Crystal Clock Oscillator

NDK Crystal Bridge to the Future

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

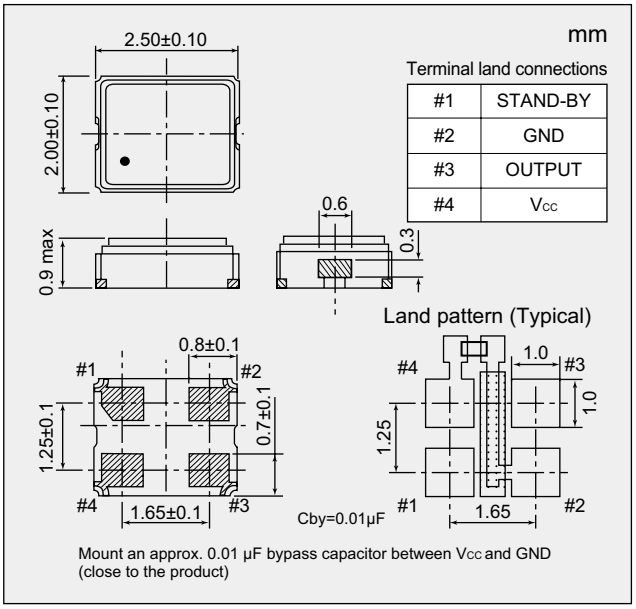
RoHS Compliant
Directive 2011/65/EU

Absolute maximum rating
Supply Voltage (V_{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 ≤ F ≤ 80	80 < F ≤ 125
Overall Frequency Tolerance			($\times10^{-6}$)	±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	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

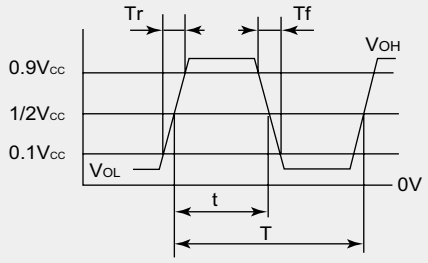


■ Standby Function

#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

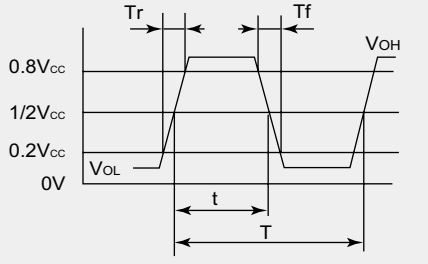
■ Output Waveform <CMOS>

Nominal Frequency Range : 1.5 ≤ F ≤ 80MHz



Symmetry = t/T × 100 [%]

Nominal Frequency Range : 80 < F ≤ 125MHz



Symmetry = t/T × 100 [%]

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■ Specification Number

Nominal Frequency Range : 1.5 ≤ F ≤ 80MHz

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

Nominal Frequency Range : 80 < F ≤ 125MHz

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

Please specify the model name, frequency, and specification number when you order products.
For further questions regarding specifications, please feel free to contact us.