

# Crystal Clock Oscillator

## NZ2520SHA

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
- Conforms to AEC-Q100/200.
- 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.
- Taped units enable automatic mounting IR Reflow (lead free) is possible.
- Lead-free.
- Output Specification : CMOS



Pb Free

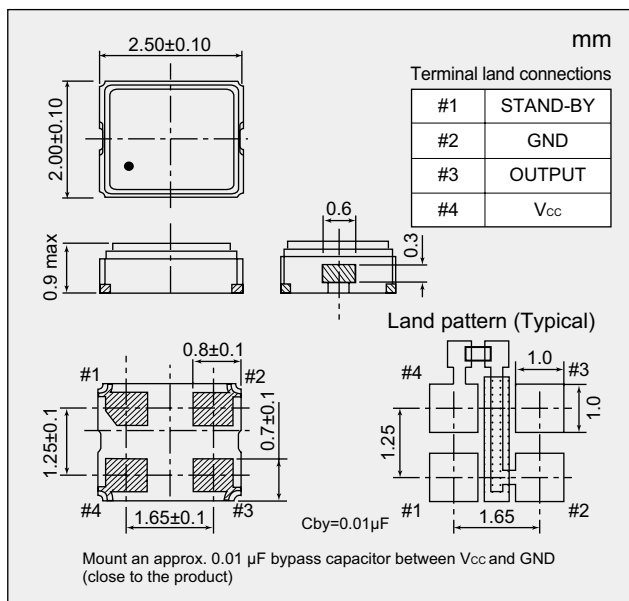
RoHS Compliant  
Directive 2011/65/EU

Absolute maximum rating  
Supply Voltage (V<sub>CC</sub>) -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 ≤ F ≤ 80	80 < F ≤ 125
Overall Frequency Tolerance	(×10 <sup>-6</sup> )	±100	
Operating Temperature Range	(°C)	-40 to +125	
Supply Voltage	(V)	+1.8 to +3.3	
Current Consumption Max.	During Operation	+25 °C (mA)	2.5 to 9.0
	During Standby	+25 °C (μA)	9.5 to 20
V <sub>OL</sub> Max. / V <sub>OH</sub> Min.	(V)	0.1 V <sub>CC</sub> / 0.9 V <sub>CC</sub>	0.2 V <sub>CC</sub> / 0.8 V <sub>CC</sub>
Tr Max. / Tf Max.	+1.8 V	(ns)	6 / 6 ( at 0.1 V <sub>CC</sub> to 0.9 V <sub>CC</sub> )
	+2.5 to +3.3V		3 / 3 ( at 0.2 V <sub>CC</sub> to 0.8 V <sub>CC</sub> )
Symmetry Min. to Max.	(%)	45 to 55	
Load (C <sub>L</sub> ) Max.	(pF)	15	
Start-up Time Max.	(ms)	4	
Standby function		Available (Three-state)	

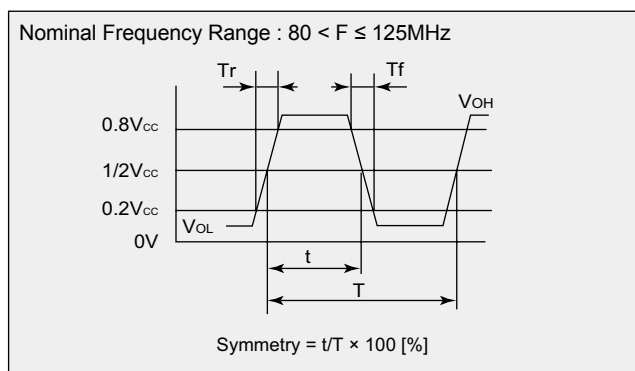
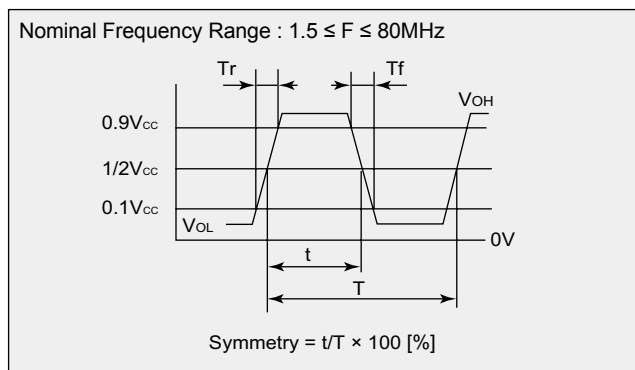
### Dimensions



### Standby Function

#1 Input	#3 Output
Level H (0.7 V <sub>CC</sub> ≤ V <sub>IH</sub> ≤ V <sub>CC</sub> ) or OPEN is selected.	Oscillation output ON
Level L (V <sub>IL</sub> ≤ 0.3 V <sub>CC</sub> ) is selected.	High impedance

### Output Waveform <CMOS>



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### ■ 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 <sup>-6</sup>	-40 to +125	NSC5072A	NSC5072B	NSC5072C	NSC5072D

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 <sup>-6</sup>	-40 to +125	NSC5166A	NSC5166B	NSC5166C	NSC5166D

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

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