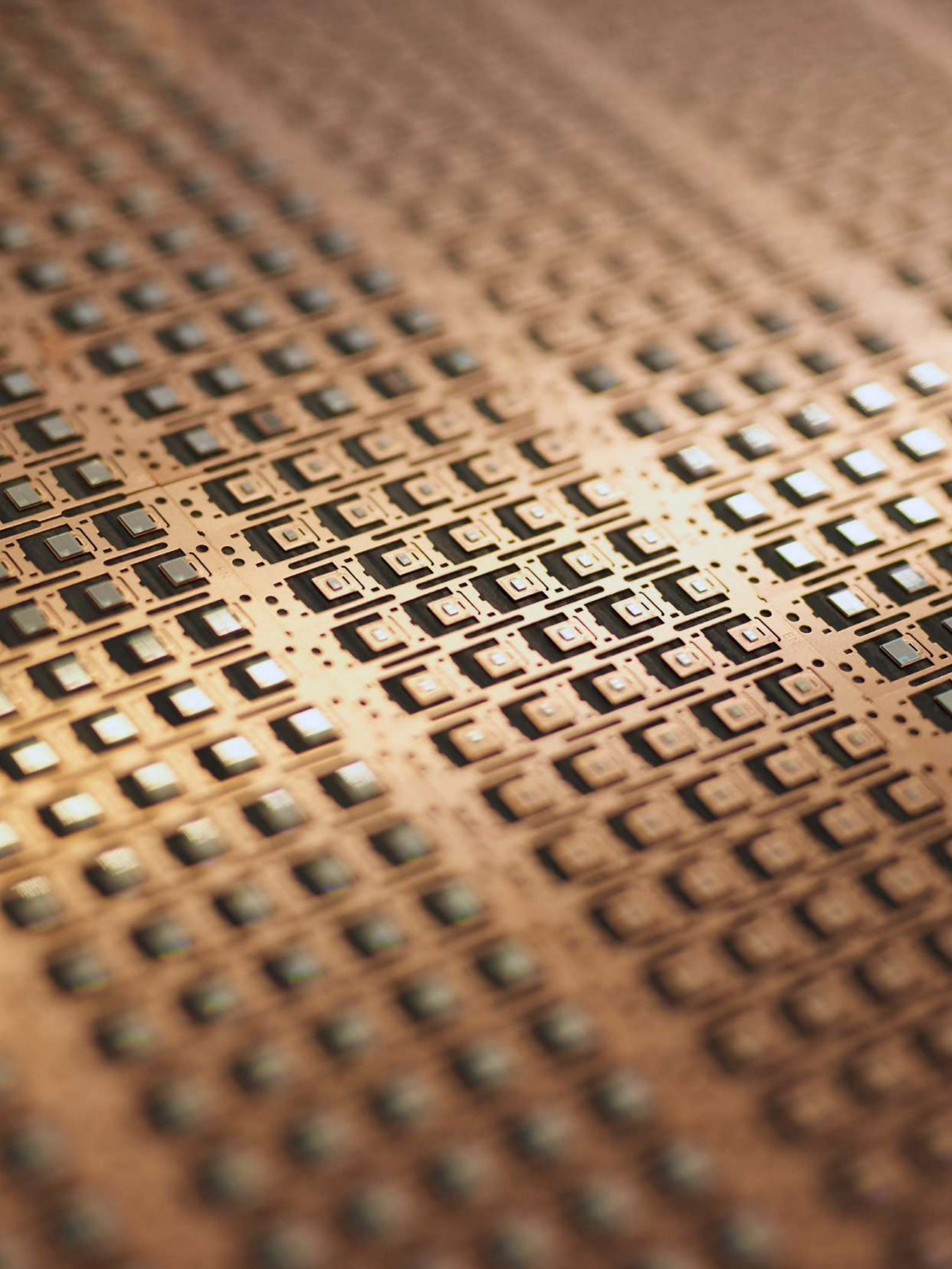
Type number	Description	Features														Package (suffix)	
		Vin range (V)	Power Level	FPDO range	PPS	EPR	AVS	Function	Power Role	External power path control	VCONN Power	BC1.2	QC2.0/3.0	UFCS	Memory	Package	Package Size(L x W x H)mm
NEX52041xxRA	Single-Port USB PD Controller for Source Application	3.15V to 23V	100W	5V-20V	Y	N	N	Type-C	Pro-vider	NFET	Y	Y	Y	Y	MTP	QFN-24	4mm x 4mm x 0.85mm
NEX52041xxRC	Single-Port USB PD Controller for Source Application	3.15V to 23V	100W	5V-20V	Y	N	N	Type-C	Pro-vider	NFET	Y	Y	Y	Y	MTP	QFN-16	4mm x 4mm x 0.85mm
NEX52080xxRA	Single-Port USB PD Controller for Source Application	3.15V to 29V	140W	5V-28V	Y	Y	Y	Type-C	Pro-vider	NFET	Y	Y	Y	Y	MTP	QFN-24	4mm x 4mm x 0.85mm
NEX52080xxRC	Single-Port USB PD Controller for Source Application	3.15V to 29V	140W	5V-28V	Y	Y	Y	Type-C	Pro-vider	NFET	Y	Y	Y	Y	MTP	QFN-16	4mm x 4mm x 0.85mm

## Translator IC's nomenclature



## Translator IC's nomenclature





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## Package details and packing methods SMD

Pins/Terminals	Package	Package body size (l x w x h) (mm)	Package dimensions inc. leads (l x w) (mm)	Package area (mm <sup>2</sup> )	Lead pitch (mm)	Package	800	1000	1500	2000	2500	3000	4000	4500	5000	8000	9000	10000	15000	20000	30000	50000	
2	DFN0603-2 (SOD972E)	0.33 x 0.63 x 0.25	0.33 x 0.63	0.21	0.4														317				
	DSN0603D-2 (SOD962D)	0.6 x 0.3 x 0.3	0.6 x 0.3	0.18	0.4													315					
	DSN0603-2 (SOD962-2)	0.6 x 0.3 x 0.3	0.6 x 0.3	0.18	0.4													315					
	DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3	0.6 x 0.3	0.18	0.4													315					
	DFN1006-2 (SOD882P-1)	1.02 x 0.62 x 0.45	1.02 x 0.62	0.632	0.6													515					
	SC-79 (SOD523)	1.2 x 0.8 x 0.6	1.6 x 0.8	1.28	1.4							115				315		135		335			
	CFP2-HP (SOD323HP)	1.3 x 2.2 x 0.68	2.65 x 1.3	3.45	1.6									115									
	DSN1608-2 (SOD964)	1.6 x 0.8 x 0.29	1.6 x 0.8	1.28	0.6													315					
	DFN1608D-2 (SOD1608)	1.6 x 0.8 x 0.37	1.6 x 0.8	1.28	0.9											315							
	DFN1610-2 (SOD1610-1)	1.6 x 1 x 0.55	1.6 x 1	1.6	1.1							515											
	SC-90 (SOD323F)	1.7 x 1.25 x 0.7	2.5 x 1.25	3.125	2.2							115						135				301	
	SOD323	1.7 x 1.25 x 0.95	2.5 x 1.25	0.3125	1.3							115						135			145		
	DSN1006-2 (SOD993)	1 x 0.6 x 0.27	1 x 0.6	0.6	0.6													315					
	DSN1006-2 (SOD993B)	1 x 0.6 x 0.27	1 x 0.6	0.6	0.6													315					
	DSN1006U-2 (SOD995)	1 x 0.6 x 0.27	1 x 0.6	0.6	0.3													315					
	DFN1006D-2 (SOD882D)	1 x 0.6 x 0.4	1 x 0.6	0.6	0.6													315					
	DFN1006-2 (SOD882-S1)	1 x 0.6 x 0.4	1 x 0.6	0.6	0.6													515					
	DFN1006BD-2 (SOD882BD)	1 x 0.6 x 0.47	1 x 0.6	0.6	0.6													315					
	DFN1006 (SOD882-2)	1 x 0.6 x 0.47	1 x 0.6	0.6	0.6													315					
	DFN1006-2 (SOD882)	1 x 0.6 x 0.48	1.0 x 0.6	0.6	0.6													303					
																		315					
	SOD123	2.675 x 1.6 x 1.15	3.6 x 1.6	5.76	3.3							115						118					
	SOD123F	2.6 x 1.6 x 1.1	3.5 x 1.6	5.6	2.8							115											
	CFP3 (SOD123W)	2.6 x 1.7 x 1	3.5 x 1.7	5.95	2.8							115											
	CFP3-HP (SOD123HP)	2.8 x 1.8 x 0.9	2.8 x 1.8	5.04	3.2																		
	LLDS; MiniMelf (SOD80C)	3.5 x 1.5	3.5 x 1.53	5.36								115						135					
	CFP5 (SOD128)	3.8 x 2.5 x 1	4.7 x 2.6	12.22	4							115											
	DPAK R2P (SOT8017)	6.16 x 6.54 x 2.29	9.98 x 6.54	65.27	4.6							118											
D2PAK R2P (SOT8018)	8.8 x 10.35 x 4.46	15.18 x 10.35	157.11	5.1		118																	
3	DFN0606-3 (SOT8001)	0.62 x 0.62 x 0.37	0.62 x 0.62	0.384	0.3												125						
	DFN0603-3 (SOT8013)	0.63 x 0.33 x 0.25	0.63 x 0.33	0.208	0.2												317						
	DSN1010-3 (SOT8007)	0.96 x 0.96 x 0.24	0.96 x 0.96	0.922	0.5										315								
	D2PAK (SOT404)	11 x 10 x 4.3	15.3 x 10	153	2.5		118																
	D2PAK (SOT404A)	11 x 10 x 4.3	15.3 x 10	153	2.5		118																
	DFN1010D-3 (SOT1215)	1.1 x 1 x 0.37	1.1 x 1	1.1	0.8										147								

## Package details and packing methods SMD

Pins/Terminals	Package	Package body size (l x w x h) (mm)	Package dimensions inc. leads (l x w) (mm)	Package area (mm <sup>2</sup> )	Lead pitch (mm)	Package	800	1000	1500	2000	2500	3000	4000	4500	5000	8000	9000	10000	15000	20000	30000	50000		
3	DFN1110D-3 (SOT8015)	1.1 x 1 x 0.48	1.1 x 1	1.1	0.6										147									
	DFN1412D-3 (SOT8009)	1.4 x 1.2 x 0.48	1.4 x 1.2	1.68	0.8										147									
	SOT663	1.6 x 1.2 x 0.55	1.6 x 1.6	2.56	1								115											
	DSN1006-3 (SOT8026)	1 x 0.6 x 0.2	1 x 0.6	0.6	0.3																	326		
	DFN1006B-3 (SOT883B)	1 x 0.6 x 0.37	1 x 0.6	0.6	0.3																	315		
	DFN1006-3 (SOT883-3)	1 x 0.6 x 0.46	1 x 0.6	0.6	0.3																	305		
	DFN1006-3 (SOT883-2)	1 x 0.6 x 0.47	1 x 0.6	0.6	0.3																	315		
	DFN1006-3 (SOT883)	1 x 0.6 x 0.48	1 x 0.6	0.6	0.3																	305		
	SOT23	2.9 x 1.3 x 1	2.9 x 2.3	6.67	1.9							215										235	185	300
	SC-70 (SOT323)	2 x 1.25 x 0.95	2 x 2.1	4.2	1.3							115										135		300
	HUSON3 (SOT1061-3)	2 x 2 x 0.55	2 x 2	4	1.3							328												
	DFN2020-3 (SOT1061)	2 x 2 x 0.65	2 x 2	4	1.3							115										135		
	DFN2020D-3 (SOT1061D)	2 x 2 x 0.65	2 x 2	4	1.3							147												
	FCLGA3 (SOT8073-1)	3.2 x 2.2 x 0.774	3.2 x 2.2	7.04	1.2							328												
	SOT89	4.5 x 2.5 x 1.5	4.5 x 4	18	1.5			115						135										
	CFP15 (SOT1289)	5.8 x 4.3 x 0.78	6.5 x 4.3	27.95	2.1				146							139								
	CFP15B (SOT1289B)	5.8 x 4.3 x 0.95	6.8 x 4.3	29.24	2.1											139								
	DPAK (SOT428C)	6.1 x 6.6 x 2.3	10 x 6.6	66	2.3							118												
4	X2SON4 (SOT1269-2)	0.6 x 0.6 x 0.32	0.6 x 0.6	0.36	0.4																	147		
	SOT143B	2.9 x 1.3 x 1	2.9 x 2.3	6.67	1.9							215										235		
	LFPAK56E; Power-SO8 (SOT1023)	4.58 x 5.13 x 1.03	5 x 6	30	1.3				115															
	LFPAK56-UL2595 (SOT1023A)	4.6 x 5.1 x 1	5 x 6	30	1.3				115															
	LFPAK56; Power-SO8 (SOT669)	4.9 x 4.45 x 1	5 x 6	30	1.3				13			115												
	SC-73 (SOT223)	6.5 x 3.5 x 1.65	6.5 x 7	45.5	4.6			115						135										
	LFPAK88 (SOT1235)	8 x 8 x 1.6	8 x 8	64	2					118														
5	XSON5 (SOT8065-1)	1.1 x 0.85 x 0.5	1.1 x 0.85	0.935	0.6																	315		
	X2SON5 (SOT1226-3)	0.8 x 0.8 x 0.32	0.8 x 0.8	0.64	0.5																	125		
	X2SON5 (SOT1226)	0.8 x 0.8 x 0.35	0.8 x 0.8	0.64	0.5																	125		
	SOT665	1.6 x 1.2 x 0.55	1.6 x 1.6	2.56	1											115								
	TSSOP5 (SOT353)	2.1 x 1.25 x 0.95	2 x 2.1	4.2	1.3											115						135		
	TSOP5 (SOT753)	2.9 x 1.5 x 1	2.9 x 2.75	7.975	0.9											125								
	TSOT5 (SOT8098-1)	2.9 x 1.6 x 1.1	2.9 x 2.8	8.12	0.9																			
	TSSOP5 (SOT353-1)	2 x 1.25 x 0.95	2 x 2.1	4.2	0.6											125								
	DFN5060-5 (SOT8075-1)	5 x 6 x 0.9	5 x 6	30	1.3										332									









## Package details and packing methods SMD

Pins/Terminals	Package	Package body size (l x w x h) (mm)	Package dimensions inc. leads (l x w) (mm)	Package area (mm <sup>2</sup> )	Lead pitch (mm)	Package	800	1000	1500	2000	2500	3000	4000	4500	5000	8000	9000	10000	15000	20000	30000	50000		
6	XSON6 (SOT1115)	0.9 x 1 x 0.35	0.9 x 1	0.9	0.6										125 132									
	X2SON6 (SOT1255-2)	1.0 x 0.8 x 0.32	1 x 0.8	0.8	0.4													147						
	X2SON6 (SOT1255)	1.0 x 0.8 x 0.32	1 x 0.8	0.8	0.4													147						
	DFN1010B-6 (SOT1216)	1.1 x 1.0 x 0.37	1.1 x 1	1.1	0.3										147									
	DFN1308-6 (SOT8006)	1.3 x 0.8 x 0.38	1.3 x 0.8	1.04	0.4														315					
	DFN1308-6 (SOT8006B)	1.3 x 0.8 x 0.38	1.3 x 0.8	1.04	0.4														315					
	XSON6 (SOT886)	1.45 x 1 x 0.5	1 x 1.45	1.45	0.5											115 125 132								
	DFN1412-6 (SOT1268)	1.4 x 1.2 x 0.47	1.4 x 1.2	1.68	0.5											147								
	DFN1412-6 (SOT1268-1)	1.4 x 1.2 x 0.47	1.4 x 1.2	1.68	0.5											147								
	SOT666	1.6 x 1.2 x 0.55	1.6 x 1.6	2.56	0.5									115 125		315								
	XSON6 (SOT1202)	1 x 1 x 0.35	1 x 1	1	0.3											125 132								
	TSSOP6 (SOT363)	2.1 x 1.25 x 0.95	2 x 2.1	4.2	0.6							115 125							135 165					
	TSOP6 (SOT457)	2.9 x 1.5 x 1	2.9 x 2.75	7.975	0.9							115 125							135 165					
	TSSOP6 (SOT8061-1)	2.9 x 1.6 x 1.1	2.9 x 2.8	8.12	0.9							342												
	TSSOP6 (SOT363-2)	2 x 1.25 x 0.95	2 x 2.1	4.2	0.6							125												
	DFN2020MD-6 (SOT1220)	2 x 2 x 0.65	2 x 2	4	0.6							115 125 184												
	DFN2020D-6 (SOT1118D)	2 x 2 x 0.65	2 x 2	4	0.6							115												
	DFN2020M-6 (SOT1220-2)	2 x 2 x 0.65	2 x 2	4	0.6							115 184												
DFN2020-6 (SOT1118)	2 x 2 x 0.65	2 x 2	4	0.6							115 184													
HWSO6 (SOT8044-1)	2 x 2 x 0.75	2 x 2	4	0.6							147													
7	XSON7 (SOT1358-1)	1.1 x 2.1 x 0.5	1.1 x 2.1	2.31	0.5								471											
	VQFN7 (SOT8091-1)	6 x 4 x 0.95	6 x 4	24	0.5						332													
	TO-263-7 (SOT8070-1)	9.3 x 9.88 x 4.5	10.08 x 15.88	160.07	1.3		118																	
8	XSON8 (SOT1116)	1.2 x 1 x 0.35	1.2 x 1	1.2	0.3										115									
	X2SON8 (SOT1233-2)	1.35 x 0.8 x 0.32	1.35 x 0.8	1.08	0.5													115						
	XSON8 (SOT1203)	1.35 x 1 x 0.35	1.35 x 1	1.35	0.3										115									
	DFN1714-8 (SOT1166-1)	1.7 x 1.35 x 0.55	1.7 x 1.35	2.295	0.4								132											
	XSON8 (SOT833-1)	1 x 1.95 x 0.5	1 x 1.95	1.95	0.5										115									
	LFPK33 (SOT1210)	2.7 x 3.4 x 0.9	3.3 x 3.3	10.89	0.6				115															
	VSSOP8 (SOT765-1)	2 x 2.3 x 1	2 x 3.1	6.2	0.5							125												
	TSSOP8 (SOT505-2)	3.0 x 3.0 x 1.1	3 x 4	12	0.6							125												
MLPAK33 (SOT8002-3)	3.3 x 3.3 x 0.8	3.3 x 3.3	10.89	0.6							118													

## Package details and packing methods SMD

Pins/Terminals	Package	Package body size (l x w x h) (mm)	Package dimensions inc. leads (l x w) (mm)	Package area (mm <sup>2</sup> )	Lead pitch (mm)	Package	800	1000	1500	2000	2500	3000	4000	4500	5000	8000	9000	10000	15000	20000	30000	50000
8	MLPAK33 (SOT8002-1)	3.3 x 3.3 x 0.8	3.3 x 3.3	10.89	0.6							118										
	MLPAK33 (SOT8002-2)	3.3 x 3.3 x 0.8	3.3 x 3.3	10.89	0.6							118										
	TSSOP8 (SOT530-1)	3 x 4.4 x 1.1	3 x 6.4	19.2	0.6						118											
	LFPAK56D; Dual LFPAK (SOT1205)	4.7 x 5.3 x 1.05	5 x 6	30	1.3				115													
	DFN8080-8 (SOT8074-1)	8 x 8 x 0.9	8 x 8	64	2						332											
10	DFN2510A-10 (SOT1176-2)	1.0 x 2.5 x 0.5	1 x 2.5	2.5	0.5									115 471								
	XQFN10 (SOT1160-1)	1.4 x 1.8 x 0.5	1.4 x 1.8	2.52	0.4							115										
	DFN2510A-10 (SOT1176-1)	2.5 x 1 x 0.5	2.5 x 1	2.5	0.5									115 471								
	DFN2510-10 (SOT1165-1)	2.5 x 1 x 0.5	2.5 x 1	2.5	0.5									115								
10	DFN2510D-10 (SOT1165D)	2.5 x 1 x 0.75	2.5 x 1	2.5	0.5							115						118				
	DFN2510D-10 (SOT1176D)	2.5 x 1 x 0.75	2.5 x 1	2.5	0.5							115						118				
	TSSOP10 (SOT552-1)	3 x 3 x 1.1	3 x 4.9	14.7	0.5						118											
12	XQFN12 (SOT1174-1)	2 x 1.7 x 0.5	2 x 1.7	3.4	0.4							115										
13	CCPAK1212 (SOT8000)	12 x 12 x 2.5	12 x 12	144	2			139														
	CCPAK1212i (SOT8005)	12 x 9.4 x 2.5	12 x 12	144	2			139														
14	DHXQFN14 (SOT8014-1)	2 x 2 x 0.48	2 x 2	4	0.4							147										
	DHVQFN14 (SOT762-1)	3 x 2.5 x 1	2.5 x 3	7.5	0.5							115										
	TSSOP14 (SOT402-1)	5 x 4.4 x 1.1	5 x 6.4	32	0.6							118										
	SO14 (SOT108-1)	8.65 x 3.9 x 1.75	8.65 x 6	51.9	1.3							13 118 139 623 653										
16	XQFN16 (SOT1161-1)	2.6 x 1.8 x 0.5	1.8 x 2.6	4.68	0.4								115									
	DHXQFN16 (SOT8016-1)	2 x 2.4 x 0.48	2 x 2.4	4.8	0.4							115										
	DFN3314-16 (SOT1168-1)	3.3 x 1.35 x 0.55	3.3 x 1.35	4.455	0.4									132								
	DHVQFN16 (SOT763-1)	3.5 x 2.5 x 1	3.5 x 2.5	8.75	0.5							115										
	HWQFN16 (SOT8076-1)	3 x 3 x 0.75	3 x 3	9	0.5										118							
	SSOP16 (SOT519-1)	4.9 x 3.9 x 1.73	4.9 x 6	29.4	0.6							118										
	TSSOP16 (SOT403-1)	5 x 4.4 x 1.1	5 x 6.4	32	0.6							118										
20	SO16 (SOT109-1)	9.9 x 3.9 x 1.75	9.9 x 6	59.4	1.3							13 118 139 653										
	SO20 (SOT163-1)	12.8 x 7.5 x 2.65	12.8 x 10.33	132.22	1.3							118 623 653										
	DHXQFN20 (SOT8020-1)	2 x 3.2 x 0.48	3.2 x 2	6.4	0.4							115										
	DHVQFN20 (SOT764-1)	4.5 x 2.5 x 1	4.5 x 2.5	11.25	0.5							115										

## Package details and packing methods SMD

Pins/Terminals	Package	Package body size (l x w x h) (mm)	Package dimensions inc. leads (l x w) (mm)	Package area (mm <sup>2</sup> )	Lead pitch (mm)	Package	800	1000	1500	2000	2500	3000	4000	4500	5000	8000	9000	10000	15000	20000	30000	50000
20	TSSOP20 (SOT360-1)	6.5 x 4.4 x 1.1	6.5 x 6.4	41.6	0.6						118											
24	DHXQFN24 (SOT8024-1)	2 x 4 x 0.48	2 x 4	8	0.4							115										
	HWQFN24 (SOT8041-1)	4 x 4 x 0.75	4 x 4	16	0.5							128										
	DHVQFN24 (SOT815-1)	5.5 x 3.5 x 1	5.5 x 3.5	19.25	0.5							118										
	TSSOP24 (SOT355-1)	7.8 x 4.4 x 1.1	7.8 x 6.4	49.92	0.6						118											
48	TSSOP48 (SOT362-1)	12.8 x 6.1 x 1.2	12.5 x 8.1	101.25	0.5						118											
	TVSOP48 (SOT480-1)	9.7 x 4.4 x 1.1	9.7 x 6.4	62.08	0.4						118											
56	TSSOP56 (SOT364-1)	14 x 6.1 x 1.2	14 x 8.1	113.4	0.5																	

## WLCSP package details

Basic type	Package size (l x w x h) (mm)	# of balls	Pitch (mm)	Package	Package name	ID	Category
IP4369CX4	0.76 x 0.76 x 0.47	4	0.4		WLCSP4	OL-IP4369CX4	ESD
PMCM4401UPE	0.78 x 0.78 x 0.345	4	0.4		WLCSP4	OL-PMCM4401UPE	MOSFETs
PMCM4401VNE	0.78 x 0.78 x 0.345	4	0.4		WLCSP4	OL-PMCM4401VNE	MOSFETs
PMCM4401VPE	0.78 x 0.78 x 0.345	4	0.4		WLCSP4	OL-PMCM4401VPE	MOSFETs
PCMF1HDMI2BA-C	0.77 x 1.17 x 0.61	5	0.4		WLCSP5	OL-PCMF1HDMI-2BA-C	ESD
IP3319CX6	0.95 x 1.34 x 0.57	6	0.4		WLCSP6	OL-IP3319CX6	ESD
PMCM6501VNE	1.5 x 1 x 0.35	6	0.5		WLCSP6	OL-PMCM6501VNE	MOSFETs
PMCM6501VPE	1.5 x 1 x 0.35	6	0.5		WLCSP6	OL-PMCM6501VPE	MOSFETs
NXB0102UN	0.75 x 1.55 x 0.60	8	0.4		WLCSP8	SOT8023-1	Logic
NXS0102UN	0.75 x 1.55 x 0.60	8	0.4		WLCSP8	SOT8023-1	Logic
NXT4556UP	1.06 x 1.06 x 0.43	9	0.3		WLCSP9	SOT8027-1	Logic
PCMF2HDMI2BA-C	1.57 x 1.17 x 0.61	10	0.4		WLCSP10	OL-PCMF2HDMI-2BA-C	ESD
NXS0104UM	1.36 x 1.86 x 0.60	12	0.5		WLCSP12	SOT8019-1	Logic
PCMF3HDMI2BA-C	2.37 x 1.17 x 0.61	15	0.4		WLCSP15	OL-PCMF3HDMI-2BA-C	ESD
NXS0506UP	1.455 x 1.455 x 0.43	16	0.3		WLCSP16	SOT8025-1	Logic

## Packing details glass diodes, single ended and through hole packages

Pins/ Terminals	Package	Package size (l x w x h) (mm)	Lead pitch (mm)	Package	Packing
2	ALF2 (SOD27)	4.25 x 1.85			SOD27_113 (10000)
					SOD27_133 (10000)
					SOD27_143 (5000)
	DO-41 (SOD66)	4.8 x 2.6			SOD66_113 (5000)
					SOD66_133 (5000)
	DO-34 (SOD68)	3.04 x 1.6			SOD68_113 (10000)
					SOD68_133 (10000)
SOD68_143 (5000)					
TO-247 (SOT429)	20.45 x 15.6 x 4.95	5.4		SOT429_127 (300)	
DFN3314-16 (SOT1168-1)	15.3 x 10 x 4.4	5.1		SOT8021_127 (1000)	
TO-220-2 (SOT8021)	15.3 x 10 x 4.4	5.1		SOT8021_127 (1000)	
3	TO-247-3L (SOT429-2)	20.95 x 15.94 x 5.02	5.4		SOT429-2_127 (450)
	TO-247-3L (SOT429-3)	20.95 x 15.94 x 5.02	5.4		SOT429-3_127 (300)
4	TO-247-4 (SOT8071-1)	23.45 x 15.94 x 5.02	2.5		SOT8071-1_127 (450)

## Package cross reference list

Type	Competitor	Nexperia	Pins/Leads
6 Lead DFN	ON Semi	DFN2020-6 (SOT1118)	6
CL2	Toshiba	DSN0402-2 (SOD992)	2
CLP0603	Vishay	DSN0603-2 (SOD962)	2
CMAK/ CMPAK	Renesas	SOT323	3
CMPAK-5(T)	Renesas	SOT353	5
CMPAK-6	Renesas	SOT363	6
CMPAK/ CMAK	Renesas	SOT323	3
CP4	Toshiba	SOT143B	4
CS6	Toshiba	DFN1010-6 (SOT891)	6
CST3	Toshiba	DFN1006-3 (SOT883)	3
CST3	Toshiba	DFN1006B-3 (SOT883B)	3
CTS2 (FSC)	Toshiba	DFN1006-2 (SOD882)	2
CTS2 (FSC)	Toshiba	DFN1006D-2 (SOD882D)	2
D2PAK	Infineon	D2PAK (SOT404)	3
D2PAK	ON Semi	D2PAK (SOT404)	3
D2PAK	ST	D2PAK (SOT404)	3
D2PAK	Toshiba	D2PAK (SOT404)	3
D2PAK	Vishay	D2PAK (SOT404)	3
D2PAK	Infineon	LFPK88 (SOT1235)	4
D2PAK	ON Semi	LFPK88 (SOT1235)	4
D2PAK	ST	LFPK88 (SOT1235)	4
D2PAK	Vishay	LFPK88 (SOT1235)	4
D2PAK	Infineon	D2PAK (SOT404)	3
D2PAK	ST	D2PAK (SOT404)	3
D2PAK	Vishay	D2PAK (SOT404)	3
D2PAK	ST	D2PAK R2P (SOT8018)	2
D2PAK	Ween	D2PAK R2P (SOT8018)	2
D2PAK (TO263-2)	Infineon	D2PAK R2P (SOT8018)	2
D2PAK 3	ON Semi	D2PAK (SOT404)	3
D2PAK 3	ON Semi	LFPK88 (SOT1235)	4
D2PAK 3	ON Semi	D2PAK (SOT404)	3
D2PAK-3	ON Semi	D2PAK (SOT404)	3
D2PAK-7	Infineon	LFPK88 (SOT1235)	4
D2PAK-7	ON Semi	LFPK88 (SOT1235)	4
D2PAK-7	Vishay	LFPK88 (SOT1235)	4
D2PAK*	Diodes Inc.	D2PAK (SOT404)	3
D2PAK+	Toshiba	LFPK88 (SOT1235)	4
DFN-5	ON Semi	LFPK56 (SOT669)	4
DFN-8	ON Semi	LFPK56D (SOT1205)	8
DFN1006-3	Diodes Inc.	DFN1006-3 (SOT883)	3
DFN1006H4-3	Diodes Inc.	DFN1006-3 (SOT883)	3
DFN1411*	Diodes Inc.	DFN1010D-3 (SOT1215)	3
DFN2	ST	DSN0603-2 (SOD962)	2
DPAK	ST	DPAK RP2 (SOT8017)	2

Type	Competitor	Nexperia	Pins/Leads
DPAK	Ween	DPAK RP2 (SOT8017)	2
DPAK (TO252-2)	Infineon	DPAK RP2 (SOT8017)	2
DSN2, 0.4 x 0.2	ON Semi	DSN0402-2 (SOD992)	2
DSN2, 0.6 x 0.3	ON Semi	DSN0603-2 (SOD962)	2
DSN2, 1.0 x 0.6	ON Semi	DSN1006-2 (SOD993)	2
DSN2, 1.0 x 0.6	ON Semi	DFN1006D-2 (SOD882D)	2
DSN2, 1.6 x 0.8	ON Semi	DFN1608D-2 (SOD1608)	2
EMD2	Rohm	SOD523	2
EMD3/EMT3	Rohm	DFN1006-3 (SOT883)	3
EMT3/EMD3	Rohm	DFN1006-3 (SOT883)	3
EMT3F*	Rohm	DFN1006-3 (SOT883)	3
ESC/TESS	Toshiba	SOD523	2
ESM	Toshiba	DFN1006-3 (SOT883)	3
FM8	Toshiba	SOT96	8
FS6*	Toshiba	DFN1010B-6 (SOT1216)	6
GMD2	Rohm	DSN0603-2 (SOD962)	2
H2PAK-2	ST	D2PAK (SOT404)	3
HSMT8	Rohm	LFPK33 (SOT1210)	8
HSON-8	Renesas	LFPK56 (SOT669)	4
HSON-8 Dual	Renesas	LFPK56D (SOT1205)	8
HSOP8 (Dual)	Rohm	LFPK56D (SOT1205)	8
HSOP8 (Single)	Rohm	LFPK56 (SOT669)	4
HSOP8 (Single)	Rohm	LFPK56E (SOT1023)	4
HUML2020L8 (Dual)	Rohm	DFN2020-6 (SOT1118)	6
HUML2020L8 (Single)	Rohm	DFN2020MD-6 (SOT1220)	6
I2PAK	ON Semi	I2PAK (SOT226)	3
I2PAK	ST	I2PAK (SOT226)	3
KMD2	Rohm	DFN1608D-2 (SOD1608)	2
LDPK(S)-(1)	Renesas	D2PAK (SOT404)	3
LFPK	Renesas	LFPK56 (SOT669)	5
LFPK 5x6	ST	LFPK56 (SOT669)	4
LFPK4	ON Semi	LFPK56 (SOT669)	4
LFPK56, HSON-8	Renesas	LFPK56E (SOT1023)	4
LFPK8	ON Semi	LFPK56E (SOT1023)	4
LG A 1.0 x 0.6mm	Texas Instruments	DFN1006B-3 (SOT883B)	3
LLD	Renesas	SOD80C	2
LLDS	Rohm	SOD80C	2
LLP1006-2L	Vishay	DFN1006-2 (SOD882)	2
LLP1006-2L	Vishay	DFN1006D-2 (SOD882D)	2
LLP1006-2M	Vishay	DFN1006-2 (SOD882)	2
LLP1006-2M	Vishay	DFN1006D-2 (SOD882D)	2
LLP75-7L	Vishay	DFN1616-6 (SOT1189)	6
LPDS/LPTS	Rohm	D2PAK (SOT404)	3
LPTS	Rohm	D2PAK (SOT404)	3

Types with \* show footprint compatibility only

## Package cross reference list

Type	Competitor	Nexperia	Pins/ Leads
LPTS/LPDS	Rohm	D2PAK (SOT404)	3
M-Flat	Toshiba	SOD128	2
Micro 3	Int. Rectifier	SOT23	3
Micro 6	Int. Rectifier	SOT457	6
MICRO FOOT 0.8 x 0.8	Vishay	WLCSP4	4
MICRO FOOT 0.8 x 0.8*	Vishay	DFN1010D-3 (SOT1215)	3
MICRO FOOT 1 x 1.2*	Vishay	DFN1010D-3 (SOT1215)	3
MICRO FOOT 1 x 1.5*	Vishay	DFN1010D-3 (SOT1215)	3
MICRO FOOT 1 x 1*	Vishay	DFN1010D-3 (SOT1215)	3
MICRO FOOT 1.5 x 1.0	Vishay	WLCSP6	6
MICRO FOOT 1.6 x 1.6*	Vishay	DFN2020MD-6 (SOT1220)	6
MICRO FOOT*	Vishay	DFN2020MD-6 (SOT1220)	6
MicroFET	FalRchild	DFN2020MD-6 (SOT1220)	6
MicroFET 1.6 x 1.6*	FalRchild	DFN2020MD-6 (SOT1220)	6
MicroSMA	Taiwan Semiconductor	CFP2-HP (SOD323HP)	2
MicroSMP	Vishay	CFP2-HP (SOD323HP)	2
MiniMelf	Diodes Inc.	SOD80C	2
MiniMelf	ST	SOD80C	2
MiniMelf	Vishay	SOD80C	2
MP-25(K)	Renesas	TO-220 (SOT78)	3
MP-25SK	Renesas	I2PAK (SOT226)	3
MP-25ZT	Renesas	D2PAK (SOT404)	3
MP6	Renesas	DSN0603-2 (SOD962)	2
MPAK	Renesas	SOT23	3
MPAK-4R	Renesas	SOT143B	4
MPT3	Rohm	SOT89	3
PG-TD SON-8	Infineon	LFPK56 (SOT669)	5
PG-TD- SON-8	Infineon	LFPK56E (SOT1023)	4
PG-TDSON-8	Infineon	LFPK56D (SOT1205)	8
PG-TDSON-8	Infineon	LFPK56 (SOT669)	4
PG-TO220-3	Infineon	TO-220 (SOT78)	3
PG-TO262-3	Infineon	I2PAK (SOT226)	3
PG-TO263-3	Infineon	D2PAK (SOT404)	3
PG-TSDSON-8	Infineon	LFPK33 (SOT1210)	8
PMDT	Rohm	SOD128	2
PMDU	Rohm	SOD123W	2
Power DI3333-8	Diodes Inc.	LFPK33 (SOT1210)	8
Power DI5060-8	Diodes Inc.	LFPK56D (SOT1205)	8
Power DI5060-8	Diodes Inc.	LFPK56 (SOT669)	4
Power FLAT 3.3 x 3.3	ST	LFPK33 (SOT1210)	8
Power FLAT 5x6 Dual	ST	LFPK56D (SOT1205)	8
Power FLAT 5x6 Dual	ST	LFPK56 (SOT669)	4
Power- Di5060-8	Diodes Inc	LFPK56E (SOT1023)	4

Types with \* show footprint compatibility only

Type	Competitor	Nexperia	Pins/ Leads
Power- FLAT (6x5)	ST	LFPK56E (SOT1023)	4
Power88 (DFNW-8)	ON Semi	LFPK88 (SOT1235)	4
PowerDI123	Diodes Inc.	SOD123F	2
PowerDI123	Diodes Inc.	SOD123W	2
PowerDI323	Diodes Inc.	SOD323F	2
PowerDI323	Diodes Inc.	CFP2-HP (SOD323HP)	2
PowerDi5	Diodes Inc.	CFP15/B (SOT1289/B)	3
PowerDI5	Diodes Inc.	CFP15B (SOT1289B)	3
PowerFLAT (6 x 5)	ST	LFPK56 (SOT669)	5
PowerFLAT (6 x 5)	ST	LFPK56D (SOT1205)	5
PowerPAK 1212-8	Vishay	LFPK33 (SOT1210)	8
PowerPAK 8x8L	Vishay	LFPK88 (SOT1235)	4
PowerPAK SC-70	Vishay	DFN2020-6 (SOT1118)	6
PowerPAK SC-70	Vishay	DFN2020MD-6 (SOT1220)	6
PowerPak SC-70-6L	Vishay	DFN2020-6 (SOT1118)	6
PowerPak SC-75-6L*	Vishay	DFN2020MD-6 (SOT1220)	6
PowerPAK SC-75*	Vishay	DFN2020MD-6 (SOT1220)	6
PowerPAK SC706L	Vishay	DFN2020-3 (SOT1061)	3
PowerPAK SO-8	Vishay	LFPK56 (SOT669)	5
PowerPAK SO-8(L)	Vishay	LFPK56 (SOT669)	4
PowerPAK SO-8(L)	Vishay	LFPK56E (SOT1023)	4
PowerPAK SO-8L Dual	Vishay	LFPK56D (SOT1205)	8
PW-Mini	Toshiba	SOT89	3
S-Flat	Toshiba	SOD123F	2
S-Flat	Toshiba	SOD123W	2
S-Mini	Toshiba	SOT23	3
S-Mini TSM	Toshiba	SOT23	3
S08	Vishay	SOT96	8
SC-70	ON Semi	SOT323	3
SC-70, 3 leads	Vishay	SOT323	3
SC-74 TSOP-6	ON Semi	SOT457	6
SC-75	ON Semi	DFN1006-3 (SOT883)	3
SC-75	Semtech	DFN1006-3 (SOT883)	3
SC-75A	Vishay	DFN1006-3 (SOT883)	3
SC-88	ON Semi	SOT363	6
SC-88A	ON Semi	SOT353	5
SC2	Toshiba	DSN0603-2 (SOD962)	2
SC59	Diodes Inc.	SOT23	3
SC70	ON Semi	SOT323	3
SC70-3	AOS	SOT323	3
SC70-3	Vishay	SOT323	3
SC70-5L	Semtech	SOT353	5
SC70-6	AOS	SOT363	6
SC70-6	FalRchild	SOT363	6

## Package cross reference list

Type	Competitor	Nexperia	Pins/Leads
SC70-6	Vishay	SOT363	6
SC70-6L	Semtech	SOT363	6
SC74 TSOP6	Infineon	SOT457	6
SC75	Infineon	DFN1006-3 (SOT883)	3
SC75	ON Semi	DFN1006-3 (SOT883)	3
SC75A	Vishay	DFN1006-3 (SOT883)	3
SC79	Infineon	SOD523	2
SC88/SC 7 0-6/ SOT 363 6 LEAD	ON Semi	SOT363	6
SC89-3	FalRchild	DFN1006-3 (SOT883)	3
SC89-3	ON Semi	DFN1006-3 (SOT883)	3
SC89-3	Vishay	DFN1006-3 (SOT883)	3
SGP0603P2X3	Semtech	DFN0603-2 (SOD972E)	2
SL2	Toshiba	DFN0603-2 (SOD972E)	2
SlimSMAW	Vishay	CFP5 (SOD128)	2
SLP0402P2X3	Semtech	DSN0402-2 (SOD992)	2
SLP1006P2	Semtech	DFN1006-2 (SOD882)	2
SLP1006P2T	Semtech	DFN1006D-2 (SOD882D)	2
SLP1006P3	Semtech	DFN1006-3 (SOT883)	3
SLP1006P3T	Semtech	DFN1006B-3 (SOT883B)	3
SLP1610N2	Semtech	DFN1608D-2 (SOD1608)	2
SLP1610P4	Semtech	DFN2510A-10 (SOT1176)	10
SLP1713P8	Semtech	DFN1714-8 (SOT1166)	8
SLP1713P8	Semtech	DFN1714U-8 (SOT983)	8
SLP2513P12	Semtech	DFN2514-12 (SOT1167)	12
SLP3313P16	Semtech	DFN3314-16 (SOT1168)	16
SM6 VS-6	Toshiba	SOT457	6
SMA flat	ST	SOD128	2
SMAFS	Diodes Inc.	CFP5 (SOD128)	2
SMD TO-263	Renesas	D2PAK (SOT404)	3
SMD0402	Rohm	DSN0402-2 (SOD992)	2
SMD6/SMT6	Rohm	SOT457	6
SMD6/SMZ6	Rohm	SOT457	6
SMF	Vishay	CFP3 (SOD123W)	2
SMPAK	Renesas	DFN1006-3 (SOT883)	3
SMPC	Vishay	CFP15B (SOT1289B)	3
SMPCc	Taiwan Semiconductor	CFP15B (SOT1289B)	3
SMPC TO-277A	Vishay	CFP15/B (SOT1289/B)	3
SMPC4.0	Taiwan Semiconductor	CFP15B (SOT1289B)	3
SMT3	Rohm	SOT23	3
SMT5*	Rohm	SOT457	6
SMT6	Rohm	SOT457	6

Type	Competitor	Nexperia	Pins/Leads
SMZ6/SMD6	Rohm	SOT457	6
SO-8 FL	ON Semi	LFPAK56 (SOT669)	5
SO-8 FL, DFN-5	ON Semi	LFPAK56E (SOT1023)	4
SO-8FL Dual	ON Semi	LFPAK56D (SOT1205)	8
SO-8FL Dual	ON Semi	LFPAK56 (SOT669)	4
SOD-123	ST	SOD123F	2
SOD-123-FL	ON Semi	SOD123W	2
SOD-123FL	ON Semi	CFP3 (SOD123W)	2
SOD-123FL	Rohm	CFP3 (SOD123W)	2
SOD-123W	Taiwan Semiconductor	CFP3 (SOD123W)	2
SOD-128	Rohm	CFP5 (SOD128)	2
SOD-128	Taiwan Semiconductor	CFP5 (SOD128)	2
SOD-323	Diodes Inc.	SOD323	2
SOD-323	ON Semi	SOD323	2
SOD-323	ST	SOD323	2
SOD-323EP	ON Semi	CFP2-HP (SOD323HP)	2
SOD-323HE	Rohm	CFP2-HP (SOD323HP)	2
SOD-523	ON Semi	SOD523	2
SOD-523	ST	SOD523	2
SOD123F	Diodes Inc.	CFP3 (SOD123W)	2
SOD323	Infineon	SOD323	2
SOD323	Semtech	SOD323	2
SOD323	Vishay	SOD323	2
SOD523	Diodes Inc.	SOD523	2
SOD523	Semtech	SOD523	2
SOD523	Vishay	SOD523	2
SOD882	ST	DFN1006-2 (SOD882)	2
SOD882T	ST	DFN1006D-2 (SOD882D)	2
SOD923-2*	ON Semi	DFN1006-2 (SOD882)	2
SOIC-8 NB	ON Semi	SOT96	8
SON 2x2	Texas Instruments	DFN2020MD-6 (SOT1220)	6
SON 3 x 3*	Texas Instruments	DFN2020MD-6 (SOT1220)	6
SOP / DSOP Advance	Toshiba	LFPAK56E (SOT1023)	4
SOP / DSOP Advance	Toshiba	LFPAK56 (SOT669)	4
SOP-8	Renesas	SOT96	8
SOP8	Rohm	SOT96	8
SOT 143	Infineon	SOT143B	4
SOT-143	Diodes Inc.	SOT143B	4
SOT-143	Semtech	SOT143B	4
SOT-223	Diodes Inc.	SOT223	4
SOT-223	Infineon	SOT223	4
SOT-223	ON Semi	SOT223	4

Types with \* show footprint compatibility only

## Package cross reference list

Type	Competitor	Nexperia	Pins/Leads
SOT-223	ST	SOT223	4
SOT-223	Diodes Inc.	SOT223	3
SOT-223	ON Semi	SOT223	3
SOT-323	Diodes Inc.	SOT323	3
SOT-323	ST	SOT323	3
SOT-363	Diodes Inc.	SOT363	6
SOT-89	ON Semi	SOT89	3
SOT063*	ON Semi	DFN1010B-6 (SOT1216)	6
SOT223	Diodes Inc.	SOT223	4
SOT223	FalRchild	SOT223	4
SOT223	Infineon	SOT223	4
SOT223	ON Semi	SOT223	4
SOT223	Vishay	SOT223	4
SOT23	AOS	SOT23	3
SOT23	Diodes Inc.	SOT23	3
SOT23	Infineon	SOT23	3
SOT23	ON Semi	SOT23	3
SOT23	Semtech	SOT23	3
SOT23	ST	SOT23	3
SOT23	Vishay	SOT23	3
SOT23-3	AOS	SOT23	3
SOT23-3	Diodes Inc.	SOT23	3
SOT23-3	ON Semi	SOT23	3
SOT23-5	AOS	SOT457	6
SOT23-5	Diodes Inc.	SOT457	6
SOT23-6	Diodes Inc.	SOT457	6
SOT23-6	ST	SOT457	6
SOT23-6L	Semtech	SOT457	6
SOT23F	Diodes Inc.	SOT23	3
SOT23F	Toshiba	SOT23	3
SOT26	Diodes Inc.	SOT457	6
SOT323	Diodes Inc.	SOT323	3
SOT323	FalRchild	SOT323	3
SOT323	Infineon	SOT323	3
SOT353	Diodes Inc.	SOT353	5
SOT353	Diodes Inc.	SOT363	6
SOT353	Vishay	SOT353	5
SOT363	Diodes Inc.	SOT363	6
SOT363	Infineon	SOT363	6
SOT523	Diodes Inc.	DFN1006-3 (SOT883)	3
SOT523F	FalRchild	DFN1006-3 (SOT883)	3
SOT723-3*	ON Semi	DFN1010D-3 (SOT1215)	3
SOT723*	ON Semi	DFN1010D-3 (SOT1215)	3
SOT89	Diodes Inc.	SOT89	3

Type	Competitor	Nexperia	Pins/Leads
SOT89	Infineon	SOT89	3
SOT89-3L	Diodes Inc.	SOT89	3
SOT963	ON Semi	DFN1010-6 (SOT891)	6
SOT963*	Diodes Inc.	DFN1010B-6 (SOT1216)	6
SRP-F	Renesas	SOD123W	2
SS CSP2	Toshiba	DFN1006-3 (SOT883)	3
SSD3/SST3	Rohm	SOT23	3
SSM	Toshiba	DFN1006-3 (SOT883)	3
SSOT3	FalRchild	SOT23	3
SSOT6	FalRchild	SOT457	6
SSOT6 FLMP	FalRchild	SOT457	6
SST3	Rohm	SOT23	3
SST3/SSD3	Rohm	SOT23	3
ST01005	STM	DSN0402-2 (SOD992)	2
Stmite flat	ST	SOD123W	2
sTOLL (PG-HSOF-5)	Infineon	LFPAK88 (SOT1235)	4
Sub SMA	Taiwan Semiconductor	CFP3 (SOD123W)	2
T0263	Diodes Inc.	D2PAK(SOT404)	3
T0263-3	Infineon	D2PAK (SOT404)	3
Thin PowerPAK SC-70	Vishay	DFN2020-6 (SOT1118)	6
Thin PowerPAK SC70	Vishay	DFN2020MD-6 (SOT1220)	6
Thin PowerPAK SC75*	Vishay	DFN2020MD-6 (SOT1220)	6
TO-200 real 2pin	Infineon	TO-220-2 (SOT8021)	2
TO-220	ST	TO-220 (SOT78)	3
TO-220	Toshiba	TO-220 (SOT78)	3
TO-220	Vishay	TO-220 (SOT78)	3
TO-220 FP	Onsemi	TO-220-2 (SOT8021)	2
TO-220-2	Cree	TO-220-2 (SOT8021)	2
TO-220-2	Onsemi	TO-220-2 (SOT8021)	2
TO-220-2L	Littelfuse	TO-220-2 (SOT8021)	2
TO-220-2L	Ween	TO-220-2 (SOT8021)	2
TO-220-3	ON Semi	TO-220 (SOT78)	3
TO-220-3L	ON Semi	TO-220 (SOT78)	3
TO-220A	Rohm	TO-220-2 (SOT8021)	2
TO-220AB	Vishay	TO-220 (SOT78)	3
TO-220AB	ST	TO-220-2 (SOT8021)	2
TO-220AC	ST	TO-220-2 (SOT8021)	2
TO-220AC	Rohm	TO-220-2 (SOT8021)	2
TO-220AC2L	Rohm	TO-220-2 (SOT8021)	2
TO-220F-3FS	ON Semi	TO-220 (SOT78)	3
TO-220FM	Rohm	TO-220 (SOT78)	3
TO-220S	Renesas	D2PAK (SOT404)	3
TO-220SM	Toshiba	D2PAK (SOT404)	3

Types with \* show footprint compatibility only

## Package cross reference list

Type	Competitor	Nexperia	Pins/Leads
TO-247	ST	TO-247-2 (SOT8022)	2
TO-247	Littelfuse	TO-247-2 (SOT8022)	2
TO-247	Rohm	TO-247-2 (SOT8022)	2
TO-247 real 2pin	Infineon	TO-247-2 (SOT8022)	2
TO-247-2	Cree	TO-247-2 (SOT8022)	2
TO-247-2	Onsemi	TO-247-2 (SOT8022)	2
TO-247-2L	Ween	TO-247-2 (SOT8022)	2
TO-252-2	Cree	DPAK RP2 (SOT8017)	2
TO-252-2L	Littelfuse	DPAK RP2 (SOT8017)	2
TO-262	Renesas	I2PAK (SOT226)	3
TO-262	Vishay	I2PAK (SOT226)	3
TO-262-2L	ON Semi	I2PAK (SOT226)	3
TO-262-3L	ON Semi	I2PAK (SOT226)	3
TO-263	Renesas	D2PAK-7 (SOT427)	7
TO-263	Renesas	D2PAK (SOT404)	3
TO-263	Vishay	D2PAK (SOT404)	3
TO-263 3-lead	Vishay	D2PAK (SOT404)	3
TO-263 real 2pin	Infineon	D2PAK R2P (SOT8018)	2
TO-263-2L	ON Semi	D2PAK (SOT404)	3
TO-263-2L	Littelfuse	D2PAK R2P (SOT8018)	2
TO-263AB	Vishay	D2PAK (SOT404)	3
TO-273-2	Cree	D2PAK R2P (SOT8018)	2
TO-277	ON Semi	CFP15B (SOT1289B)	3
TO-277A	Rohm	CFP15B (SOT1289B)	3
TO-LL	ON Semi	LFPK88 (SOT1235)	4
TO-LL (PG-HSOF-8-1)	Infineon	LFPK88 (SOT1235)	4
TO220	Infineon	TO-220 (SOT78)	3
TO220-3	Diodes Inc.	TO-220 (SOT78)	3
TO262	Infineon	I2PAK (SOT226)	3
TO263	Diodes Inc.	D2PAK (SOT404)	3
TOLG (PG-HSOG-8)	Infineon	LFPK88 (SOT1235)	4
TSLP-2-1	Infineon	DFN1006-2 (SOD882)	2
TSLP-2-7/-17	Infineon	DFN1006D-2 (SOD882D)	2
TSLP-3-1, -15	Infineon	DFN1006B-3 (SOT883B)	3
TSLP-3-4	Infineon	DFN1006-3 (SOT883)	3
TSLP-9-1	Infineon	DFN2510A-10 (SOT 1176)	10
TSMT5*	Rohm	SOT457	6
TSMT6	Rohm	SOT457	6
TSNP-2-2	Infineon	DFN1608D-2 (SOD 1608)	2
TSON Advance	Toshiba	LFPK33 (SOT1210)	8
TSOP-6	Renesas	SOT457	6
TSOP-6/ TSOP6	Vishay	SOT457	6
TSOP6	AOS	SOT457	6
TSOP6	ON Semi	SOT457	6

Type	Competitor	Nexperia	Pins/Leads
TSOP6	Vishay	SOT457	6
TSSLP-2-1	Infineon	DSN0603-2 (SOD962)	2
TSST8*	Rohm	DFN2020MD-6 (SOT1220)	6
TUMT3	Rohm	SOT323	3
TUMT5*	Rohm	DFN2020-6 (SOT1118)	6
TUMT6*	Rohm	DFN2020-6 (SOT1118)	6
Type B 2.0 x 2.0 x 0.6			
U-DFN2020-3	Diodes Inc.	DFN2020-3 (SOT1061)	3
U-DFN2020-6	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
U-DFN2523-6*	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
U-WLB1510-6	Diodes Inc.	WLCSP6	6
U-WLB1515-9	Diodes Inc.	WLCSP9	9
U-WLB1515-9 (Type B)	Diodes Inc.	WLCSP9	9
U-WLB1515-9 (Type E)	Diodes Inc.	WLCSP9	9
UDFN 1.7 x 1.35, 0.4P	ON Semi	DFN1714U-8 (SOT983)	8
UDFN-6 WDFN6	ON Semi	DFN2020MD-6 (SOT1220)	6
UDFN10 2.5 x 1, 0.5P	ON Semi	DFN2510A-10 (SOT1176)	10
UDFN12 2.5 x 1.35, 0.4P	ON Semi	DFN2514-12 (SOT1167)	12
UDFN2020-6 Type B	Diodes Inc.	DFN2020-6 (SOT1118)	6
UDFN2020-6 Type E	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
UDFN6	ON Semi	DFN2020MD-6 (SOT1220)	6
UDFN6	Toshiba	DFN2020-6 (SOT1118)	6
UDFN6B	Toshiba	DFN2020MD-6 (SOT1220)	6
UF6	Toshiba	SOT363	6
UF6/ USV/ US6	Toshiba	SOT363	6
UFP	Renesas	SOD523	2
UMD2	Rohm	SOD323F	2
UMD3/UMT3	Rohm	SOT323	3
UMD5/UMT5	Rohm	SOT353	5
UMD6/ UMT6	Rohm	SOT363	6
UMLP 1.6 x 1.6*	Falrchild	DFN2020MD-6 (SOT1220)	6
UMT3	Rohm	SOT323	3
UMT3F*	Rohm	SOT323	3
UMTS/ UMD5	Rohm	SOT353	5
UMT6	Rohm	SOT363	6
UMT6/ UMD6	Rohm	SOT363	6
UPAK (SOT89)	Renesas	SOT89	3
URP	Renesas	SOD323	2
US-Flat	Toshiba	SOD323F	2
US6	Toshiba	SOT363	6
US6/ UF6/ USV	Toshiba	SOT363	6
use	Toshiba	SOD323	2
USM	Toshiba	SOT323	3
USV	Toshiba	SOT353	5

Types with \* show footprint compatibility only

## Package cross reference list

Type	Competitor	Nexperia	Pins/ Leads
USV	Toshiba	SOT363	6
USV/ US6/ UF6/	Toshiba	SOT363	6
VESM*	Toshiba	DFN1010D-3 (SOT1215)	3
VML0806*	Rohm	DFN1006B-3 (SOT883B)	3
VML1006	Rohm	DFN1006-3 (SOT883)	3
VMN2*	Rohm	DFN1006-2 (SOD882)	2
VMN2*	Rohm	DFN1006D-2 (SOD882D)	2
VMN3*	Rohm	DFN1006-3 (SOT883)	3
VMT3*	Rohm	DFN1010D-3 (SOT1215)	3
VMT6*	Rohm	DFN1010B-6 (SOT1216)	6
VS6	Toshiba	SOT457	6
W-DFN3020-8*	Diodes Inc.	DFN2020-6 (SOT1118)	6
WCSP6C	Toshiba	WLCSP6	6
WDFN-8	ON Semi	LFPK33 (SOT1210)	8
WDFN3	ON Semi	DFN2020-3 (SOT1061)	3
WDFN6	ON Semi	DFN2020-6 (SOT1118)	6
WDFN6	ON Semi	DFN2020MD-6 (SOT1220)	6
WLCSP 1 x 1*	FalRchild	WLCSP4	3
WLCSP-4*	FalRchild	WLCSP4	3
WLCSP-4*	ON Semi	WLCSP4	3
WLCSP1.6 x 1.6*	AOS	WLCSP6	6
WLCSP2	ON Semi	DSN0603-2 (SOD962)	2
WLL-2-2	Infineon	DSN0402-2 (SOD992)	2
WLL-2-2	Infineon	DSN0402B-2 (SOD992B)	2
WLP 1.0 x 1.5	Texas Instruments	WLCSP6	6
WLP1.5 x 1.5*	Texas Instruments	DFN2020MD-6 (SOT1220)	6
WLPI.O x 1.0*	Texas Instruments	DFN1010D-3 (SOT1215)	3
WLPI.O x 1.5*	Texas Instruments	DFN2020MD-6 (SOT1220)	6
X1 -DFN 1006-3	Diodes Inc.	DFN1006-3 (SOT883)	3
X1-DFN1212-3*	Diodes Inc.	DFN1010D-3 (SOT1215)	3
X1-DFN1616-6*	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
X1-WLB0808-4	Diodes Inc.	WLCSP4	4
X2-DFN0606-3	Diodes Inc.	DFN0606 (SOT8001)	3
X2-DFN0806-3	Diodes Inc.	DFN1006-3 (SOT883)	3
X2-DFN1006-2	Diodes Inc.	DFN1006D-2 (SOD882D)	2
X2-DFN1006-3	Diodes Inc.	DFN1006B-3 (SOT883B)	3
X2-DFN1010-3	Diodes Inc.	DFN1010D-3 (SOT1215)	3
X2-DFN1310-6*	Diodes Inc.	DFN1010B-6 (SOT1216)	6
X2-DFN2015-3*	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
X2-DFN2020-6	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
X2-WLB0808-4	Diodes Inc.	WLCSP4	4
X2-WLB0808-4 (Type B)	Diodes Inc.	WLCSP4	4
X3-DFN0603-2	Diodes Inc.	DFN0603-2 (SOD972E)	2
X3-DFN0603-2	Diodes Inc.	DSN0603-2 (SOD962)	2

Types with \* show footprint compatibility only

Type	Competitor	Nexperia	Pins/ Leads
X3DFN-2	ON Semi	DSN0603-2 (SOD962)	2
X3DFN2	ON Semi	DFN0603-2 (SOD972E)	2
XDFN3	ON Semi	DFN1006-3 (SOT883)	3
XI-DFN1006-2	Diodes Inc.	DFN1006-2 (SOD882)	2
XLLGA-3	ON Semi	DFN0606 (SOT8001)	3
μ8FL	ON Semi	LFPK33 (SOT1210)	8
μQFN-10L	ST	DFN2510A-10 (SOT1176)	10
μQFN-2L	ST	DFN1006-2 (SOD882)	2

## Package cross reference matrix

Pins/ leads	Nexperia	Industry standard names	Size (L x w x h) (mm)	P <sub>tot</sub> (mW)	Package	Competitor synonyms									
						Rohm	Toshiba	ON Semi	Renesas	Infineon	Diodes Inc	ST	Vishay	Semtech	
2	DSN0402-2 (SOD992)		0.4 x 0.2 x 0.12			SMD0402	CL2	DSN2 0.4 x 0.2				ST01005		SLP-0402P2X3	
	DSN0402B-2 (SOD992B)		0.43 x 0.23 x 0.12												
	DFN0603-2 (SOD972E)		0.63 x 0.33 x 0.25				SL2	X3DFN2			X3-DFN0603-2		SGP-0603P2X3		
	DSN1006-2 (SOD993)		1.0 x 0.6 x 0.3					DSN2 1.0 x 0.6							
	DSN1006U-2 (SOD995)		1.0 x 0.6 x 0.3					DSN2 1.0 x 0.6							
	DFN1006-2 (SOD882)		1.0 x 0.6 x 0.48	250		(VMN2)	CTS2 (FSC)	(SOD923-2)		TSLP-2-1	XI-DFN1006-2	SOD 882 uQFN-2L	LLP1006-2M LLP1006-2L	SLP1006P2	
	DFN1006D-2 (SOD882D)		1.0 x 0.6 x 0.37	250		(VMN2)	CTS2 (FSC)	DSN2 1.0 x 0.6		TSLP-2-7/-17	X2-DFN1006-2	SOD882T	LLP1006-2L LLP1006-2M	SLP1006P2T	
	DFN1608D-2 (SOD1608)		1.6 x 0.8 x 0.37	780			KMD2	DSN2 1.6 x 0.8		TSNP-2-2				SLP1610N2	
	DPAK R2P (SOT8017)	TO-252	6.1 x 6.6 x 2.3					DPAK		DPAK		DPAK			
	D2PAK R2P (SOT8018)	TO-263	11 x 10 x 4.3				TO-263AB	D2PAK		D2PAK		D2PAK			
	DSN0603-2 (SOD962)		0.6 x 0.3 x 0.3	525			GMD2	SC2	DSN2, X3DFN-2 WLCSF2	MP6	TSSLP-2-1	X3-DFN0603-2	DFN2	CLP0603	SLP-0603P2X3
	SOD80C	Mini-Melf	3.5 x 1.5 x 1.5	300			LLDS			LLD		MiniMelf	MiniMelf	MiniMelf	
	SOD123F		2.6 x 1.6 x 1.1	830									SOD-123		
	CFP3 (SOD123W)		2.6 x 1.7 x 1.0	950			SOD-123FL		SOD-123FL			SOD123F	SOD-123W Sub SMA	SMF	
	CFP5 (SOD128)		3.8 x 2.5 x 1.0	1050			SOD-128					SMAFS	SOD-128	SlimSMAW	
	SOD323	SC-76	1.7 x 1.25 x 0.95	400				USC	SOD-323	URP	SOD323	SOD-323	SOD-323	SOD323	SOD323
	CFP2-HP (SOD323HP)		2.2 x 1.3 x 0.68				SOD-323HE		SOD-323EP			PowerDI323		MicroSMP	
	SOD323F	SC-90	1.7 x 1.25 x 0.7	830			UMD2	US-Flat							
	SOD523	SC-79	1.2 x 0.8 x 0.6	500			EMD2	ESC/TESC	SOD-523	UFP	SC79	SOD523	SOD-523	SOD523	SOD523
	TO-220-2 (SOT8021)	TO-220	10 x 15.6 x 4.4				TO-220	TO-220	TO-220	TO-220	TO-220		TO-220	TO-220	
TO-247-2 (SOT8022)	TO-247	15.9 x 20.9 x 5				TO-247	TO-247	TO-247		TO-247		TO-247	TO-247		
3	CFP15B (SOT1289B)		5.8 x 4.3 x 0.95	2150			TO-277A		TO-277		PowerDi5	SMPC SMPC4.0	SMPC		
	DFN1006-3 (SOT883)	SC-101	1.0 x 0.6 x 0.48	250			VML1006	SS CSP2	XDFN3		TSLP-3-4	X1 -DFN 1006-3		SLP1006P3	
	DFN1006B-3 (SOT883B)		1.0 x 0.6 x 0.37	250			VML1006	CST3	XDFN3		TSLP-3-1, -15	X2-DFN1006-3		SLP1006P3T	
	DFN1010D-3 (SOT1215)		1.1 x 1.0 x 0.37	325			(VMT3)	(VESM)	(SOT723)			X2-DFN1010-3			
	DFN2020-3 (SOT1061)	HUSON3	2.0 x 2.0 x 0.62	1300					WDFN3			U-DFN2020-3 Type B 2.0 x 2.0 x 0.6		PowerPAK SC706L	
	DFN2020D-3 (SOT1061D)		2.0 x 2.0 x 0.62	1300					WDFN3			U-DFN2020-3 Type B 2.0 x 2.0 x 0.6		PowerPAK SC706L	
	D <sup>2</sup> PAK (SOT404)		11.0 x 11.0 x 4.3				LPDS/ LPTS	TO-220SM D <sup>2</sup> PAK	D <sup>2</sup> PAK D <sup>2</sup> PAK 3 TO-263-2L	TO-220S / SMD TO-263 LPPAK(S)-(1) MP-25Z	D <sup>2</sup> PAK, PG-TO263-3	TO263 (D <sup>2</sup> PAK)	D <sup>2</sup> PAK, H <sup>2</sup> PAK-2	TO-263 3-lead TO-263AB / D <sup>2</sup> PAK TO-263	
	SOT23		2.9 x 1.3 x 1.0	250			SSD3/ SST3	S-Mini TSM	SOT-23	MPAK	SOT23	SOT-23	SOT23	SOT23	SOT23
	SOT89	SC-62	4.5 x 2.5 x 1.5	1300			MPT3	PW-Mini	SOT-89	UPAK (SOT89)	SOT89	SOT89			
	SOT323	SC-70	2.0 x 1.25 x 0.95	200			UMD3/ UMT3 TUMT3	USM	SC-70	CMAK/ CMPAK	SOT323	SOT-323	SOT-323	SC-70 3 leads	SOT-323
TO-220 (SOT78)		15.6 x 10 x 4.4				TO-220FM	TO-220	TO-220-3L, TO-220F-3FS, TO-220-3	MP-25(K)	PG-TO220-3, TO220	TO220-3	TO-220	TO-220, TO-220AB		
I <sup>2</sup> PAK (SOT226)		11 x 10 x 4.3						I <sup>2</sup> PAK, TO-262-2L, TO-262-3L	MP-25SK, TO-262			I <sup>2</sup> PAK	TO-262		

Types in brackets (...) show footprint compatibility only

# Package cross reference matrix

Pins/ leads	Nexperia	Industry standard names	Size (l x w x h) (mm)	P <sub>tot</sub> (mW)	Package	Competitor synonyms								
						Rohm	Toshiba	ON Semi	Renesas	Infineon	Diodes Inc	ST	Vishay	Semtech
4	LFPAK56 (SOT669)	Power-S08	4.9 x 4.45 x 1.0	395W		HSOP8 (Single)	SOP / DSOP Advance	SO-8 FL, DFN-5, LFPAK4	LFPAK56, HSON-8	PG-TD-SON-8	Power-Di5060-8	Power-FLAT (6x5)	PowerPAK SO-8(L)	
	SOT143B		2.9 x 1.3 x 1.0	250			CP4		MPAK-4R	SOT143	SOT-143		SOT-143	
	LFPAK56E (SOT1023)		6.2 x 5.3 x 1.1	500W		HSOP8 (Single)	SOP / DSOP Advance	SO-8 FL, DFN-5, LFPAK8	LFPAK56, HSON-8	PG-TD-SON-8	Power-Di5060-8	Power-FLAT (6x5)	PowerPAK SO-8(L)	
	SOT223	SC-73	6.5 x 3.5 x 1.65	1700				SOT-223		SOT223	SOT-223		SOT223	
	LFPAK88 (SOT1235)		8 x 8 x 1.6	375W			D <sup>2</sup> PAK+	TO-LL Power88 D <sup>2</sup> PAK-3 D <sup>2</sup> PAK-7		TO-LL sTOLL TOLG D <sup>2</sup> PAK D <sup>2</sup> PAK7P		D <sup>2</sup> PAK H <sup>2</sup> PAK-2 H <sup>2</sup> PAK-6	PowerPAK 8x8L D <sup>2</sup> PAK-3 D <sup>2</sup> PAK-7	
5	SOT353	SC-88 A	2.0 x 1.25 x 0.95	300		UMD5/UMT5	USV	SC-88 A	CMPAK-SC0		SOT353		SOT353	SC70-5L
6	DFN1010-6 (SOT891)	XSON6	1.0 x 1.0 x 0.48					CS6	SOT963					
	DFN1010B-6 (SOT1216)		1.1 x 1.0 x 0.37	350		(VMT6)	(FS6)	(SOT063)			(SOT963)			
	DFN1410-6 (SOT886)	XSON6	1.45 x 1.0 x 0.48	250										SLP1510N6
	DFN2020-6 (SOT1118)		2.0 x 2.0 x 0.62	1300		HU-ML2020L8 (Dual)	UDFN6	6 Lead DFN WDFN6			UDFN2020-6 Type B		PowerPAK SC-70 Thin PowerPAK SC-70	
	DFN2020D-6 (SOT1118D)		2.0 x 2.0 x 0.62	1300		HU-ML2020L8 (Dual)	UDFN6	6 Lead DFN WDFN6			UDFN2020-6 Type B		PowerPAK SC-70 Thin PowerPAK SC-70	
	DFN-2020MD-6 (SOT1220)		2.0 x 2.0 x 0.62	1250		HU-ML2020L8 (Single)	UDFN6B	UDFN-6 WDFN6			UDFN2020-6 Type E		PowerPAK SC-70 Thin PowerPAK SC-70	
	SOT363	SC-88	2.0 x 1.25 x 0.95	300		UMD6/UMT6	US6 UF6 USV	SC-88	CMPAK-6	SOT363	SOT-363		SC70-6	SC70-6L
	SOT457	SC-74	2.9 x 1.5 x 1.0	750		SMD6/SMT6	SM6 VS-6	SC-74 TSOP-6	TSOP-6	SC74 TSOP6	SOT23-6 SOT26		TSOP6 TSOP-6	SOT23-6L
8	LFPAK33 (SOT1210)		3.3 x 3.3 x 0.85	790		HSMT8	TSON Advance	µ8FL, WDFN-8		PG-TSD-SON-8	Power Di3333-8	Power FLAT 3.3 x 3.3	PowerPAK 1212-8	
	LFPAK56D (SOT1205)		4.9 x 4.45 x 1.0	680		HSOP8 (Dual)		SO-8FL Dual, DFN-8	HSON-8 dual	PG-TDSON-8	Power Di5060-8	Power FLAT 5x6 Dual	PowerPAK SO-8L Dual	
	DFN1714-8 (SOT 1166)	HUSON8	1.7 x 1.35 x 0.52											SLP1713P8
	DFN1714U-8 (SOT983)	HXSON8	1.7 x 1.35 x 0.48					UDFN 1.7 x 1.35, 0.4P						SLP1713P8
10	DFN2510-10 (SOT 1165)	XSON10	2.5 x 1.0 x 0.48					UDFN10 2.5 x 1, 0.5P		TSLP-9-1		pQFN-10L		SLP1610P4
	DFN-N2510A-10 (SOT1176)	XSON10	2.5 x 1.0 x 0.48					UDFN10 2.5 x 1, 0.5P		TSLP-9-1		pQFN-10L		SLP1610P4
	DFN2626-10 (SOT 1197)		2.6 x 2.6 x 0.48					UDFN10 2.6 x 2.6, 0.5P						SLP2626P10
12	DFN2512-12 (SOT 1158)	HXSON12	2.5 x 1.2 x 0.48					UDFN12, 2.5 x 1.2, 0.4P						
	DFN2514-12 (SOT 1167)	HUSON12	2.5 x 1.35 x 0.53					UDFN12, 2.5 x 1.35, 0.4P						SLP2513P12
16	DFN3312-16 (SOT 1159)	HXSON16	3.3 x 1.2 x 0.48					UDFN 16, 3.5 x 1.2, 0.4P						
	DFN3314-16 (SOT 1168)	HUSON16	3.3 x 1.35 x 0.53											SLP3313P16

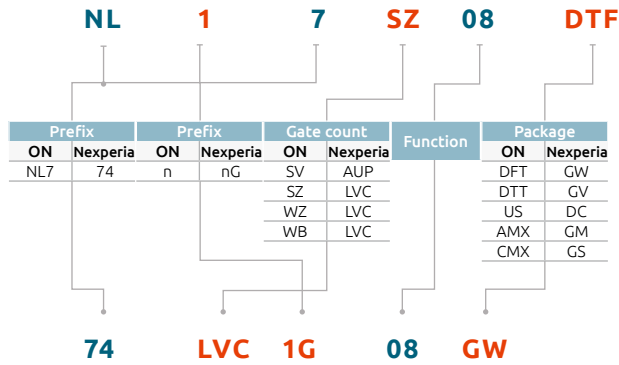
Types in brackets (...) show footprint compatibility only

## Competitive cross reference - Logic

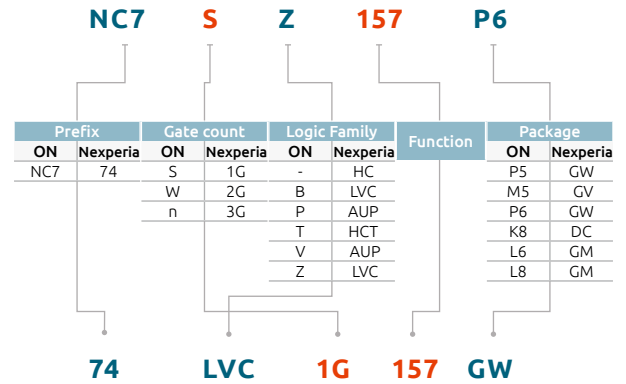
### Competitive cross reference - Analog & logic ICs

This cross reference allows you to match a competitor's part number to a Nexperia part number. Once you have the equivalent part number, check the Nexperia website [www.nexperia.com/logic](http://www.nexperia.com/logic) to confirm that the particular configuration is released.

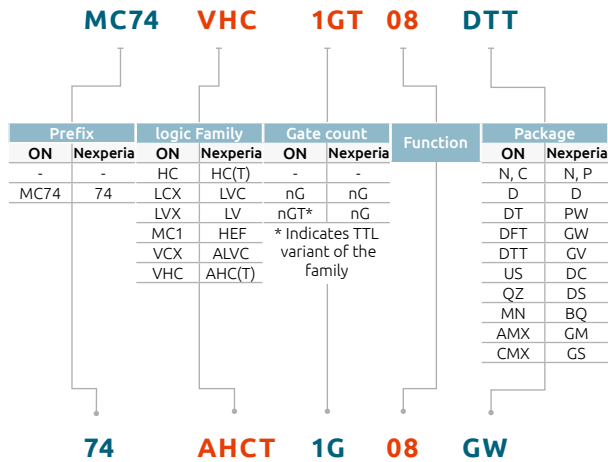
#### On semiconductor low pin count logic



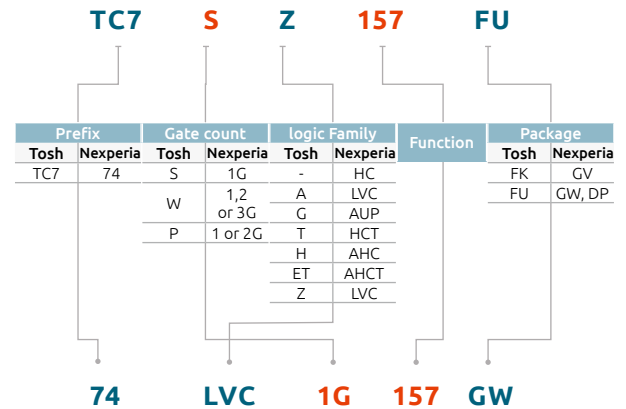
#### ON semiconductor tiny logic



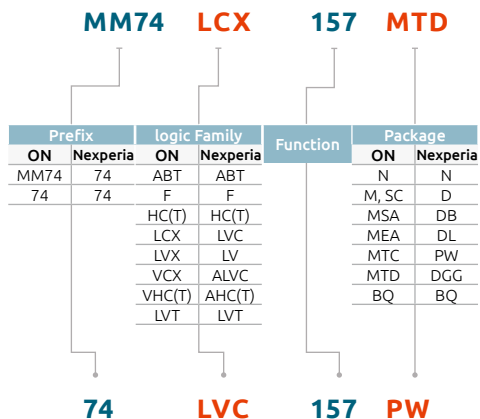
#### On semiconductors logic



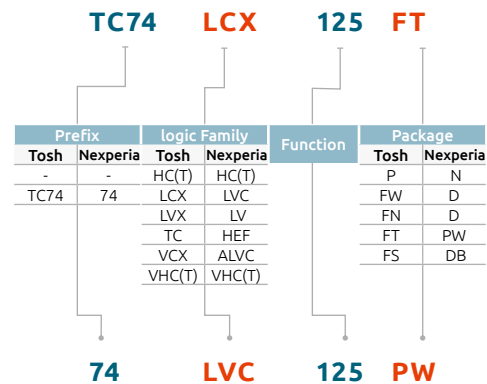
#### Toshiba one gate



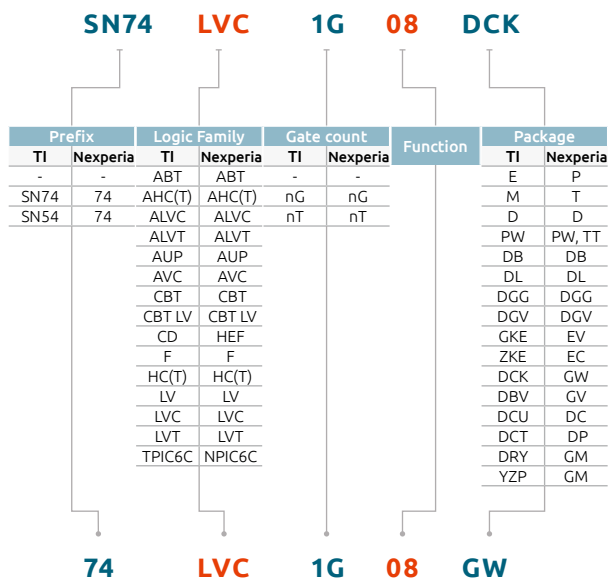
#### ON semiconductor standard logic



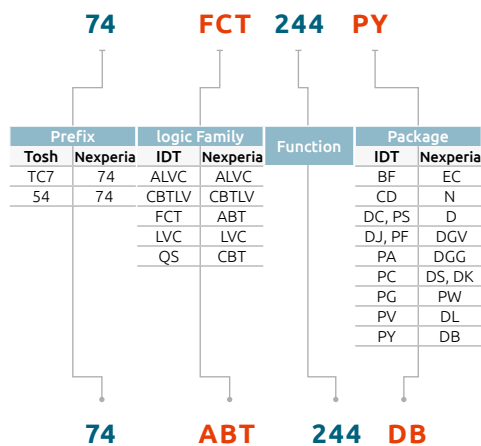
#### Toshiba standard logic



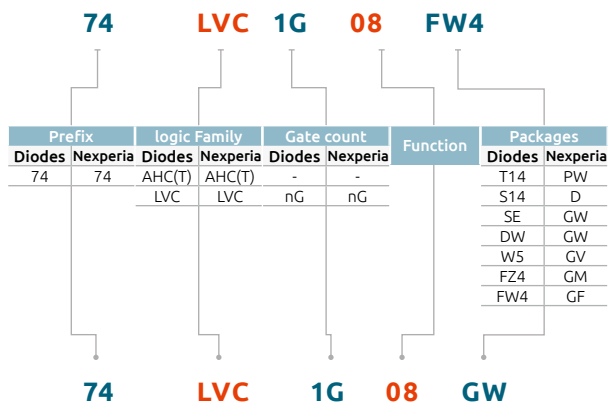
Texas instruments logic



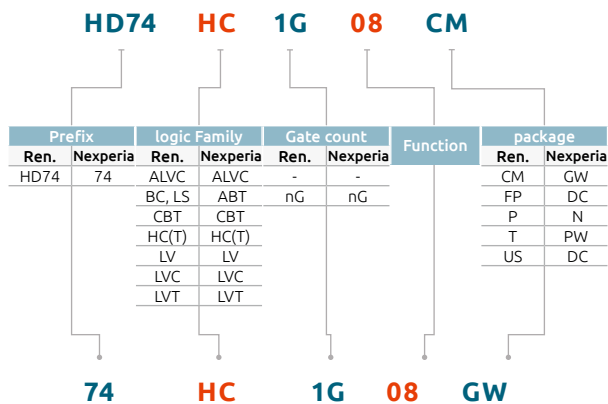
IDT logic



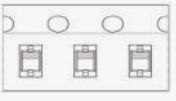
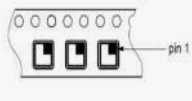
Diodes Inc. logic

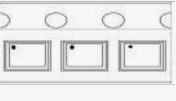


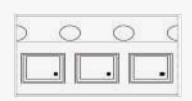


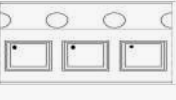
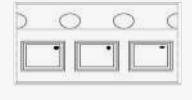
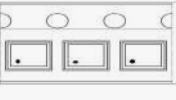
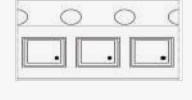
Renesas logic

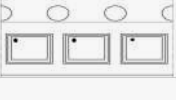
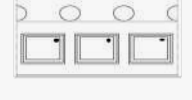
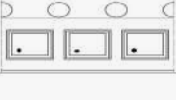
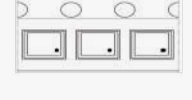


## Product orientation (tape and reel pack)

Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
		DFN1006-2 (SOD882)		315	
	DFN1006D-2 (SOD882D)	315		D <sup>2</sup> PAK (SOT8018)	118
	DFN1608D-2 (SOD1608)	315			
	DFN1006BD-2 (SOD882BD)	315			
	DSN0603-2 (SOD962)	315			
	DFN0603-2 (SOD972E)	317			
	DFN0603-3 (SOT8013)	317			
	DSN0402-2 (SOD992)	315			
	DSN0402B-2 (SOD992B)	315			
	DSN1006-2 (SOD993)	315			
	DSN1006-2 (SOD993B)	315			
	DSN1006U-2 (SOD995)	315			
	DSN1608-2 (SOD963&964)	315			
	SOD80	115, 135			
	SOD123F	115			
	CFP3 (SOD123W)	115			
	SOD123	115, 118			
	CFP5 (SOD128)	115			
	CFP2-HP (SOD323HP)	115			
	SOD323	115, 135			
	SOD323F	115			
	SOD523	115, 135, 315, 335			

Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
		SOT89		146	
				DFN2020-3 (SOT1061)	115, 135
				DFN2020D-3 (SOT1061D)	115, 135
				SOT89	115, 135
				D <sup>2</sup> PAK (SOT404)	118
				SOT89	147
				CFP15 (SOT1289)	139, 146
				CFP15B (SOT1289B)	139
				DSN1006 (SOT8007)	326
				DSN1010-3 (SOT8007)	315
				DFN0606-3 (SOT8001)	125
	DFN1006-3 (SOT883)	315			
	DFN1006B-3 (SOT883B)	315			
	SOT23	185, 215, 235			
	SOT323	115, 135			
	SOT416	115, 135			
	SOT663	115			

Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
		WLCSP4 (0808)		084	
	LFPK56 (SOT669)	115			
	LFPK56E (SOT1023)	115			
	LFPK56-UL2595 (SOT1023A)	115			
	LFPK88 (SOT1235)	118			
	SOT143B	215, 235			
	SOT223	115, 135			
	DFN1010-4 (SOT1194)	115			

Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
		WLCSP5 (1208)		087	
				SOT665	115
	SOT753	125			
	X2SON5 (SOT1226)	125			
	UMTS (SOT353-1)	125			
	SO5 (SOT753)	125			

6 pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
			DFN1410-6 (SOT886)	115		DFN1412-6 (SOT1268)
		DFN2020MD-6 (SOT1220)	184	DFN2020D-6 (SOT1118D)		115
		LFPK33 (SOT1210)	115	DFN2020MD-6 (SOT1220)		115
		LFPK56D (SOT1205)	115	SOT363		115, 135
		WLCSP6 (1510)	023	SOT457		115, 135
		XSON6 (SOT1202)	125	X2SON6 (SOT1255)		147
		XSON6 (SOT886)	125	DFN0606B-6		147
		DFN1308-6 (SOT8006)	315	SOT666		315
		DFN1308-6 (SOT8006B)	315			
		DFN2020M-6 (SOT1220-2)	115			
		DFN1010-6 (SOT891)	132	DFN0606 (SOT8001)		147
		DFN1010E-6 (SOT1202)	132			
		DFN1410-6 (SOT886)	132			
		DFN2020MD-6 (SOT1220)	125			
		SOT363	125, 165			
		SOT457	125, 165			
		SC-88 (SOT363)	125			
		SC-74 (SOT457)	125			

multi I/O pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending	
			DFN2110-9 (SOT1178)	115		DHXQFN14 (SOT8014-1)	147
		DFN2111-7 (SOT1358)	471				
		DFN2510A-10 (SOT1176)	115				
		DFN2520-9 (SOT1333)					
		DFN2520-9 (SOT1333)					
		DFN2520-9 (SOT1333)					
		DFN2520-9 (SOT1333)					
		DFN5050-32 (SOT617-3)					
		DHXQFN16 (SOT8016-1)	115				
		DHXQFN20 (SOT8020-1)	115				
		DHXQFN24 (SOT8024-1)	115				
		XSON8 (SOT1116)	115				
		X2SON8 (SOT1233-2)	115				
		XSON8 (SOT1203)	115				
		XSON8 (SOT833-1)	115				
		TSSOP8 (SOT530-1)	118				
		TSSOP10 (SOT552-1)	118				
		XQFN10 (SOT1160-1)	115				
		XQFN12 (SOT1174-1)	115				
		DHVQFN14 (SOT762-1)	115				
		TSSOP14 (SOT402-1)	118				
		TSSOP16 (SOT403-1)	118				
		SO16 (SOT109-1)	118				
		TSSOP20 (SOT360-1)	118				
		SO20 (SOT163-1)	118				
		DHXQFN20 (SOT1045-2)	115				
		DHVQFN20 (SOT764-1)	115				
		DHVQFN24 (SOT815-1)	118				
		TSSOP24 (SOT355-1)	118				
		TSSOP48 (SOT362-1)	118				
		TSSOP48 (SOT480-1)	118				
		TSSOP56 (SOT364-1)	118				
			VSSOP8 (SOT765-1)	125			
			TSSOP8 (SOT505-2)	125			

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1PS70SB20	67	74ABTH162245A	169	74AHC125-Q100	140	74AHCT04-Q100	140	74ALVC74	180
1PS70SB82	63	74AHC00	172	74AHC126	162	74AHCT07A	162	74ALVC125	163
1PS70SB84	63	74AHC00-Q100	142	74AHC126-Q100	140	74AHCT08	171	74ALVC125-Q100	140
1PS70SB85	63	74AHC1G00	172	74AHC132	172	74AHCT08-Q100	142	74ALVC244	163
1PS70SB86	63	74AHC1G00-Q100	155	74AHC132	177	74AHCT14	162	74ALVC245	169
1PS745B23	68	74AHC1G02	174	74AHC132-Q100	143	74AHCT14	177	74ALVC373	182
1PS765B10	<b>(-Q)</b> 63	74AHC1G02-Q100	155	74AHC138	185	74AHCT14A	162	74ALVC374	180
1PS765B17	63	74AHC1G04	162	74AHC138-Q100	147	74AHCT14-Q100	143	74ALVC541	163
1PS765B21	<b>(-Q)</b> 63	74AHC1G04-Q100	153	74AHC139	185	74AHCT17A	162	74ALVC541-Q100	140
1PS765B21	<b>(-Q)</b> 63	74AHC1G07	162	74AHC139-Q100	147	74AHCT17A	177	74ALVC573	182
1PS765B40	<b>(-Q)</b> 63	74AHC1G07-Q100	153	74AHC157	186	74AHCT30	172	74ALVC574	180
1PS765B70	<b>(-Q)</b> 63	74AHC1G08	171	74AHC157-Q100	147	74AHCT30-Q100	142	74ALVC16244	163
1PS795B10	<b>(-Q)</b> 63	74AHC1G08-Q100	155	74AHC164	183	74AHCT32	173	74ALVC16245	169
1PS795B17	63	74AHC1G09	171	74AHC164-Q100	145	74AHCT32-Q100	142	74ALVC164245	189
1PS795B30	<b>(-Q)</b> 63	74AHC1G09-Q100	155	74AHC244	162	74AHCT74	180	74ALVC164245-Q100	148
1PS795B31	<b>(-Q)</b> 63	74AHC1G14	162	74AHC244-Q100	140	74AHCT74-Q100	143	74ALVCH16244	163
1PS795B40	<b>(-Q)</b> 63	74AHC1G14	177	74AHC245	169	74AHCT86	175	74ALVCH16245	169
1PS795B70	<b>(-Q)</b> 63	74AHC1G14-Q100	157	74AHC245-Q100	141	74AHCT86-Q100	142	74ALVCH16373	182
1PS885B48	<b>(-Q)</b> 63	74AHC1G17	162	74AHC257	186	74AHCT123A	187	74ALVCH16374	180
1PS885B82	63	74AHC1G17	177	74AHC257-Q100	147	74AHCT123A-Q100	148	74ALVCH16500	169
1PS300	<b>(-Q)</b> 55	74AHC1G17-Q100	153	74AHC273	180	74AHCT125	162	74ALVCH16501	169
1PS301	<b>(-Q)</b> 55	74AHC1G32	173	74AHC273-Q100	143	74AHCT125-Q100	140	74ALVCH16543	169
1PS302	<b>(-Q)</b> 55	74AHC1G32-Q100	155	74AHC373	182	74AHCT126	162	74ALVCH16600	169
2N700BKM	114	74AHC1G66	191	74AHC374	180	74AHCT126-Q100	140	74ALVCH16601	169
2N7002AK-Q	104	74AHC1G66-Q100	161	74AHC374-Q100	143	74AHCT132	172	74ALVCH16646	169
2N7002AKQB-Q	104	74AHC1G79	180	74AHC541	162	74AHCT132	177	74ALVCH16652	169
2N7002AKS-Q	104	74AHC1G79-Q100	158	74AHC541-Q100	140	74AHCT132-Q100	143	74ALVCH16821	180
2N7002AKW-Q	104	74AHC1G86	175	74AHC573	182	74AHCT138	185	74ALVCH16823	180
2N7002BK	104	74AHC1G86-Q100	155	74AHC573-Q100	144	74AHCT138-Q100	147	74ALVCH16825	163
2N7002BKMB	114	74AHC1G125	162	74AHC574	180	74AHCT139	185	74ALVCH16827	163
2N7002BKS	104	74AHC1G125-Q100	153	74AHC594	183	74AHCT139-Q100	147	74ALVCH16841	182
2N7002BKW	104	74AHC1G126	162	74AHC594-Q100	145	74AHCT157	186	74ALVCH16843	182
2N7002KQB	104	74AHC1G126-Q100	153	74AHC595	183	74AHCT157-Q100	147	74ALVCH16952	169
2N7002NXAK	119	74AHC1G4208	184	74AHC595-Q100	145	74AHCT164	183	74ALVCH162244	163
2N7002NXBK	119	74AHC1G4208-Q100	158	74AHC9541A	162	74AHCT164-Q100	145	74ALVCH162245	169
2PA1576Q	23	74AHC1G4210	184	74AHCT00	172	74AHCT240	162	74ALVCH162601	169
2PA1576R	<b>(-Q)</b> 23	74AHC1G4210-Q100	158	74AHCT00-Q100	142	74AHCT240-Q100	140	74ALVCH162827	163
2PA1576S	<b>(-Q)</b> 23	74AHC1G4212	184	74AHC1G00	172	74AHCT244	163	74ALVT16244	163
2PA1774QM	<b>(-Q)</b> 23	74AHC1G4212-Q100	158	74AHCT1G00-Q100	155	74AHCT244A	163	74ALVT16373	182
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2PA1774SM	<b>(-Q)</b> 23	74AHC1G4214-Q100	158	74AHCT1G02-Q100	155	74AHCT245	169	74ALVT16823	180
2PB709ARL	23	74AHC1G4215	184	74AHCT1G04	162	74AHCT245A	169	74ALVT16827	163
2PB709ART	<b>(-Q)</b> 23	74AHC1G4215-Q100	158	74AHCT1G04-Q100	153	74AHCT245-Q100	141	74ALVT162245	169
2PB709ARW	23	74AHC1GU04	162	74AHCT1G08	171	74AHCT257	186	74ALVT162821	180
2PB709ASL	<b>(-Q)</b> 23	74AHC1GU04-Q100	153	74AHCT1G08-Q100	155	74AHCT257-Q100	147	74ALVT162823	180
2PB709ASW	23	74AHC02	174	74AHCT1G14	162	74AHCT273	180	74ALVT162827	163
2PB709BRL	<b>(-Q)</b> 23	74AHC2G00	172	74AHCT1G14	177	74AHCT273-Q100	143	74AUP1G00	172
2PB709BSL	23	74AHC2G00-Q100	155	74AHCT1G14-Q100	157	74AHCT374	180	74AUP1G00-Q100	155
2PB710ARL	<b>(-Q)</b> 23	74AHC2G08	171	74AHCT1G17	162	74AHCT374-Q100	143	74AUP1G02	174
2PB710ASL	<b>(-Q)</b> 23	74AHC2G08-Q100	155	74AHCT1G17	177	74AHCT541	163	74AUP1G02-Q100	155
2PB1219AQ	23	74AHC2G32	173	74AHCT1G17-Q100	153	74AHCT541A	163	74AUP1G04	163
2PB1219AR	23	74AHC2G32-Q100	155	74AHCT1G32	173	74AHCT541-Q100	140	74AUP1G04-Q100	153
2PB1219AS	23	74AHC2G125	162	74AHCT1G32-Q100	155	74AHCT573	182	74AUP1G06	163
2PC4081Q	<b>(-Q)</b> 22	74AHC2G125-Q100	153	74AHC1G66	191	74AHCT573-Q100	144	74AUP1G06-Q100	153
2PC4081R	<b>(-Q)</b> 22	74AHC2G126	162	74AHCT1G66-Q100	161	74AHCT574	180	74AUP1G07	163
2PC4081S	<b>(-Q)</b> 22	74AHC2G126-Q100	153	74AHC1G79	180	74AHCT594	183	74AUP1G07-Q100	153
2PC4617QMB	22	74AHC2G241	162	74AHCT1G79-Q100	158	74AHCT594-Q100	145	74AUP1G08-Q100	155
2PC4617RMB	22	74AHC2G241-Q100	153	74AHCT1G86	175	74AHCT595	183	74AUP1G09-Q100	155
2PD601ARL	22	74AHC02-Q100	142	74AHC1G86-Q100	155	74AHCT595-Q100	145	74AUP1G14	163
2PD601ART	<b>(-Q)</b> 22	74AHC3G04	162	74AHCT1G125	162	74AHCU04	163	74AUP1G14	177
2PD601ARW	<b>(-Q)</b> 22	74AHC3G04-Q100	153	74AHCT1G125-Q100	153	74AHCU04-Q100	140	74AUP1G14-Q100	157
2PD601ASL	22	74AHC3G14	162	74AHCT1G126	162	74AHCV05A	163	74AUP1G16	163
2PD601ASW	<b>(-Q)</b> 22	74AHC3G14	177	74AHCT1G126-Q100	153	74AHCV05A	177	74AUP1G17	177
2PD601BRL	22	74AHC3G14-Q100	157	74AHCT02	174	74AHCV07A	163	74AUP1G17-Q100	157
2PD601BSL	22	74AHC3GU04	162	74AHCT2G00	172	74AHCV07A	177	74AUP1G18	185
2PD602AQL	<b>(-Q)</b> 22	74AHC3GU04-Q100	153	74AHCT2G00-Q100	155	74AHCV14A	163	74AUP1G19	185
2PD602ARL	22	74AHC04	162	74AHCT2G08	171	74AHCV14A	177	74AUP1G32	173
2PD602ASL	<b>(-Q)</b> 22	74AHC04-Q100	140	74AHCT2G08-Q100	155	74AHCV17A	163	74AUP1G32-Q100	155
2PD1820AR	<b>(-Q)</b> 22	74AHC08	171	74AHCT2G32	173	74AHCV17A	177	74AUP1G34	163
2PD1820AS	<b>(-Q)</b> 22	74AHC08-Q100	142	74AHCT2G32-Q100	155	74AHCV244A	163	74AUP1G34-Q100	153
74ABT00	172	74AHC14	162	74AHCT2G125	163	74AHCV244A	177	74AUP1G38	172
74ABT04	162	74AHC14	177	74AHCT2G125-Q100	153	74AHCV245A	169	74AUP1G57	176
74ABT08	171	74AHC14-Q100	143	74AHCT2G126	163	74AHCV245A	177	74AUP1G57	177
74ABT32	173	74AHC30	172	74AHCT2G126-Q100	153	74AHCV541A	163	74AUP1G58	176
74ABT74	180	74AHC30-Q100	142	74AHCT2G241	163	74AHCV541A	177	74AUP1G58	177
74ABT125	162	74AHC32	173	74AHCT2G241-Q100	153	74ALVC00	172	74AUP1G74	180
74ABT126	162	74AHC32-Q100	142	74AHCT02-Q100	142	74ALVC00-Q100	142	74AUP1G74-Q100	158
74ABT244	162	74AHC74	180	74AHCT3G04	163	74ALVC02	174	74AUP1G79	180
74ABT245	169	74AHC74-Q100	143	74AHCT3G04-Q100	153	74ALVC04	163	74AUP1G80	180
74ABT16240A	162	74AHC86	175	74AHCT3G14	163	74ALVC08	171	74AUP1G86	175
74ABT16244A	162	74AHC86-Q100	142	74AHCT3G14	177	74ALVC14	163	74AUP1G86-Q100	155
74ABT16245B	169	74AHC123A	187	74AHCT3G14-Q100	157	74ALVC14	177	74AUP1G97	176
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74AUP1G125	163	74AUP2G86	175	74CBTLV3257-Q100	152	74HC10-Q100	142	74HC365	165
74AUP1G125-Q100	153	74AUP2G97	176	74CBTLV3306	192	74HC11	171	74HC365-Q100	140
74AUP1G126	163	74AUP2G97	177	74CBTLV3384	192	74HC14	164	74HC366	165
74AUP1G132	172	74AUP2G98	176	74CBTLV3861	192	74HC14	178	74HC366-Q100	140
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74AUP1G132-Q100	157	74AUP2G125	164	74CBTLVD3245	192	74HC20	172	74HC368	165
74AUP1G157	186	74AUP2G126	164	74CBTLVD3245-Q100	152	74HC21	171	74HC373	182
74AUP1G157-Q100	159	74AUP2G132	172	74CBTLVD3384	192	74HC27	174	74HC373-Q100	144
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74AUP1G175-Q100	158	74AUP2G240	164	74HC00-Q100	142	74HC42	185	74HC377-Q100	144
74AUP1G240	163	74AUP2G241	164	74HC1G00	172	74HC73	181	74HC390	184
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74AUP1G374	180	74AUP2GU04	164	74HC1G04	164	74HC75	182	74HC540	165
74AUP1G374-Q100	158	74AUP2GU04-Q100	153	74HC1G04-Q100	153	74HC85	187	74HC540-Q100	140
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74AUP1G0832	176	74AUP3G07	164	74HC1G08-Q100	155	74HC107	180	74HC541-Q100	140
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74AUP1T00	188	74AUP3G34	164	74HC1G66	191	74HC123-Q100	148	74HC594	183
74AUP1T02	174	74AUP3G0434	176	74HC1G66-Q100	161	74HC125	164	74HC594-Q100	145
74AUP1T02	188	74AUP3G3404	176	74HC1G86	175	74HC125-Q100	140	74HC595	183
74AUP1T04	163	74AVC1T45	189	74HC1G86-Q100	155	74HC126	164	74HC595-Q100	145
74AUP1T04	188	74AVC1T45-Q100	160	74HC1G125	164	74HC126-Q100	140	74HC597	183
74AUP1T08	171	74AVC1T1004	188	74HC1G125-Q100	153	74HC132	172	74HC597-Q100	145
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74LVC125A-Q100	141	74LVT08	171	BAS21AW (-Q)	57	BAT54CW	63	BC52-16PAS	26
74LVC126A	166	74LVT14	167	BAS21GW (-Q)	57	BAT54HCW (-Q)	63	BC53PA (-Q) / BC53-10PA(-Q) /	
74LVC126A-Q100	141	74LVT14	179	BAS21H (-Q)	57	BAT54H (-Q)	63	BC53-16PA (-Q)	26
74LVC132A	172	74LVT125	167	BAS21J (-Q)	57	BAT54J (-Q)	63	BC53PAS (-Q) / BC53-10PAS (-Q) /	
74LVC132A	178	74LVT126	167	BAS21LL(LD) (-Q)	57	BAT54L (-Q)	63	BC53-16PAS (-Q)	26
74LVC132A-Q100	143	74LVT240	168	BAS21LS (-Q)	57	BAT54LS (-Q)	63	<b>BC53PAST (-Q) / BC53-10PAST (-Q) / BC53-16PAST (-Q)</b>	26
74LVC138A	185	74LVT241	168	BAS21PG (-Q)	57	BAT54 (-Q)	63	BC54PA (-Q) / BC54-10PA (-Q) /	
74LVC138A-Q100	147	74LVT244A	168	BAS21 (-Q)	57	BAT54QB (-Q)	63	BC54-16PA (-Q)	26
74LVC139	185	74LVT244A-Q100	141	BAS21QB (-Q)	57	BAT54QC (-Q)	63	BC54PAS (-Q) / BC54-10PAS /	
74LVC157A	186	74LVT244B	168	BAS21QC (-Q)	57	BAT54S (-Q)	63	BC54-16PAS	26
74LVC157A-Q100	147	74LVT245	170	BAS21SW (-Q)	57	BAT54SW (-Q)	63	BC55PA / BC55-10PA /	
74LVC161	184	74LVT245B	170	BAS21TH (-Q)	58	BAT54VY (-Q)	63	BC55-16PA	26
74LVC163	184	74LVT573	182	BAS21VD (-Q)	57	BAT54W (-Q)	63	BC55PAS (-Q) / BC55-10PAS /	
74LVC240A	167	74LVT640	170	BAS21W (-Q)	57	BAT54XY (-Q)	63	BC55-16PAS	26
74LVC244A	167	74LVT2241	168	BAS28	55	BAT74	63	<b>BC56-16PAST (-Q)</b>	26
74LVC244A-Q100	141	74LVT2244	168	BAS29	58	BAT74S (-Q)	63	BC56PA (-Q) / BC56-10PA (-Q) /	
74LVC245A	169	74LVT2245	170	BAS30LS (-Q)	57	BAT85	63	BC56-16PA (-Q)	26
74LVC245A-Q100	141	74LVT16240A	168	BAS31	58	BAT120A (-Q)	68	BC56PAS(-Q) / BC56-10PAS (-Q) /	
74LVC257A	186	74LVT16244B	168	BAS32L	55	BAT120C (-Q)	68	BC56-16PAS(-Q)	26
74LVC273	181	74LVT16245B	169	BAS35	58	BAT120S (-Q)	68	<b>BC56PAST(-Q) /</b>	
74LVC273-Q100	144	74LVT16373A	182	BAS40-04(-Q)	63	BAT160A (-Q)	68	<b>BC56-10PAST (-Q)</b>	26
74LVC373A	182	74LVT16374A	181	BAS40-04W(-Q)	63	BAT160C (-Q)	68	BC68PA (-Q) / BC68-25PA (-Q)	26
74LVC373A-Q100	144	74LVT16543A	169	BAS40-05(-Q)	63	BAT160S (-Q)	68	BC68PAS / BC68-25PAS	26
74LVC374A	181	74LVT16543A	170	BAS40-05W(-Q)	63	BAT720 (-Q)	63	BC69PA / BC69-16PA /	
74LVC374A-Q100	144	74LVT162240A	168	BAS40-06(-Q)	63	BAT720 (-Q)	63	BC69-25PA	26
74LVC377	181	74LVT162244B	168	BAS40-06W(-Q)	63	BAT721A (-Q)	67	BC69PAS / BC569-16PAS /	
74LVC541A	167	74LVT162245B	169	BAS40-07(-Q)	63	BAT721C (-Q)	63	BC69-25PAS	26
74LVC541A-Q100	141	74LVT162373	182	BAS40DY(-Q)	63	BAT721 (-Q)	63	BC806-16H (-Q)	26
74LVC573A	182	74LVT162374	181	BAS40H(-Q)	63	BAT721S (-Q)	63	BC806-16 (-Q)	23
74LVC573A-Q100	144	74LVT1125	168	BAS40L(-Q)	63	BAT754A (-Q)	63	BC806-16W (-Q)	23
74LVC574A	181	74LVT244A	168	BAS40LS (-Q)	63	BAT754C (-Q)	63	BC806-25H (-Q)	26
74LVC594A	183	74LVT244A-Q100	141	BAS40(-Q)	63	BAT754L	63	BC806-25 (-Q)	23
74LVC594A-Q100	145	74LVT244B	168	BAS40VY (-Q)	63	BAT754 (-Q)	63	BC806-25W (-Q)	23
74LVC595A	183	74LVT245	170	BAS40W(-Q)	63	BAT754S (-Q)	63	BC807-16H (-Q)	26
74LVC2244A	167	74LVT16244B	168	BAS40XY(-Q)	63	BAT854AW (-Q)	63	BC807-16 (-Q)	23
74LVC2245A	169	74LVT16245B	170	BAS45A	58	BAT854CW (-Q)	63	BC807-16QB (-Q)	23
74LVC4066	191	74LVT16374A	181	BAS45AL	58	BAT854SW (-Q)	63	BC807-16QC (-Q)	23
74LVC4066-Q100	149	74LVTN16244B	168	BAS56	58	BAT854W	63	BC807-16W (-Q)	23
74LVC4245A	189	74LVTN16245B	170	BAS70-04 (-Q)	63	BAV21QA (-Q)	57		

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BC807-25H (-Q)	26	BC847DS (-Q)	24	BCP52T / -10T / -16T	26	BF723 (-Q)	27	BUK6Y10-30P	101
BC807-25 (-Q)	23	BC847 (-Q)	22	BCP53 / -10 / -16	26	BF820(-Q)	27	BUK6Y14-40P	101
BC807-25QB (-Q)	23	BC847QAPN	24	BCP53-10H (-Q)	26	BF820W (-Q)	27	BUK6Y19-30P	101
BC807-25QC (-Q)	23	BC847QAS	24	BCP53-16H (-Q)	26	BF821 (-Q)	27	BUK6Y24-40P	101
BC807-25W (-Q)	23	BC847RA	24	BCP53H (-Q)	26	BF822(-Q)	27	BUK6Y33-60P	101
BC807-40H (-Q)	26	BC847RAPN	24	BCP53T / -10T / -16T	26	BF823	27	BUK6Y61-60P	101
BC807-40 (-Q)	23	BC847W (-Q)	22	BCP54 (-Q) / -10 (-Q) / -16 (-Q)	26	BF824	31	BUK7D25-40E	103
BC807-40QB (-Q)	23	BC848B (-Q)	22	BCP54T / -10T / -16T	26	BF824W	31	BUK7D36-60E	103
BC807-40QC (-Q)	23	BC848W (-Q)	22	BCP55 (-Q) / -10 (-Q) / -16 (-Q)	26	BF840	31	BUK7J1R0-40H	95
BC807-40W (-Q)	23	BC849B	29	BCP55T / -10T / -16T	26	BFS19	31	BUK7J1R4-40H	95
BC807DS (-Q)	24	BC849BW	29	BCP56-10H	26	BFS20	31	BUK7J2R4-80M	99
BC807K-16	24	BC849C	29	BCP56-16H	26	BFS20W	31	<b>BUK7K3R5-40N</b>	96
BC807K-25	24	BC849CW	29	BCP56H	26	BS21AVD (-Q)	37	BUK7K5R1-30E	94
BC807K-40	24	BC850B	29	BCP56 (-Q) / -10 (-Q)	26	BSH103BK	119	BUK7K5R6-30E	94
BC807 (-Q)	23	BC850BW	29	BCP56T(-Q) / -10T (-Q) / -16T (-Q)	26	BSH111BK	119	BUK7K6R2-40E	96
BC807RA	24	BC850C	29	BCP68 (-Q) / -25 (-Q)	26	BSH205G2	103	BUK7K6R8-40E	96
BC807W (-Q)	23	BC850CW	29	BCP69 / -16 / -25 (-Q)	26	BSH205G2	121	BUK7K8R7-40E	96
BC816-16H (-Q)	26	BC856A (-Q)	23	BCV26	29	BSH205G2A	103	BUK7K12-60E	97
BC816-16 (-Q)	22	BC856AQB (-Q)	23	BCV27 (-Q)	29	BSN20BK	119	BUK7K13-60E	97
BC816-16W (-Q)	22	BC856AQC (-Q)	23	BCV28	29	BSP19 (-Q)	29	BUK7K15-80E	99
BC816-25H (-Q)	26	BC856AW (-Q)	23	BCV29	29	BSP31	26	BUK7K17-60E	97
BC816-25 (-Q)	22	BC856BM (-Q)	23	BCV46 (-Q)	29	BSP32 / 33	26	BUK7K17-80E	99
BC816-25W (-Q)	22	BC856B (-Q)	23	BCV47 (-Q)	29	BSP41	26	BUK7K18-40E	96
BC817-16 (-Q)	22	BC856BQB (-Q)	23	BCV48 (-Q)	29	BSP43	26	BUK7K23-80E	96
BC817-16QB (-Q)	22	BC856BQC (-Q)	23	BCV49 (-Q)	29	BSP50 (-Q)	29	BUK7K25-40E	99
BC817-16QC (-Q)	22	<b>BC856BSH-Q</b>	26	BCV61/A/B/C	30	BSP51 (-Q)	29	BUK7K29-100E	100
BC817-16W (-Q)	22	BC856BS (-Q)	24	BCV62/A/B/C	30	BSP52 (-Q)	29	BUK7K32-100E	97
BC817-25 (-Q)	22	BC856BW	23	BCV63 / B	30	BSP60	29	BUK7K35-60E	100
BC817-25QB (-Q)	22	BC856 (-Q)	23	BCV64B	29	BSP61	29	BUK7K45-100E	100
BC817-25QC (-Q)	22	<b>BC856SH-Q</b>	26	BCV65	31	BSP62 (-Q)	29	BUK7K52-60E	97
BC817-25W (-Q)	22	BC856S (-Q)	24	BCV71 (-Q)	22	BSR14 (-Q)	25	BUK7K89-100E	100
BC817-40 (-Q)	22	BC857AM (-Q)	23	BCV72 (-Q)	22	BSR16 (-Q)	25	BUK7K134-100E	100
BC817-40QB (-Q)	22	BC857A (-Q)	23	BCW29	23	BSR30 (-Q) / 31 (-Q)	26	BUK7M3R3-40H	96
BC817-40QC (-Q)	22	BC857AQB (-Q)	23	BCW30	23	BSR33 (-Q)	26	BUK7M4R3-40H	96
BC817-40W (-Q)	22	BC857AQC (-Q)	23	BCW31	22	BSR41(-Q)	26	BUK7M5R0-40H	96
BC817DPN (-Q)	24	BC857AW (-Q)	23	BCW32	22	BSR43 (-Q)	26	BUK7M6R0-40H	96
BC817DS (-Q)	24	BC857BM (-Q)	23	BCW33	22	BSS63 (-Q)	23	BUK7M6R3-40E	96
BC817K-16	24	BC857B (-Q)	23	BCW60B	22	BSS63 (-Q)	27	BUK7M6R7-40H	96
BC817K-16H (-Q)	26	BC857BQB (-Q)	23	BCW60C	22	BSS84AK	104	BUK7M8R0-40E	96
BC817K-25	24	BC857BQC (-Q)	23	BCW60D	22	BSS84AK	121	BUK7M8R5-40H	96
BC817K-25H (-Q)	26	<b>BC857BSH-Q</b>	26	BCW61B	23	BSS84AKM	114	BUK7M9R5-40H	96
BC817K-40H (-Q)	26	BC857BS (-Q)	24	BCW61C	23	BSS84AKMB	114	BUK7M9R9-60E	98
BC817 (-Q)	22	BC857BW (-Q)	23	BCW61D	23	BSS84AKQB	104	BUK7M10-40E	96
BC817RA	24	BC857CM (-Q)	23	BCW66F	22	BSS84AKS	104	BUK7M11-40H	96
BC817RAPN	24	BC857C (-Q)	23	BCW66G	22	BSS84AKS	122	BUK7M12-40E	96
BC817W (-Q)	22	BC857CQB (-Q)	23	BCW66H	22	BSS84AKW	104	BUK7M12-60E	98
BC846A (-Q)	22	BC857CQC (-Q)	23	BCW68F	23	BSS84AKW	121	BUK7M15-40H	96
BC846AQB (-Q)	22	BC857CW (-Q)	23	BCW68G	23	BSS138AK-Q	104	BUK7M15-60E	98
BC846AW (-Q)	22	BC857 (-Q)	23	BCW68H	23	BSS138AKQB-Q	104	BUK7M17-80E	99
BC846BM (-Q)	22	BC857QAS	24	BCW69	23	BSS138AKS-Q	104	BUK7M19-60E	98
<b>BC846BPNH-Q</b>	26	BC857RA	24	BCW70	23	BSS138AKW-Q	104	BUK7M20-40H	96
BC846BPN (-Q)	24	BC857W (-Q)	23	BCW71	22	BSS138BK	104	BUK7M21-40E	96
BC846B (-Q)	22	BC858B (-Q)	23	BCW72	22	BSS138BK	104	BUK7M22-80E	99
BC846BQB (-Q)	22	BC858BW (-Q)	23	BCW89	23	BSS138BKW	104	BUK7M27-80E	99
BC846BQC (-Q)	22	BC859B	29	BCX17 (-Q)	23	BSS138P	104	BUK7M33-60E	98
<b>BC846BSH-Q</b>	26	BC859BW	29	BCX18	23	BSS138PS	104	BUK7M42-60E	98
BC846BS (-Q)	24	BC859CW	29	BCX19 (-Q)	23	BSS138PW	104	BUK7M45-40E	96
BC846BW (-Q)	22	BC860B	29	BCX51 / -10 / -16	26	BST39 (-Q)	27	BUK7M67-60E	98
BC846DS (-Q)	24	BC860B	29	BCX51T / -10T / -16T	26	BST50 (-Q)	29	BUK7S0R5-40H	95
BC846 (-Q)	22	BC860BW	29	BCX52 / -10 / -16	26	BST51	29	BUK7S0R7-40H	95
<b>BC846SH-Q</b>	26	BC860C	29	BCX52T / -10T / -16T	26	BST52	29	BUK7S1R0-40H	95
BC846S (-Q)	24	BC860CW	29	BCX53 / -10 / -16	26	BST60 (-Q)	29	BUK7S1R2-40H	95
BC846W (-Q)	22	BC868 (-Q) / -25 (-Q)	26	BCX53T / -10T / -16T	26	BST61	29	BUK7S1R2-80M	99
BC847AM (-Q)	22	BC869 / -16 / -25	26	BCX54 (-Q) / -10 (-Q) / -16 (-Q)	26	BST62	29	BUK7S1R5-40H	95
BC847A (-Q)	22	BCM53DS	30	BCX54T / -10T / -16T	26	BUK4D16-20	103	BUK7S2R0-40H	95
BC847AQB (-Q)	22	BCM56DS	30	BCX55 (-Q) / -10 (-Q) / -16 (-Q)	26	BUK4D38-20P	103	BUK7S2R5-40H	95
BC847AQC (-Q)	22	BCM61B	30	BCX55T / -10T / -16T	26	BUK4D60-30	103	BUK7V4R2-40H	96
BC847AW (-Q)	22	BCM62B	30	BCX56 / -10 / -16	26	BUK4D110-20P	103	BUK7Y1R0-40N	95
BC847BM (-Q)	22	BCM846BS	30	BCX56T / -10T / -16T	26	BUK6D22-30E	103	BUK7Y1R4-40H	95
<b>BC847BPNH-Q</b>	26	<b>BCM846BSH-Q</b>	26	BCX70G	22	BUK6D23-40E	103	BUK7Y1R7-40H	95
BC847BPN (-Q)	24	BCM847BS	30	BCX70H	22	BUK6D30-40E	103	BUK7Y2R0-40H	95
BC847B (-Q)	22	<b>BCM847BSH-Q</b>	26	BCX70J	22	BUK6D38-30E	103	BUK7Y2R5-40H	95
BC847BQB (-Q)	22	BCM847DS	30	BCX70K	22	BUK6D43-40P	103	BUK7Y3R0-40H	95
BC847BQC (-Q)	22	BCM847QAS	30	BCX71H (-Q)	23	BUK6D43-60E	103	BUK7Y3R1-80M	99
BC847BWC (-Q)	22	BCM856BS	30	BCX71J (-Q)	23	BUK6D56-60E	103	BUK7Y3R5-40E	95
BC847BWC (-Q)	22	<b>BCM856BSH-Q</b>	26	BCX71K (-Q)	23	BUK6D72-30E	103	BUK7Y3R5-40H	95
<b>BC847BSH-Q</b>	26	BCM856DS	30	BF550	31	BUK6D77-60E	103	BUK7Y4R4-40E	95
BC847BS (-Q)	24	BCM857BS	30	BF570	31	BUK6D81-80E	103	BUK7Y4R8-60E	97
BC847BW (-Q)	22	<b>BCM857BSH-Q</b>	26	BF620 (-Q)	27	BUK6D120-40E	103	BUK7Y6R0-60E	96
BC847CM (-Q)	22	BCM857DS	30	BF621 (-Q)	27	BUK6D120-60P	103	BUK7Y7R0-40H	95
BC847C (-Q)	22	BCM857QAS	30	BF622 (-Q)	27	BUK6D125-60E	103	BUK7Y7R2-60E	97
BC847CQB (-Q)	22	BCP51 / -10 / -16	26	BF623 (-Q)	27	BUK6D210-60E	103	BUK7Y7R8-80E	99
BC847CQC (-Q)	22	BCP51T / -10T / -16T	26	BF720 (-Q)	27	BUK6D230-80E	103	BUK7Y8R7-60E	97
BC847CW (-Q)	22	BCP52 / -10 / -16	26	BF722 (-Q)	27	BUK6D335-100E	103	BUK7Y9R9-80E	99

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BUK7Y14-80E	99	BUK9M53-60E	98	BZB100A	50	HEF4011B	173	IP4369CX4	204
BUK7Y15-60E	97	<b>BUK9M60-100L</b>	101	BZB784 series	51	HEF4013B	181	LSF0101	190
BUK7Y19-100E	100	BUK9M67-60E	98	BZT52H-A (-Q) series	51	HEF4013B-Q100	144	LSF0101-Q100	160
BUK7Y21-40E	95	BUK9M85-60E	98	BZT52H-Q series	50	HEF4014B	183	LSF0102	190
BUK7Y22-100E	100	BUK9M120-100E	101	BZT52H series	50	HEF4014B-Q100	145	LSF0102-Q100	160
BUK7Y25-60E	97	BUK9M156-100E	101	BZT52-Q series	50	HEF4015B	183	LSF0108	190
BUK7Y25-80E	99	BUK9Y13-40H	96	BZT52 series	50	HEF4016B	191	LSF0108-Q100	148
BUK7Y29-40E	95	BUK9Y1R3-40H	95	BZT5250H-Q series	50	HEF4017B	184	LSF0202	190
BUK7Y38-100E	100	BUK9Y1R6-40H	95	BZT5250H-Q series BZT5250H	53	HEF4017B-Q100	146	LSF0204	190
BUK7Y41-80E	99	BUK9Y1R9-40H	95	series	53	HEF4020B	184	LSF0204-Q100	148
BUK7Y43-60E	97	BUK9Y2R4-40H	95	BZT5250H series	50	HEF4020B-Q100	146	MJD31C	27
BUK7Y59-60E	97	BUK9Y2R8-40H	95	BZV49 series	51	HEF4021B	183	MJD31CA	27
BUK7Y65-100E	100	BUK9Y3R0-40E	95	BZV90 series	51	HEF4021B-Q100	145	MJD31CH-Q*	27
BUK7Y72-80E	99	BUK9Y3R5-40E	95	BZX84-A (-Q) series	51	HEF4027B	181	MJD32C	27
BUK7Y98-80E	99	BUK9Y4R4-40E	95	BZX84-J-Q series	50	HEF4027B-Q100	144	MJD32CA	27
BUK7Y113-100E	100	BUK9Y4R8-60E	97	BZX84J series	50	HEF4028B	185	MJD41C(-Q)	27
BUK7Y153-100E	100	BUK9Y6R0-60E	97	BZX84J series	53	HEF4030B	175	MJD42C(-Q)	27
BUK9D23-40E	103	BUK9Y6R5-40H	95	BZX84-Q series	50	HEF4040B	184	MJD44H11	27
BUK9J0R9-40H	95	BUK9Y7R0-60EL	97	BZX84 series	50	HEF4040B-Q100	146	MJD44H11A	27
BUK9K5R1-30E	94	BUK9Y7R2-60E	97	BZX84W-Q series	51	HEF4043B	182	MJD45H11	27
BUK9K5R6-30E	94	BUK9Y7R6-40E	95	BZX84-Q series	51	HEF4043B-Q100	144	MJD45H11A	27
BUK9K6R2-40E	96	BUK9Y8R5-80E	99	BZX100A	50	HEF4046B	187	MJD148(-Q)	27
BUK9K6R8-40E	96	BUK9Y8R7-60E	97	BZX384-A (-Q) series	51	HEF4047B	187	MJD2873(-Q)	27
BUK9K8R7-40E	96	BUK9Y8R8-60EL	97	BZX384-Q series	50	HEF4047B-Q100	148	MM3Z series	50
BUK9K12-60E	97	BUK9Y11-80E	99	BZX384 series	50	HEF4049B	168	MM5Z series	50
<b>BUK9K12-80L</b>	99	BUK9Y12-40E	95	BZX585-Q series	50	HEF4049B-Q100	141	MMBT2222A (-Q)	25
BUK9K13-40H	96	BUK9Y12-100E	100	BZX585 series	50	HEF4050B	168	MMBT3904 (-Q)	25
BUK9K13-60E	97	BUK9Y13-60EL	97	BZX884-Q series	50	HEF4050B-Q100	141	MMBT3906 (-Q)	25
BUK9K13-60RA	97	BUK9Y14-80E	99	BZX884 series	50	HEF4051B	191	MMBZ5V6AL-Q	75
<b>BUK9K14-100L</b>	100	BUK9Y15-60E	97	BZX884-Q series	50	HEF4051B-Q100	149	MMBZ5V6AL(-Q)	87
BUK9K18-40E	96	BUK9Y15-100E	100	BZX884S series	50	HEF4052B	191	<b>MMBZ5V6A-T</b>	76
BUK9K20-80E	99	BUK9Y19-100E	100	BZX8450-Q series	50	HEF4052B-Q100	149	<b>MMBZ5V6AT-Q</b>	76
BUK9K22-80E	99	BUK9Y21-40E	95	BZX8450-Q series BZX8450 series	53	HEF4053B	191	MMBZ6V2AL-Q	75
BUK9K25-40E	96	BUK9Y22-60EL	97	BZX8450 series	50	HEF4053B-Q100	149	MMBZ6V2AL(-Q)	87
BUK9K25-40RA	96	BUK9Y22-100E	100	BZX8850-Q series BZX8850 series	53	HEF4060B	184	<b>MMBZ6V2A-T</b>	76
BUK9K29-100E	100	BUK9Y25-60E	97	BZX8850 series	50	HEF4060B-Q100	146	<b>MMBZ6V2AT-Q</b>	76
BUK9K30-80E	99	BUK9Y25-80E	99	BZX8850s-Q series	53	HEF4066B	191	MMBZ6V8AL-Q	75
BUK9K32-100E	100	BUK9Y29-40E	95	BZX8850s-Q series	53	HEF4066B-Q100	149	MMBZ6V8AL(-Q)	76
BUK9K35-60E	97	BUK9Y38-100E	100	BZX38450-Q series	50	HEF4067B	191	<b>MMBZ6V8A-T</b>	76
BUK9K35-60RA	97	BUK9Y41-80E	99	BZX38450-Q series	50	HEF4067B-Q100	149	<b>MMBZ6V8AT-Q</b>	76
<b>BUK9K35-100L</b>	100	BUK9Y43-60E	97	BZX38450 series	53	HEF4069UB	168	MMBZ9V1AL-Q	75
BUK9K45-100E	100	BUK9Y59-60E	97	BZX38450 series	50	HEF4069UB-Q100	141	MMBZ9V1AL(-Q)	87
<b>BUK9K49-80L</b>	99	BUK9Y65-100E	100	BZX58550-Q series	50	HEF4070B	175	<b>MMBZ9V1A-T</b>	76
BUK9K52-60E	97	BUK9Y72-80E	99	BZX58550-Q series	50	HEF4071B	173	<b>MMBZ9V1AT-Q</b>	76
BUK9K52-60RA	97	BUK9Y107-80E	99	BZX58550 series	53	HEF4073B	171	MMBZ10VAL-Q	75
<b>BUK9K61-100L</b>	100	BUK9Y113-100E	100	BZX58550 series	50	HEF4077B	175	MMBZ10VAL(-Q)	87
BUK9K89-100E	100	BUK9Y153-100E	100	CBT3245A-Q100	152	HEF4081B	171	<b>MMBZ10VA-T</b>	76
BUK9K134-100E	100	BUK758R3-40E	95	CBT3251	192	HEF4082B	171	<b>MMBZ10VAT-Q</b>	76
BUK9M3R3-40H	96	BUK761R6-40E	95	CBT3253A	192	HEF4093B	172	MMBZ12VAL-Q	75
BUK9M4R3-40H	96	BUK764R0-40E	95	CBT3257A	192	HEF4093B	173	MMBZ12VAL(-Q)	87
BUK9M5R0-40H	96	BUK768R1-40E	95	CBT3257A-Q100	152	HEF4093B-Q100	149	<b>MMBZ12VA-T</b>	76
BUK9M5R2-30E	94	BUK961R6-40E	95	CBT3306	192	HEF4094B	183	<b>MMBZ12VAT-Q</b>	76
BUK9M6R0-40H	96	BUK7880-55A/CU	98	CBT3384	192	HEF4094B-Q100	145	MMBZ12VDL-Q	75
BUK9M6R6-30E	94	BUK9832-55A/CU	98	CBTD3306	192	HEF4104B	188	MMBZ12VDL(-Q)	87
BUK9M6R7-40H	96	BUK9875-100A/CU	101	CBTD3384	192	HEF4104B-Q100	148	MMBZ15VAL-Q	75
BUK9M7R2-40E	96	BUK9880-55A/CU	98	CBTD3384-Q100	152	HEF4518B	184	MMBZ15VAL(-Q)	87
BUK9M8R5-40H	96	BUK78150-55A/CU	98	GAN3R2-100CBE	133	HEF4520B	184	<b>MMBZ15VA-T</b>	76
BUK9M9R1-40E	96	BUK98150-55A/CU	98	GAN7R0-150LBE	133	HEF4520B-Q100	146	<b>MMBZ15VAT-Q</b>	76
BUK9M9R5-40H	96	BUK98180-100A/CU	101	<b>GAN039-650NBB</b>	133	HEF4521B	184	MMBZ15VDL-Q	75
BUK9M10-30E	94	<b>BXX7Q4R9-40H</b>	96	<b>GAN039-650NTB</b>	133	HEF4528B	187	MMBZ15VDL(-Q)	87
BUK9M11-40E	96	<b>BXX7Q6R0-40H</b>	96	<b>GAN041-650WSB</b>	133	HEF4528B-Q100	148	MMBZ16VAL-Q	75
BUK9M11-40H	96	<b>BXX7Q7R5-40H</b>	96	GAN063-650WSA (NRND)	133	HEF4538B	187	MMBZ16VAL(-Q)	87
BUK9M12-60E	98	<b>BXX9Q4R6-40H</b>	96	GAN080-650EBE	133	HEF4538B-Q100	148	<b>MMBZ16VA-T</b>	76
<b>BUK9M13-80L</b>	99	<b>BXX9Q7R0-40H</b>	96	<b>GAN111-650WSB</b>	133	HEF4541B	184	<b>MMBZ16VAT-Q</b>	76
BUK9M14-40E	96	<b>BXX9Q14-80L</b>	96	GAN140-650EBE	133	HEF4541B-Q100	146	MMBZ16VTAL-Q	75
BUK9M15-40H	96	<b>BXX9Q16-100L</b>	101	GAN140-650FBE	133	HEF4543B	185	MMBZ16VTAL(-Q)	87
BUK9M15-60E	98	<b>BXX9Q17-80L</b>	101	GAN190-650EBE	133	HEF4555B	185	MMBZ18VAL-Q	75
<b>BUK9M16-100L</b>	101	<b>BXX9Q19-100L</b>	101	GAN190-650FBE	133	HEF4555B-Q100	147	MMBZ18VAL(-Q)	87
BUK9M17-30E	94	<b>BXX9Q22-80L</b>	99	<b>GANB1R2-040QBA</b>	133	HEF4794B	183	<b>MMBZ18VA-T</b>	76
BUK9M19-60E	98	<b>BXX9Q25-100L</b>	101	<b>GANB4R8-040CBA</b>	133	HEF4794B-Q100	145	<b>MMBZ18VAT-Q</b>	76
BUK9M20-40H	96	<b>BXX9Q28-80L</b>	99	<b>GANB8R0-040CBA</b>	133	HEF4894B	183	MMBZ18VCL-Q	75
BUK9M20-60EL	98	BXX9Q29-60E	98	<b>GANB012-040CBA</b>	133	HEF4894B-Q100	145	MMBZ18VCL(-Q)	87
BUK9M23-80E	99	<b>BXX9Q32-100L</b>	101	<b>GANE1R8-100QBA</b>	133	HEF40106B	179	MMBZ20VAL-Q	75
BUK9M24-40E	96	<b>BXX9Q34-80L</b>	99	<b>GANE2R7-100CBA</b>	133	HEF40106B-Q100	143	MMBZ20VAL(-Q)	87
BUK9M24-60E	98	<b>BXX9Q39-100L</b>	101	<b>GANE3R9-150QBA</b>	133	HEF40175B	181	<b>MMBZ20VA-T</b>	76
<b>BUK9M24-80L</b>	99	<b>BXX9Q45-80L</b>	99	<b>GANE7R0-100CBA</b>	133	HEF40244B	168	<b>MMBZ20VAT-Q</b>	76
BUK9M28-80E	99	<b>BXX9Q50-100L</b>	101	<b>GANE140-700BBA</b>	133	HPZR-Q series	51	MMBZ20VCL-Q	75
BUK9M31-60EL	98	<b>BXX9R4R5-40H</b>	96	<b>GANE190-700BBA</b>	133	<b>HPZR-Q series</b>	51	MMBZ20VCL(-Q)	87
BUK9M34-100E	101	BZA408B	84	<b>GANE240-700BBA</b>	133	HPZR series	51	MMBZ27VAL-Q	75
BUK9M35-80E	99	BZA420A	84	<b>GANE350-650FBA</b>	133	<b>HPZR series</b>	53	MMBZ27VAL(-Q)	87
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<b>MMBZ27VB-QC</b>	77	NEX81801DA	195	NUP1301QA	79	PBHV3160Z (-Q)	38	PBSS303NZ	32
<b>MMBZ27VBQC-Q</b>	77	NEX81802DA	195	NUP1301U	79	PBHV8115TLH (-Q)	38	PBSS303PD (-Q)	34
<b>MMBZ27VB-U</b>	77	NEX90230APA-Q100	196	NX138AK	119	PBHV8115T (-Q)	38	PBSS303PX (-Q)	34
<b>MMBZ27VBU-Q</b>	77	NEX90230BPA-Q100	196	NX138AKH	114	PBHV8115X (-Q)	38	PBSS303PZ	34
MMBZ27VCL-Q	75	NEX90515APA-Q100	196	NX138AKM	114	PBHV8115Z (-Q)	38	PBSS304ND	32
MMBZ27VCL(-Q)	87	NEX90515BPA-Q100	196	NX138AKS	122	PBHV8118T (-Q)	38	PBSS304NX (-Q)	32
<b>MMBZ27VC-T</b>	76	NEX90530APA-Q100	196	NX138BK	119	PBHV8140Z (-Q)	38	PBSS304NZ	32
<b>MMBZ27VCT-Q</b>	76	NEX90530BPA-Q100	196	NX138BKH	114	PBHV8215Z (-Q)	38	PBSS304PD	34
<b>MMBZ27VST-T</b>	76	NGD4300D	195	NX138BKM	114	PBHV8515QA	38	PBSS304PX (-Q)	34
<b>MMBZ27VST-Q</b>	76	NGD4300DD	195	NX138BKS	122	PBHV8540T (-Q)	38	PBSS304PZ	34
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MMBZ33VAL-Q	75	<b>NGW30T65M3DFP</b>	136	NX2301P	121	PBHV8550X	38	PBSS305NZ	32
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<b>MMBZ33VA-T</b>	76	NGW40T65M3DFP	136	NX3008CBKS	122	PBHV9040T (-Q)	38	PBSS305PX (-Q)	34
<b>MMBZ33VAT-Q</b>	76	NGW50T65H3DFP	136	NX3008NBK	104	PBHV9040X (-Q)	38	PBSS305PZ	34
<b>MMBZ33VB-QB</b>	77	<b>NGW50T65M3DFP</b>	136	NX3008NBK	119	PBHV9040Z (-Q)	38	PBSS306NX (-Q)	32
<b>MMBZ33VBQB-Q</b>	77	<b>NGW60T65M3DFP</b>	136	NX3008NBKS	104	PBHV9050T (-Q)	38	PBSS306NZ	32
<b>MMBZ33VB-QC</b>	77	NGW75T65H3DF	136	NX3008NBKS	122	PBHV9050Z (-Q)	38	PBSS306PX (-Q)	34
<b>MMBZ33VBQC-Q</b>	77	<b>NGW75T65H3DFP</b>	136	NX3008NBKW	104	PBHV9115TLH (-Q)	38	PBSS306PZ	34
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MMBZ33VCL(-Q)	87	NHDTA114YT (-Q)	42	NX3008PBK	104	PBHV9215Z (-Q)	38	PBSS3515MB	35
<b>MMBZ33VC-T</b>	76	NHDTA114YU (-Q)	42	NX3008PBKS	122	PBHV9414Z (-Q)	38	PBSS3540MB	35
<b>MMBZ33VCT-Q</b>	76	NHDTA123JT (-Q)	42	NX3008PBKW	104	PBHV9515QA	38	PBSS4021NT (-Q)	33
<b>MMBZ33VST-T</b>	76	NHDTA123JU (-Q)	42	NX3008PBKW	121	PBHV9540X (-Q)	38	PBSS4021NX	32
<b>MMBZ33VST-Q</b>	76	NHDTA124ET (-Q)	42	NX3020NAK	119	PBHV9540Z (-Q)	38	PBSS4021NZ (-Q)	32
<b>MMBZ33VZ-LS</b>	77	NHDTA124EU (-Q)	42	NX3020NAKS	122	PBHV9560Z (-Q)	38	PBSS4021PT (-Q)	35
<b>MMBZ33VZLS-Q</b>	77	NHDTA143ZT (-Q)	42	NX3020NAKW	119	PBL51501Y	37	PBSS4021PX (-Q)	34
NBM5100A	194	NHDTA143ZU (-Q)	42	NX5008NBKH	114	PBL51502Y	37	PBSS4021PZ (-Q)	34
NBM5100B	194	NHDTA144ET (-Q)	42	NX5008NBKM	114	PBL51503Y	37	PBSS4032ND <sup>3)</sup>	33
NBM7100A	194	NHDTA144EU (-Q)	42	NX6008NBK	119	PBL51504Y (-Q)	37	PBSS4032NT <sup>3)</sup>	33
NBM7100A-Q100	194	NHDTA144EU (-Q)	42	NX6008NBKS	122	PBL52001D	37	PBSS4032NX <sup>3)</sup>	32
NBM7100B	194	NHDTA144EU (-Q)	42	NX6008NBKW	119	PBL52002D	37	PBSS4032NZ <sup>3)</sup>	32
NBM7100B-Q100	194	NHDTA144YT (-Q)	42	NX6020CAKS	122	PBL52003D	37	PBSS4032PD <sup>3)</sup>	34
NCA9306	190	NHDTA144YU (-Q)	42	NX7002AKS	122	PBL52004D	37	PBSS4032PT <sup>3)</sup>	35
NCA9306-Q100	160	NHDTA123JT (-Q)	42	NX7002AKW	119	PBL52021D	37	PBSS4032PX <sup>3)</sup>	34
NCA9535	193	NHDTA123JU (-Q)	42	NX7002BKH	114	PBL52022D	37	PBSS4032PZ <sup>3)</sup>	34
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NCA9535PW-Q100	152	NHDTA124EU (-Q)	42	NX7002BKMB	114	PBL52024D	37	PBSS4041NX	32
NCA9539	193	NHDTA143ZT (-Q)	42	NX7002BKS	122	PBL54001D	37	PBSS4041NZ (-Q)	32
NCA9539B-Q100	152	NHDTA143ZU (-Q)	42	NX7002BKW	119	PBL54001Y	37	PBSS4041PT (-Q)	35
NCA9539PW-Q100	152	NHDTA144ET (-Q)	42	NX7002BKXB	122	PBL54002D	37	PBSS4041PX	34
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NCA9555B-Q100	152	NHUMB1 (-Q)	42	NXB0101-Q100	160	PBL54003D	37	PBSS4112PAN	36
NCA9555PW-Q100	152	NHUMB2 (-Q)	42	NXB0102	190	PBL54003Y (-Q)	37	PBSS4112PANP	36
NCA9595	193	NHUMB9 (-Q)	42	NXB0102-Q100	160	PBL54004D	37	PBSS4120T	33
NCA9595B-Q100	152	NHUMB10 (-Q)	42	NXB0102UN	204	PBL54004Y	37	PBSS4130PAN	36
NCA9595PW-Q100	152	NHUMB11 (-Q)	42	NXB0104	190	PBL54005D	37	PBSS4130PANP	36
NCR320PAS	28	NHUMB13 (-Q)	42	NXB0104-Q100	148	PBL54005Y (-Q)	37	PBSS4130QA	33
NCR320AU	28	NHUMD2 (-Q)	42	NXB0106	190	PBL56001D	37	PBSS4130T	33
NCR320Z	28	NHUMD3 (-Q)	42	NXB0106-Q100	148	PBL56002D (-Q)	37	PBSS4140DPN (-Q)	33
NCR321PAS	28	NHUMD9 (-Q)	42	NXB0108	190	PBL56003D (-Q)	37	PBSS4140T (-Q)	33
NCR321U	28	NHUMD10 (-Q)	42	NXB0108-Q100	148	PBL56004D	37	PBSS4140U	33
NCR321Z	28	NHUMD12 (-Q)	42	NXS0101	190	PBL56005D	37	PBSS4160DPN	36
NCR401T	28	NHUMD13 (-Q)	42	NXS0101-Q100	160	PBL56021D	37	PBSS4160DS (-Q)	36
NCR401U	28	NHUMH1 (-Q)	42	NXS0102	190	PBL56022D	37	PBSS4160PAN	36
NCR402T	28	NHUMH2 (-Q)	42	NXS0102-Q100	160	PBL56023D	37	PBSS4160PANP (-Q)	36
NCR402U	28	NHUMH9 (-Q)	42	NXS0102UN	204	PBL56024D (-Q)	37	PBSS4160PANPS	36
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NCR420U	28	NHUMH13 (-Q)	42	NXS0104UM	204	PBRN123ET (-Q)	43	PBSS4160T (-Q)	33
NCR420Z	28	NMB222TA	25	NXS0108	190	PBRN123YT (-Q)	43	PBSS4160U	33
NCR421PAS	28	NMX1237	191	NXS0108-Q100	148	PBRP113ET (-Q)	43	PBSS4160U	33
NCR421U	28	NMX1308	191	NXS0506	190	PBRP113ZT (-Q)	43	<b>PBSS4160X</b>	32
NCR421Z	28	NMX1308-Q100	149	NXS0506-Q100	148	PBRP123ET (-Q)	43	PBSS4220PANS	36
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NEX52041xxRC	196	NSF030120L3A0	128	NXT4558	190	PBSS301NZ	32	PBSS4250X	32
NEX52080xxRA	196	NSF030120L4A0	128	NXT4558-Q100	160	PBSS301PD PBSS5420D	34	PBSS4260PAN	36
NEX52080xxRC	196	NSF040120D7A0	128	NXT4559	190	PBSS301PX (-Q)	34	PBSS4260PANP	36
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NEX80602DA	195	NSF040120L4A0	128	NXV500UN	119	PBSS302ND (-Q)	32	PBSS4260PANS	36
NEX80605DA	195	NSF060120D7A0	128	NXV55UN	119	PBSS302NX (-Q)	32	PBSS4260PANPS	36
NEX80611DA	195	NSF060120L3A0	128	NXV65UP	121	PBSS302NZ (-Q)	32	PBSS4260PANS (-Q)	36
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PESD3V3T1BL	82	PESD5V0L2BT	83	PESD5Z12	81	PESD27VV2BT	84	PMBT2222 (-Q)	25
PESD3V3T1BLD	83	PESD5V0L2UM	83	PESD6V0L2UU	83	<b>PESD30VF1BBL</b>	79	<b>PMBT2227AYS-Q</b>	25
PESD3V3T1BLS	83	PESD5V0L2UMB	83	PESD6V3S1UL	81	PESD30VF1BBL-Q	75	PMBT2369 (-Q)	25
PESD3V3U1BCSF	82	PESD5V0L2UU	83	PESD6V5C1USF	78	<b>PESD30VF1BLS-Q</b>	75	PMBT2907AM (-Q)	25
PESD3V3U1UA	82	PESD5V0L4UF	84	PESD7V0C1BSF	79	<b>PESD30VF1BSF</b>	79	PMBT2907A (-Q)	25
PESD3V3U1UB	81	PESD5V0L4UG	84	PESD7V0H1BSF	79	<b>PESD30VV1BSF</b>	82	PMBT2907AQA	25
PESD3V3U1UB	81	PESD5V0L5UF	84	PESD7V0L1BSL	83	<b>PESD32VF1BLS-Q</b>	75	PMBT2907AYS (-Q)	25
PESD3V3U1UT	78	PESD5V0L5UY	84	PESD7V0R1BSF	79	PESD32VL1BA	82	PMBT2907 (-Q)	25
PESD3V3V1BCSF	82	<b>PESD5V0R1BCSF</b>	78	<b>PESD7V1R1BCSF</b>	79	<b>PESD33VV1ASF</b>	82	PMBT3904M (-Q)	25
PESD3V3V1BCSF	82	<b>PESD5V0R1BDSF</b>	78	<b>PESD7V1R1BDSF</b>	79	PESD36VL1BA	82	PMBT3904 (-Q)	25
PESD3V3W1BCSF	78	PESD5V0R1BSF	78	PESD8V0S1UL	81	PESD36VS1UJ	82	PMBT3904QA	25
PESD3V3X1BCSF	79	PESD5V0S1BA	83	PESD8V0S1ULD	81	PESD36VS1UL	81	PMBT3904RA	25
PESD3V3X1BL	79	PESD5V0S1BB	83	PESD8V0S1ULS	81	PESD36VS1ULS	81	PMBT3904YS (-Q)	25
<b>PESD3V3C2UM</b>	79	PESD5V0S1BL	83	<b>PESD9V0C1BSF</b>	79	PESD36VS2UT	83	PMBT3906M (-Q)	25
<b>PESD3V3X2UT</b>	78	PESD5V0S1BLD	83	<b>PESD9V0W1BDSF</b>	79	<b>PESD36VV1ASF</b>	82	PMBT3906 (-Q)	25
PESD3V3X4UHC	80	PESD5V0S1BLD-Q	75	<b>PESD9V0Z1BDSF</b>	79	PESD42VS2UT	83	PMBT3906YS (-Q)	25
PESD3V3Y1BLS	78	PESD5V0S1BSF	82	PESD12VA-SF	82	<b>PESD48VV2BT</b>	84	PMBT3946YPN (-Q)	25
PESD3V3Z1BCSF	78	PESD5V0S1UA	82	PESD12VL1BA	82	PHB33NQ20T	110	PMBT4401 (-Q)	25
PESD3V3Z1BSF	78	PESD5V0S1UB	81	PESD12VL1BSL	83	PHB45NQ15T	110	PMBT4401YS (-Q)	25
<b>PESD4USB3BBTBR-Q</b>	74	PESD5V0S1UJ	82	PESD12VL2BT	83	PHDMI2AB4	80	PMBT4403 (-Q)	25
<b>PESD4USB3BBTBS-Q</b>	74	PESD5V0S1UL	81	PESD12VS1UA	82	<b>PHDMI2BB4</b>	80	PMBT4403YS (-Q)	25
<b>PESD4USB3BBTBS-Q</b>	74	PESD5V0S1ULS	81	PESD12VS1UB	81	<b>PHDMI2CB4</b>	80	PMBT5550	27
<b>PESD4USB3BBTBS-Q</b>	74	PESD5V0S1USF	81	PESD12VS1UJ	82	<b>PHDMI2FC4</b>	80	PMBT5551 (-Q) / BSR19A(-Q)	27
PESD4USB3BTBR-Q	74	PESD5V0S1UJ	82	PESD12VS1UL	81	PHDMI2FR4	80	PMBT6428	22
PESD4USB3BTBS-Q	74	PESD5V0S2BQA	84	PESD12VS1ULD	81	<b>PHDMI2FS4</b>	80	PMBT6429	22
PESD4USB3BTBS-Q	74	PESD5V0S2BT	84	PESD12VS1ULS	81	PHPT60406NY	39	PMBTA06 (-Q)	23
PESD4USB3BTBS-Q	74	PESD5V0S2UAT	83	PESD12VS2UT	83	PHPT60406PY	39	PMBTA06 (-Q)	23
PESD4USB3BTBS-Q	74	PESD5V0S4UD	84	PESD12VSSUD	84	PHPT60410NY	39	PMBTA13	29
<b>PESD4USB3UBTBS-Q</b>	74	PESD5V0S4UF	84	PESD12VU1UT	78	PHPT60410PY	39	PMBTA14	29
<b>PESD4USB3UBTBS-Q</b>	74	PESD5V0S5UD	84	PESD12VV1BL	83	PHPT60415NY	39	PMBTA42DS (-Q)	27
<b>PESD4USB3UBTBS-Q</b>	74	PESD5V0U1BA	83	PESD12VV1BLS	83	PHPT60415PY	39	PMBTA42 MMBTA42 (-Q)	27
<b>PESD4USB3UBTBS-Q</b>	74	PESD5V0U1BB	83	<b>PESD12VV1BSF</b>	82	PHPT60603NY	39	PMBTA44 (-Q)	27
<b>PESD4USB3UBTBS-Q</b>	74	PESD5V0U1BL	83	<b>PESD12VY1BSF</b>	79	PHPT60603PY	39	PMBTA45 (-Q)	38
<b>PESD4USB3UBTBS-Q</b>	74	PESD5V0U1BLD	83	PESD12VY1BSF	79	PHPT60606NY	39	PMBTA64	29
<b>PESD4USB3UBTBS-Q</b>	74	PESD5V0U1UB	82	PESD15VL1BA	82	PHPT60606PY	39	PMBTA92(-Q)	27
<b>PESD4USB5BBTBR-Q</b>	74	PESD5V0U1UB	81	PESD15VL2BT	84	PHPT60610NY	39	PMCA14UN	117
<b>PESD4USB5BBTBS-Q</b>	74	PESD5V0U1UL	81	PESD15VS1UB	81	PHPT60610PY	39	PMCB60XN	117
<b>PESD4USB5BBTBS-Q</b>	74	PESD5V0U1UT	78	PESD15VS1UL	81	PHPT61002NYC	39	PMCB60XNE	117
PESD4USB5BTBR-Q	74	PESD5V0U2BM	84	PESD15VS1ULD	81	PHPT61002NYCLH	39	PMCM4401UNE	117
PESD4USB5BTBS-Q	74	PESD5V0U2BMB	84	PESD15VS1ULS	81	PHPT61002PYC	39	PMCM4401UPE	117
PESD4USB5BTBS-Q	74	PESD5V0U2BT	84	PESD15VS2UAT	83	PHPT61002PYCLH	39	PMCM4401UPE	204
<b>PESD4USB5BTBR-Q</b>	74	PESD5V0U4BF	84	PESD15VS2UT	83	PHPT61003NY	39	PMCM4401VNE	117
<b>PESD4USB5BTBS-Q</b>	74	PESD5V0U5BF	84	PESD15VSSUD	84	PHPT61003PY	39	PMCM4401VNE	204
<b>PESD4USB5BTBS-Q</b>	74	PESD5V0V1BA	83	PESD15VU1UT	78	PHPT61006NY	39	PMCM4401VPE	117
<b>PESD4USB5BTBS-Q</b>	74	PESD5V0V1BB	83	<b>PESD15VV1BSF</b>	82	PHPT61006PY	39	PMCM4401VPE	204
PESD4USB5UTBR-Q	74	PESD5V0V1BL	83	<b>PESD15VW1ACSF</b>	79	PHPT61010NY	39	PMCM4402UPE	117
PESD4USB5UTBS-Q	74	PESD5V0V1BDSF	82	<b>PESD15VW1BCSF</b>	79	PHPT61010PY	39	PMCM6501UNE	117
PESD4USB5UTBS-Q	74	PESD5V0V1BLD	83	<b>PESD15VW1BCSF</b>	79	PHPT610030NK (-Q)	39	PMCM6501VNE	117
PESD4V0W1BCSF	78	PESD5V0V1BLD-Q	75	<b>PESD15VY1BSF</b>	79	PHPT610030NPK	39	PMCM6501VNE	204
<b>PESD4V0X2UM</b>	79	PESD5V0V1BLD-Q	75	PESD16VV1BSF	82	PHPT610030PK (-Q)	39	PMCM6501VPE	117
<b>PESD4V0Y1BSF</b>	78	PESD5V0V1BLD-Q	75	<b>PESD18VF1BSL</b>	79	PHPT610035NK	30	PMCM6501VPE	204
<b>PESD4V0Y1BCSF</b>	78	PESD5V0V1BLS	83	PESD18VF1BBL-Q	75	PHPT610035NPK	39	PMCPB5530X	117
<b>PESD4V0Y1BHSF</b>	78	PESD5V0V1BSF	82	<b>PESD18VF1BBSF</b>	79	PHPT610035PK	30	PMCPB5530X	122
PESD4V0Y1BSF	78	PESD5V0V2BM	84	<b>PESD18VF1BLS-Q</b>	75	PHPT610035PK	39	<b>PMCPB5530XA</b>	104
PESD4V0Z1BCSF	78	PESD5V0V2BMB	84	<b>PESD18VV1BASf</b>	82	PIMC31	43	PMCXB290UE	115
PESD4V0Z1BSF	78	PESD5V0V1BDSF	78	PESD18VV1BBSF	82	<b>PIMC31PA</b>	43	PMCXB900UE	115
<b>PESD4V0Z2BCDF</b>	80	PESD5V0X1BCAL	79	<b>PESD18VV1BBIF</b>	79	<b>PIMC31PAS-Q</b>	43	PMCXB900UE	122
<b>PESD5V0C1BLS-Q</b>	74	PESD5V0X1BCSF	79	<b>PESD20VV1BSF</b>	82	<b>PIMC32PA</b>	43	PMCXB1000UE	115
PESD5V0C1BSF	78	PESD5V0X1BL	79	<b>PESD22VV1BSF</b>	82	<b>PIMC32PAS-Q</b>	43	PMCXB1000UE	122
<b>PESD5V0C1ULS-Q</b>	74	PESD5V0X1BLD	79	<b>PESD24VF1BBL</b>	79	PIMC32 (-Q)	43	PMD2001D	31
PESD5V0C1USF	78	PESD5V0X1BT	79	PESD24VF1BBL-Q	75	PIMN31	43	PMD3001D	31
<b>PESD5V0C2BDF</b>	80	PESD5V0X1UAB	78	<b>PESD24VF1BBSF</b>	79	<b>PIMN31PA</b>	43	PMDPB30XN	117
<b>PESD5V0C2UM</b>	79	PESD5V0X1UALD	78	<b>PESD24VF1BLS-Q</b>	75	<b>PIMN31PAS-Q</b>	43	PMDPB30XN	122
<b>PESD5V0C2UM-Q</b>	74	PESD5V0X1UL	78	PESD24VL1BA	82	<b>PIMN32PA</b>	43	<b>PMDPB30XNA</b>	104
PESD5V0F1BL	79	PESD5V0X1ULD	78	PESD24VL2BT	84	<b>PIMN32PAS-Q</b>	43	PMDPB55XP	117
PESD5V0F1BLD	79	PESD5V0X2UAM	79	PESD24V51UA	82	PIMN32 (-Q)	43	PMDPB55XP	122
PESD5V0F1BLD-Q	73	PESD5V0X2UAMB	79	PESD24V51UB	81	<b>PIMP31PA</b>	43	<b>PMDPB55XPA</b>	104
PESD5V0F1BLD-Q	75	PESD5V0X2UM	79	PESD24V51UL	81	<b>PIMP31PAS-Q</b>	43	PMDPB56XNEA	103
PESD5V0F1BL-Q	73	PESD5V0X2UMB	79	PESD24V51ULD	81	PIMP31 (-Q)	43	PMDPB56XNEA	104
PESD5V0F1BRLD	79	<b>PESD5V0X2UT</b>	78	PESD24V51ULS	81	<b>PIMP32PA</b>	43	PMDPB56XNEA	117
PESD5V0F1BRLD-Q	75	PESD5V0Z1BDSF	78	PESD24V52UAT	83	<b>PIMP32PAS-Q</b>	43	PMDPB56XNEA	122
PESD5V0F1BRSF	79	PESD5V2S2UT	83	PESD24V52UT	83	PIMP32 (-Q)	43	PMDPB58UPE	117
PESD5V0F1BSF	79	<b>PESD5V5C1BBSF</b>	79	PESD24V54UD	84	PIMT1 (-Q)	24	PMDPB58UPE	122
PESD5V0F1USF	78	<b>PESD5V5C1BL</b>	79	PESD24V5SUD	84	PIMZ2 (-Q)	24	PMDPB70XP	117
<b>PESD5V0F2UT</b>	78	<b>PESD5V5C1BL-Q</b>	74	PESD24VU1UT	78	PLVA600A series	52	PMDPB70XP	122
<b>PESD5V0H1BLL-Q</b>	74	<b>PESD5V5C1UBSF</b>	78	PESD24VV1BA	82	PLVA600A series	52	PMDPB70XPE	117
PESD5V0H1BSF	78	<b>PESD5V5C1UL</b>	78	<b>PESD24VV1BBSF</b>	82			PMDPB70XPE	122
PESD5V0L1BA	82	<b>PESD5V5C1UL-Q</b>	74						

Types in **bold red** are in development, types in **bold** represent new products

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PMDPB80XP	122	PMEG2002ESF	64	PMEG3020CPAS (-Q)	68	<b>PMEG6010EXE (-Q)</b>	66	PMP5201G	30
PMDPB85UPE	117	PMEG2005AELD (-Q)	64	PMEG3020DEP (-Q)	66	PMEG6020AELP (-Q)	66	PMP5201Y	30
PMDPB85UPE	122	PMEG2005AEL (-Q)	64	PMEG3020EGW (-Q)	68	PMEG6020AELR (-Q)	66	PMP5501G	30
PMDPB95XNE2	117	PMEG2005AESF	64	PMEG3020EH (-Q)	68	<b>PMEG6020CER (-Q)</b>	66	PMP5501QAS	30
PMDPB95XNE2	122	PMEG2005BELD (-Q)	64	PMEG3020EJ (-Q)	68	PMEG6020ELR (-Q)	66	PMP5501Y	30
PMDXB290UE	122	PMEG2005CT (-Q)	68	PMEG3020EPA (-Q)	64	PMEG6020EPA (-Q)	64	PMPB07R0UN	116
PMDXB290UE	115	PMEG2005EGW (-Q)	67	PMEG3020EPAS (-Q)	64	PMEG6020EPAS (-Q)	64	PMPB07R3EN	116
PMDXB550UNE	115	PMEG2005EH (-Q)	67	PMEG3020EP (-Q)	66	PMEG6020EP (-Q)	66	PMPB07R3VP	116
PMDXB550UNE	122	PMEG2005EJ (-Q)	67	PMEG3020ER (-Q)	66	PMEG6020ER (-Q)	66	PMPB08R4VP	116
PMDXB600UNE	115	PMEG2005ELD (-Q)	64	<b>PMEG3020EXE (-Q)</b>	66	PMEG6020ETP (-Q)	66	PMPB08R5XN	116
PMDXB600UNE	122	PMEG2005EL (-Q)	64	PMEG3030BEP (-Q)	66	PMEG6020ETR (-Q)	66	PMPB08R6EN	116
PMDXB950UPE	122	PMEG2005EPK (-Q)	64	<b>PMEG3030CER (-Q)</b>	66	<b>PMEG6020EXE (-Q)</b>	66	PMPB8XN	116
PMDXB950UPE	122	PMEG2005ESF	64	PMEG3030EP (-Q)	66	<b>PMEG6030AEXE (-Q)</b>	66	<b>PMPB09R1XN</b>	116
PMDXB1200UPE	122	PMEG2005ET (-Q)	67	<b>PMEG3030EXE (-Q)</b>	66	<b>PMEG6030CER (-Q)</b>	66	PMPB09R5VP	116
PMEG030V050EPE (-Q)	66	PMEG2010AEB (-Q)	68	PMEG3050BEP (-Q)	67	PMEG6030ELP (-Q)	66	PMPB10EN	116
PMEG030V050EPE (-Q)	67	PMEG2010AEH (-Q)	68	PMEG3050EPAS (-Q)	67	PMEG6030EP (-Q)	66	<b>PMPB10R3XN</b>	116
PMEG40T10ER (-Q) <sup>1)</sup>	66	PMEG2010AEJ (-Q)	68	PMEG4002AESF	64	PMEG6030ETP (-Q)	66	PMPB10XN	116
PMEG40T20EP (-Q) <sup>1)</sup>	66	PMEG2010AET	68	PMEG4002EJ	67	PMEG6030EVP (-Q)	66	PMPB10XNE	116
PMEG40T20ER (-Q) <sup>1)</sup>	66	PMEG2010BELD (-Q)	64	PMEG4002ELD (-Q)	64	<b>PMEG6030EXE (-Q)</b>	66	PMPB10XNEA	103
PMEG40T30EP (-Q) <sup>1)</sup>	66	PMEG2010BER (-Q)	66	PMEG4002EL (-Q)	64	PMEG6045ETP (-Q)	66	PMPB11EN	116
PMEG40T30ER (-Q) <sup>1)</sup>	66	PMEG2010EH (-Q)	68	PMEG4002ESF	64	PMEG10010ELR (-Q)	66	PMPB11R2VP	116
PMEG40T50EP (-Q) <sup>1)</sup>	67	PMEG2010EJ (-Q)	68	PMEG4005AESF	64	<b>PMEG10010ELXE (-Q)</b>	66	PMPB12R5EP	116
PMEG040V030EPE (-Q)	66	PMEG2010EPA (-Q)	64	PMEG4005CEJ	67	PMEG10020AELP (-Q)	66	PMPB12R5UPE	116
PMEG040V050EPE (-Q)	67	PMEG2010EPAS (-Q)	64	PMEG4005CT (-Q)	68	PMEG10020AELR (-Q)	66	PMPB12R7EP	116
PMEG45T10EXD (-Q) <sup>1)</sup>	66	PMEG2010EPK (-Q)	64	PMEG2010EGW (-Q)	67	PMEG10020ELR (-Q)	66	PMPB12UNE	116
PMEG45T15EPD <sup>1)</sup>	67	PMEG2010ER (-Q)	66	PMEG4005EH (-Q)	67	<b>PMEG10020ELXE (-Q)</b>	66	PMPB12UNEA	103
PMEG45T20EXD (-Q) <sup>1)</sup>	66	PMEG2010ET (-Q)	68	PMEG4005EJ (-Q)	67	PMEG10030ELP (-Q)	66	PMPB13UP	116
PMEG045T030EPD <sup>1)</sup>	66	PMEG2015EA (-Q)	67	PMEG4005EPK (-Q)	64	PMF63UNE	119	PMPB13XNE	116
PMEG045T050EPD <sup>1)</sup>	67	PMEG2015EA (-Q)	68	PMEG4005ESF	64	PMF170XP	121	PMPB13XNEA	103
PMEG045T100EPD (-Q) <sup>1)</sup>	67	PMEG2015EH (-Q)	68	PMEG4005ET (-Q)	67	PMF250XNE	119	PMPB14R0EP	116
PMEG045T150EPD <sup>1)</sup>	67	PMEG2015EJ (-Q)	68	PMEG4010AESB	64	PMF35XP	121	PMPB14R7EP	116
PMEG045V050EPE (-Q)	67	PMEG2020AEA (-Q)	68	PMEG4010BEA (-Q)	67	PMGD175XNE	122	<b>PMPB14R8XN</b>	116
PMEG045V100EPE (-Q)	67	PMEG2020AEA (-Q)	68	PMEG4010BEA (-Q)	68	PMGD290UCEA	104	PMPB14XN	116
PMEG045V100EPE (-Q)	67	<b>PMEG2020CER (-Q)</b>	66	PMEG4010CEA	67	PMEG260UNE	114	PMPB14XP	116
PMEG045V100EPE (-Q)	67	PMEG2020CPA (-Q)	68	PMEG4010CEA (-Q)	68	PMH400UNE	114	PMPB15XN	116
PMEG045V150EPE (-Q)	67	PMEG2020CPAS (-Q)	68	PMEG4010CEGW (-Q)	68	PMH550UNE	114	PMPB15XP	116
PMEG050T150EIPD <sup>1)</sup>	67	PMEG2020EH (-Q)	68	PMEG4010CEH (-Q)	68	PMH550UPE	114	PMPB15XPA	103
PMEG050T150EPD <sup>1)</sup>	67	PMEG2020EJ (-Q)	68	PMEG4010CEJ (-Q)	68	PMH600UNE	114	PMPB16EP	116
PMEG050V030EPE (-Q)	66	PMEG2020EJ (-Q)	68	PMEG4010CPA (-Q)	68	PMH850UPE	114	PMPB16R5XNE	116
PMEG050V150EPE (-Q)	67	PMEG2020EPA (-Q)	64	PMEG4010CPAS (-Q)	68	PMH950UPE	114	PMPB17EP	116
PMEG60T10ELP (-Q) <sup>1)</sup>	66	PMEG2020EPAS (-Q)	64	PMEG4010EGW (-Q)	68	PMH1200UPE	114	PMPB19R0UPE	116
PMEG60T10ELR (-Q) <sup>1)</sup>	66	PMEG2020EPK (-Q)	64	PMEG4010EH (-Q)	68	PMMT491A	35	PMPB19XP	116
PMEG60T10ELXD (-Q) <sup>1)</sup>	66	<b>PMEG2030CER (-Q)</b>	66	PMEG4010EJ (-Q)	68	PMMT591A	35	PMPB20EN	116
PMEG60T20ELP (-Q) <sup>1)</sup>	66	PMEG3001EEF	64	PMEG4010EP (-Q)	64	PMN16XNE	119	PMPB20XNEA	103
PMEG60T20ELR (-Q) <sup>1)</sup>	66	PMEG3002AELD (-Q)	64	PMEG4010ER (-Q)	66	PMN20ENA	103	PMPB20XNEA	116
PMEG60T20ELXD (-Q) <sup>1)</sup>	66	PMEG3002AEL (-Q)	64	PMEG4010ESB	64	PMN20ENA	119	PMPB20XPE	116
PMEG060T030ELPE (-Q) <sup>1)</sup>	66	PMEG3002AESF	64	PMEG4010ETP (-Q)	66	PMN25ENE	119	PMPB20XPEA	103
PMEG060T30ELP (-Q) <sup>1)</sup>	66	PMEG3002EEF	64	PMEG4010ET (-Q)	68	PMN25ENEA	103	PMPB23XNE	116
PMEG060T30ELR (-Q) <sup>1)</sup>	66	PMEG3002ESF	64	PMEG4010ETR (-Q)	66	PMN28UNE	119	PMPB25ENE	116
PMEG060T040CLPE (-Q) <sup>1)</sup>	66	PMEG3005AESF	64	<b>PMEG4010EXE (-Q)</b>	66	PMN30ENEA	103	PMPB27EPA	103
PMEG060T050ELPE (-Q) <sup>1)</sup>	67	PMEG3005CT (-Q)	68	PMEG4015EPK (-Q)	64	PMN30ENEA	119	PMPB29XNE	116
PMEG060T50ELP (-Q) <sup>1)</sup>	67	PMEG3005EEF	64	<b>PMEG4020CER (-Q)</b>	66	PMN30OUN	119	PMPB29XNEA	103
PMEG060T060CLPE (-Q) <sup>1)</sup>	67	PMEG3005EGW (-Q)	67	PMEG4020EPA (-Q)	64	PMN30UNE	119	PMPB29XPE	116
PMEG060T080CLPE (-Q) <sup>1)</sup>	67	PMEG3005EH (-Q)	67	PMEG4020EPAS (-Q)	64	PMN30XP	121	PMPB29XPEA	103
PMEG060T100CLPE (-Q) <sup>1)</sup>	67	PMEG3005EJ (-Q)	67	PMEG4020EPK (-Q)	64	PMN30XPA	103	PMPB30XPE	116
PMEG060V030EPE (-Q)	66	PMEG3005ELD (-Q)	64	PMEG4020EP (-Q)	66	PMN30XPE	121	PMPB33XN	116
PMEG060V050EPE (-Q)	67	PMEG3005EL (-Q)	64	PMEG4020ER (-Q)	66	PMN30XPEA	103	PMPB33XP	116
PMEG060V100EPE (-Q)	67	PMEG3005ELS (-Q)	64	PMEG4020ETP (-Q)	66	PMN40ENA	103	PMPB43XPEA	103
PMEG100T10ELR (-Q) <sup>1)</sup>	66	PMEG3005ESF	64	PMEG4020ETR (-Q)	66	PMN40ENA	119	PMPB47XP	116
PMEG100T10ELXD (-Q) <sup>1)</sup>	66	PMEG3005ET (-Q)	67	<b>PMEG4020EXE (-Q)</b>	66	PMN40ENE	119	PMPB48EP	116
PMEG100T20ELP (-Q) <sup>1)</sup>	66	PMEG3010AESB	64	<b>PMEG4030AEXE (-Q)</b>	66	PMN40SNA	103	PMPB50ENE	116
PMEG100T20ELR (-Q) <sup>1)</sup>	66	PMEG3010AEB (-Q)	67	<b>PMEG4030CER (-Q)</b>	66	PMN40XPEA	103	PMPB55ENEA	116
PMEG100T030ELPE (-Q) <sup>1)</sup>	66	PMEG3010BEA (-Q)	68	PMEG4030EP (-Q)	66	PMN42XPEA	103	PMPB85ENEA	116
PMEG100T30ELP (-Q) <sup>1)</sup>	66	PMEG3010BEA (-Q)	68	PMEG4030ER (-Q)	66	PMN48XP	121	PMPB95ENEA	116
PMEG100T30ELR (-Q) <sup>1)</sup>	66	PMEG3010BEP (-Q)	66	PMEG4030ETP (-Q)	66	PMN48XPA	103	PMPB100ENE	116
PMEG100T050ELPE (-Q) <sup>1)</sup>	67	PMEG3010BER (-Q)	66	PMEG4030ETR (-Q)	66	PMN48XPA2	103	PMPB215ENEA	116
PMEG100T50ELP (-Q) <sup>1)</sup>	67	PMEG3010CEH (-Q)	68	<b>PMEG4030EXE (-Q)</b>	66	PMN50EPE	121	PMSS3904	25
PMEG100T50ELR (-Q) <sup>1)</sup>	67	PMEG3010CEJ (-Q)	68	PMEG4050EP (-Q)	67	PMN52XP	119	PMSS3906	25
PMEG100T080ELPE (-Q) <sup>1)</sup>	67	PMEG3010EB (-Q)	68	PMEG4050ETP (-Q)	67	PMN55ENE	121	PMST2222A (-Q)	25
PMEG100T100ELPE (-Q) <sup>1)</sup>	67	PMEG3010EGW (-Q)	68	PMEG6002EJ (-Q)	67	PMN55ENEA	103	PMST2222 (-Q)	25
PMEG100T120ELPE <sup>1)</sup>	67	PMEG3010EJ (-Q)	68	PMEG6002EL (-Q)	64	PMN70EPE	121	PMST2369 (-Q)	25
PMEG100T150ELPE <sup>1)</sup>	67	PMEG3010EP (-Q)	66	PMEG6010AESB	64	PMN70XP	121	PMST2907A (-Q)	25
PMEG100T200ELPE <sup>1)</sup>	67	PMEG3010ER (-Q)	66	PMEG6010CEGW (-Q)	68	PMN100EPA	103	PMST3904 (-Q)	25
PMEG100V060EPE (-Q)	67	PMEG3010ESB	64	PMEG6010CEH (-Q)	68	PMN120ENEA	103	PMST3906 (-Q)	25
PMEG100V080EPE (-Q)	67	PMEG3010ET (-Q)	68	PMEG6010CEJ (-Q)	68	PMN230ENE	119	PMST4401 (-Q)	25
PMEG100V100EPE (-Q)	67	<b>PMEG3010EXE (-Q)</b>	66	PMEG6010CPA (-Q)	68	PMN230ENEA	103	PMST4403 (-Q)	25
PMEG1020EA (-Q)	68	PMEG3015EH (-Q)	68	PMEG6010CPAS (-Q)	68	PMN280ENEA	103	PMST5088	22
PMEG1020EA (-Q)	68	PMEG3015EJ (-Q)	68	PMEG6010EGW (-Q)	67	PMN280ENEA	119	PMST5089	22
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PMV20XNEA	119	PMZ600UNE	114	PSMN1R0-30YLC	106	PSMN2R8-25MLC	107	<b>PSMN7R2-100YSF</b>	111
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PMV32UP	121	PNE20020EP (-Q)	59	<b>PSMN1R1-80ASF</b>	110	PSMN3R3-40MSH	109	<b>PSMN8R7-100YSF</b>	111
PMV33UPE	121	PNE20020ER (-Q)	59	<b>PSMN1R1-80CSF</b>	110	PSMN3R3-40YS	108	PSMN8R9-100BSE	110
PMV35EPE	121	<b>PNE20020EXD (-Q)</b>	59	<b>PSMN1R1-100CSE</b>	110	PSMN3R3-80BS	110	PSMN9R0-25MLC	107
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PMV37ENE	103	PNE20040CPE (-Q)	59	PSMN1R2-25YLC	106	<b>PSMN3R3-100SSF</b>	112	<b>PSMN9R3-60HS</b>	109
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PMV42ENE	119	<b>PNE20040EP (-Q)</b>	59	PSMN1R2-30YLC	106	PSMN3R4-30BLE	106	PSMN9R5-100BS	110
PMV45EN2	119	<b>PNE20050EP (-Q)</b>	59	PSMN1R2-30YLD	106	PSMN3R5-25MLD	107	PSMN9R8-30MLC	107
PMV48XP	121	PNE20060CPE (-Q)	59	PSMN1R2-55SLH	108	PSMN3R5-30YL	106	<b>PSMN9R8-100YSF</b>	111
PMV48XPA	103	PNE20060EPE (-Q)	59	<b>PSMN1R2-60YSN</b>	108	<b>PSMN3R5-40YSB</b>	108	PSMN10-80YL	111
PMV48XPA2	103	PNE20080CPE (-Q)	59	<b>PSMN1R2-80ASE</b>	110	PSMN3R5-40YSD	108	PSMN101-30YLC	107
PMV50EPE	103	PNE20080EPE (-Q)	59	<b>PSMN1R2-80CSE</b>	110	<b>PSMN3R5-80YSF</b>	110	<b>PSMN101-60HL</b>	109
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PMV52ENE	119	<b>PNE650150EJ (-Q)</b>	59	PSMN1R4-30YLD	106	<b>PSMN3R9-100YSF</b>	110	PSMN101-100YSF	111
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PMV60ENE	103	PNS40010ER	59	<b>PSMN1R4-100ASE</b>	110	PSMN4R0-30YL	106	PSMN102-60YS	108
PMV60ENE	119	<b>PNU65010EP (-Q)</b>	59	<b>PSMN1R4-100CSE</b>	110	PSMN4R0-30YLD	106	PSMN102-80BS	110
PMV65UNE	119	<b>PNU65010ER (-Q)</b>	59	<b>PSMN1R4-100CSF</b>	110	PSMN4R0-40YS	108	PSMN102-100YL	111
PMV65UNE	103	<b>PNU65020EP (-Q)</b>	59	PSMN1R5-25MLH	107	PSMN4R0-60YS	108	PSMN102-100YS	111
PMV65XPE	121	<b>PNU65030EP (-Q)</b>	59	PSMN1R5-30BLE	106	PSMN4R1-30YLC	106	<b>PSMN102-100YSF</b>	111
PMV65XPEA	103	<b>PNU650100EJ (-Q)</b>	59	PSMN1R5-30YL	106	PSMN4R1-60YL	108	PSMN103-30MLC	107
PMV74EPE	121	<b>PNU650150AEJ (-Q)</b>	59	PSMN1R5-30YLC	106	PSMN4R2-30MLD	107	PSMN103-30YLC	107
PMV75UP	121	<b>PNU650200AEJ (-Q)</b>	59	PSMN1R5-40YSD	108	PSMN4R2-40VSH	109	<b>PSMN103-40VLD</b>	109
PMV88ENE	119	<b>PNU650300AEJ (-Q)</b>	59	PSMN1R5-50YHL	108	<b>PSMN4R2-80YSE</b>	110	<b>PSMN103-60HL</b>	109
PMV88ENE	103	PQMB11	42	<b>PSMN1R5-60YSN</b>	108	<b>PSMN4R2-80YSJ</b>	110	<b>PSMN103-60HS</b>	109
PMV90ENE	119	PQMD2	42	PSMN1R6-25YLE	106	PSMN4R3-30BL	106	PSMN103-60YL	108
PMV100EPA	103	PQMD3	42	PSMN1R6-30MLH	107	PSMN4R3-40MLH	109	PSMN103-80YS	111
PMV100XPEA	103	PQMD10	42	PSMN1R7-25YLD	106	PSMN4R3-40MSH	109	PSMN103-100BS	110
PMV100XPEA	121	PQMD12	42	PSMN1R7-30YL	106	PSMN4R4-30MLC	107	PSMN103-100YSE	111
PMV130ENE	103	PQMD13	42	<b>PSMN1R7-40YLB</b>	108	PSMN4R4-80BS	110	<b>PSMN104-40HLD</b>	109
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PMV164ENE	119	PQMH9	42	PSMN1R8-30MLH	107	<b>PSMN4R5-80YSF</b>	111	PSMN104-80YL	108
PMV164ENE	103	PQMH10	42	PSMN1R8-40YLC	108	PSMN4R6-60BS	108	PSMN105-60BS	108
PMV240SP	121	PQMH11	42	<b>PSMN1R8-80SSF</b>	112	PSMN4R8-100BSE	110	PSMN105-100YL	111
PMV250EPEA	103	PQMH13	42	<b>PSMN1R9-40YSB</b>	108	<b>PSMN4R8-100YSE</b>	110	<b>PSMN105-100YSF</b>	111
PMV250EPEA	121	PRMB11	42	PSMN1R9-40YSD	108	<b>PSMN4R8-100YSJ</b>	110	PSMN106-100BS	110
PMV280ENE	103	PRMD2	42	<b>PSMN1R9-80SSE</b>	112	PSMN5R0-30YL	106	PSMN106-100YS	111
PMV280ENE	119	PRMD3	42	<b>PSMN1R9-80SSJ</b>	112	PSMN5R0-40MLH	109	PSMN107-60YS	108
PMV450ENE	103	PRMD10	42	PSMN2R0-25MLD	106	PSMN5R0-40MSH	109	PSMN107-80BS	110
PMV450ENE	119	PRMD12	42	PSMN2R0-25YLD	106	PSMN5R0-80BS	110	PSMN108-80YS	111
PMX100UN	114	PRMD13	42	PSMN2R0-30YL	106	PSMN5R2-60YL	108	PSMN109-100YL	111
PMX100UNE	114	PRMD16	42	PSMN2R0-30YLD	106	PSMN5R3-25MLD	107	PSMN109-100YLC	107
PMX300UNE	114	PRMD2	42	PSMN2R0-30YLE	106	PSMN5R4-25YLD	106	PSMN1020-30MLC	107
PMX400UP	114	PRMH2	42	<b>PSMN2R0-40YLB</b>	108	PSMN5R5-60YS	108	PSMN1020-100YS	111
PMX400UPE	114	PRMH9	42	PSMN2R0-40YLD	108	<b>PSMN5R5-100YSF</b>	111	PSMN1025-80YL	111
PMX700EN	114	PRMH10	42	PSMN2R0-55YHL	108	PSMN5R6-60YL	108	<b>PSMN1025-100HS</b>	111
PMX800ENE	114	PRMH11	42	<b>PSMN2R0-100SSF</b>	112	PSMN5R6-100BS	110	PSMN1026-80YS	111
PMX800UPE	114	PRMH13	42	PSMN2R1-30YLE	106	PSMN5R8-40YS	108	PSMN1027-100BS	110
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With all the essentials in one handy guide,  
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**Date of release:**

September 2024

**Printed:**

In the Netherlands