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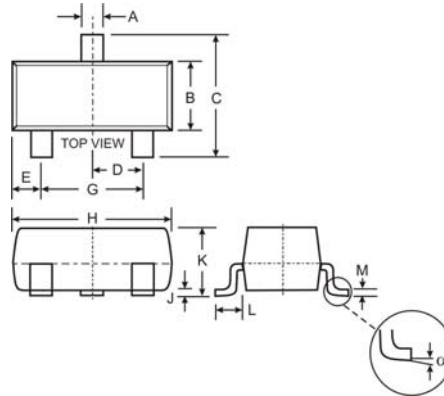
Jameco Part Number 1539067

## Features

- Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Lead Free/RoHS Compliant (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

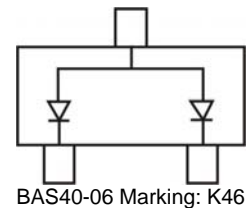
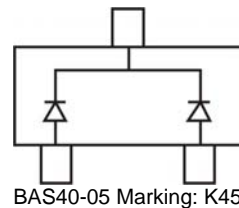
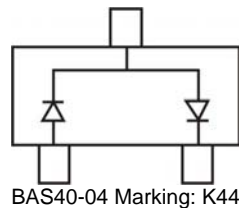
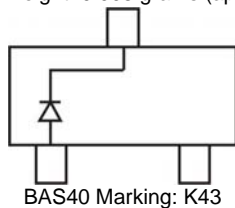
## Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagrams Below
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.008 grams (approximate)



Top View

SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		



## Maximum Ratings @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	40	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>R</sub>		
Forward Continuous Current (Note 1)	I <sub>FM</sub>	200	mA
Power Dissipation (Note 1)	P <sub>d</sub>	350	mW
Forward Surge Current (Note 1) @ t < 1.0s	I <sub>FSM</sub>	600	mA
Thermal Resistance, Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	357	°C/W
Operating Temperature Range	T <sub>j</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	°C

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V <sub>(BR)R</sub>	40	—	—	V	I <sub>R</sub> = 10μA
Forward Voltage	V <sub>F</sub>	—	—	380 1000	mV	t <sub>p</sub> < 300μs, I <sub>F</sub> = 1.0mA t <sub>p</sub> < 300μs, I <sub>F</sub> = 40mA
Reverse Leakage Current (Note 2)	I <sub>R</sub>	—	20	200	nA	t <sub>p</sub> < 300μs, V <sub>R</sub> = 30V
Total Capacitance	C <sub>T</sub>	—	4.0	5.0	pF	V <sub>R</sub> = 0V, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	—	5.0	ns	I <sub>F</sub> = I <sub>R</sub> = 10mA to I <sub>R</sub> = 1.0mA, R <sub>L</sub> = 100Ω

- Notes:
1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. Short duration pulse test used to minimize self-heating effect.
  3. No purposefully added lead.

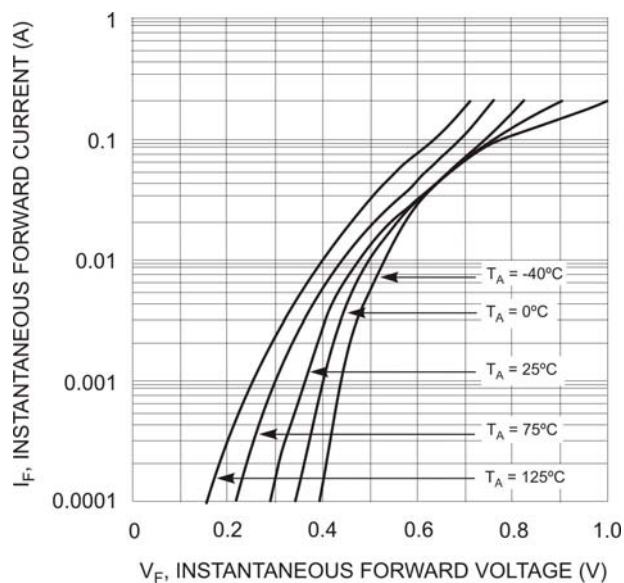


Fig. 1 Typical Forward Voltage

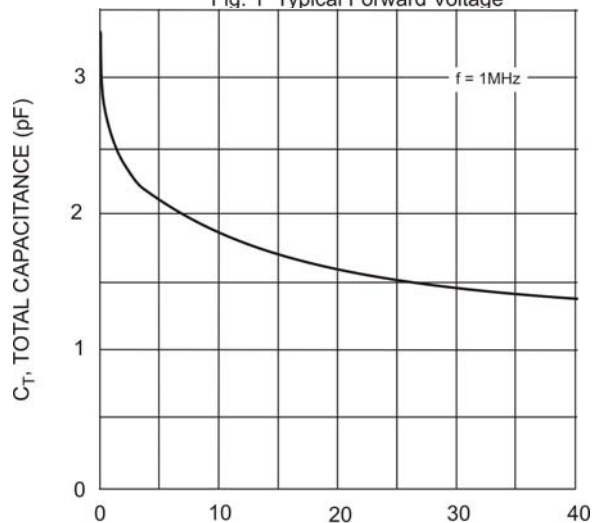


Fig. 3 Typical Capacitance

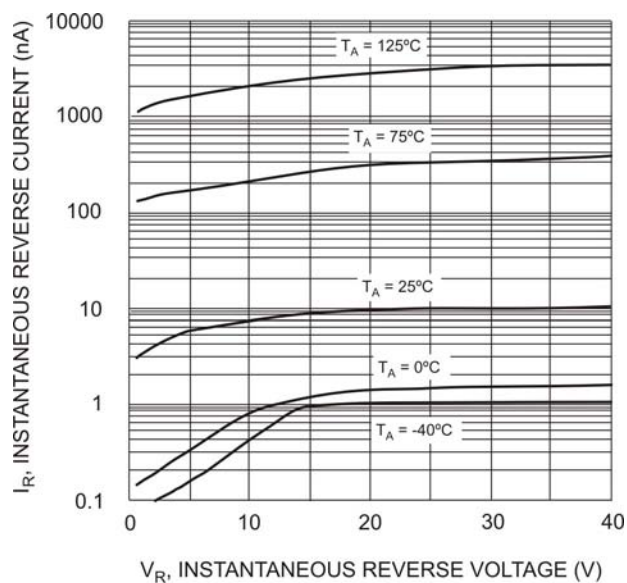


Fig. 2 Typical Reverse Characteristics

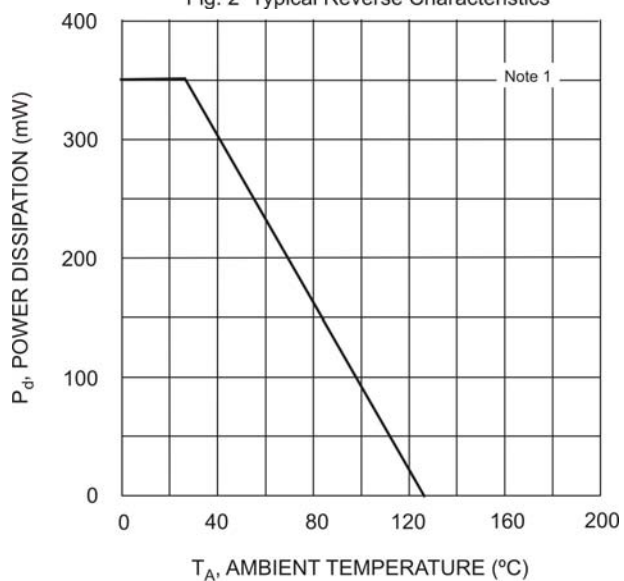


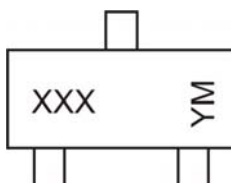
Fig. 4 Power Derating Curve, Total Package

## Ordering Information (Note 4)

Device	Packaging	Shipping
BAS40-7-F	SOT-23	3000/Tape & Reel
BAS40-04-7-F	SOT-23	3000/Tape & Reel
BAS40-05-7-F	SOT-23	3000/Tape & Reel
BAS40-06-7-F	SOT-23	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



XXX = Product Type Marking Code (See Page 1)

YM = Date Code Marking

Y = Year ex: T = 2006

M = Month ex: 9 = September

### Date Code Key

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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