

Crystal Clock Oscillator

NZ2520SHA

For Automotive Safety

■ Application

For Automotive safety (e.g., Millimeter wave radar or Image processing for self-driving)

■ Features

- High quality and high reliability design for Automotive safety
- Supports a wide frequency range. (1.5 to 125MHz)
- Supports a wide temperature range from -40 to +125°C.
- Compact and light. Dimensions : 2.5 x 2.0 x 0.9 mm, weight : 0.02 g.
- Low phase jitter (Typ. 90fs (Frequency Offset : 12kHz to 20MHz)@125MHz, 3.3V)
- Output Specification : CMOS
- Taped units enable automatic mounting IR Reflow (lead free) is possible.
- Lead-free.
- Conforms to AEC-Q100/200.



Pb
Free

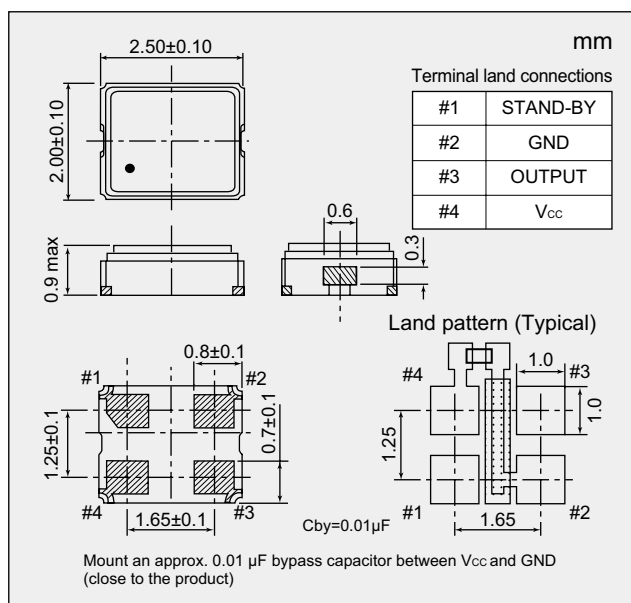
RoHS Compliant
Directive 2011/65/EU
Directive (EU) 2015/863

Absolute maximum rating
Supply Voltage (V_{CC}) -0.3 to +4.0 V
Storage Temperature Range -55 to +125 °C

■ Specifications

Item			Model	NZ2520SHA	
Output Specification				CMOS	
Nominal Frequency Range			(MHz)	$1.5 \leq F \leq 80$	$80 < F \leq 125$
Overall Frequency Tolerance / Operating Temperature Range				$\pm 100 \times 10^{-6} / -40 \text{ to } +125\text{ }^{\circ}\text{C}$	
				$\pm 50 \times 10^{-6} / -40 \text{ to } +105\text{ }^{\circ}\text{C}$	
				$\pm 50 \times 10^{-6} / -40 \text{ to } +85\text{ }^{\circ}\text{C}$	
Supply Voltage			(V)	+1.8 to +3.3	
Current Consumption Max.	During Operation	+25 °C	(mA)	2.5 to 9.0	9.5 to 20
	During Standby	+25 °C	(μA)	20	
V _{OL} Max. / V _{OH} Min.			(V)	0.1 V _{CC} / 0.9 V _{CC}	0.2 V _{CC} / 0.8 V _{CC}
Tr Max. / Tf Max.		+1.8 V	(ns)	6 / 6 (at 0.1 V _{CC} to 0.9 V _{CC})	3 / 3 (at 0.2 V _{CC} to 0.8 V _{CC})
		+2.5 to +3.3V		5 / 5 (at 0.1 V _{CC} to 0.9 V _{CC})	3 / 3 (at 0.2 V _{CC} to 0.8 V _{CC})
Symmetry Min. to Max.			(%)	45 to 55	
Load (C _L) Max.			(pF)	15	
Start-up Time Max.			(ms)	4	
Standby function				Available (Three-state)	

■ Dimensions



■ Standby Function

#1 Input	#3 Output
Level H (0.7 V _{CC} ≤ V _{IH} ≤ V _{CC}) or OPEN is selected.	Oscillation output ON
Level L (V _{IL} ≤ 0.3 V _{CC}) is selected.	High impedance

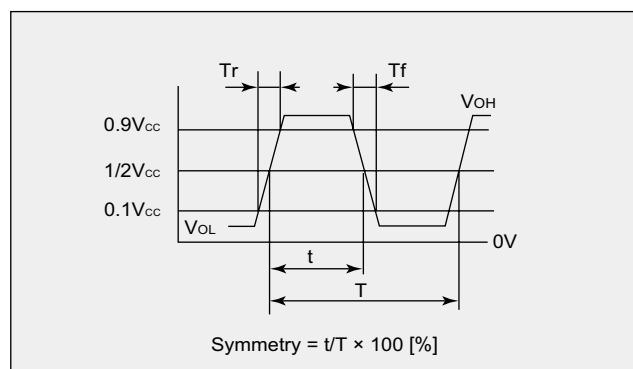
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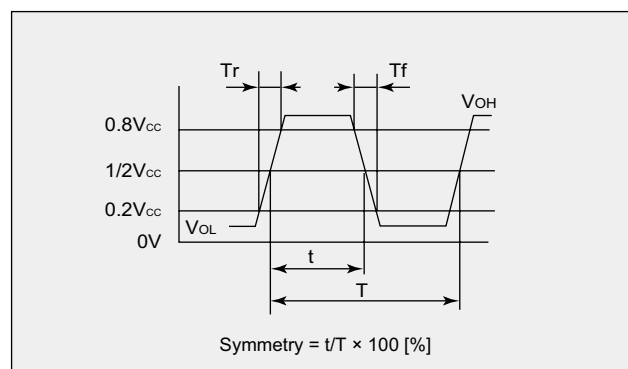
For Automotive Safety

■ Output Waveform <CMOS>

Nominal Frequency Range : $1.5 \leq F \leq 80\text{MHz}$



Nominal Frequency Range : $80 < F \leq 125\text{MHz}$



■ Specification Number

Nominal Frequency Range : $1.5 \leq F \leq 80\text{MHz}$

Overall Frequency Tolerance	Operating Temperature Range (°C)	Supply Voltage (V)			
		+1.8±0.18	+2.5±0.25	+3.0±0.3	+3.3±0.33
±100×10 ⁻⁶	-40 to +125	NSC5072A	NSC5072B	NSC5072C	NSC5072D
±50×10 ⁻⁶	-40 to +105	NSC5218A	NSC5218B	NSC5218C	NSC5218D
±50×10 ⁻⁶	-40 to +85	NSC5219A	NSC5219B	NSC5219C	NSC5219D

Nominal Frequency Range : $80 < F \leq 125\text{MHz}$

Overall Frequency Tolerance	Operating Temperature Range (°C)	Supply Voltage (V)			
		+1.8±0.10	+2.5±0.25	+3.0±0.3	+3.3±0.33
±100×10 ⁻⁶	-40 to +125	NSC5166A	NSC5166B	NSC5166C	NSC5166D
±50×10 ⁻⁶	-40 to +105	NSC5220A	NSC5220B	NSC5220C	NSC5220D
±50×10 ⁻⁶	-40 to +85	NSC5221A	NSC5221B	NSC5221C	NSC5221D

Please specify the model name, frequency, and specification number when you order products.

For further questions regarding specifications, please feel free to contact us.