

Crystal Clock Oscillator

NZ1612SHB

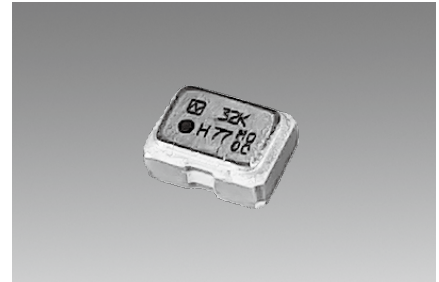
Low Current Consumption Type (32.768kHz)

Application

For Smartphone and Tablet computer etc

Features

- Ultra compact and light. Dimensions : 1.6 x 1.2 x 0.6 mm, weight : 0.01 g.
- Supports a wide temperature range from -40 to +125°C.
- Quick oscillation start up time is available compared to our Tuning Fork Crystal.
- Taped units enable automatic mounting IR Reflow (lead free) is possible.
- Lead-free.



Pb Free

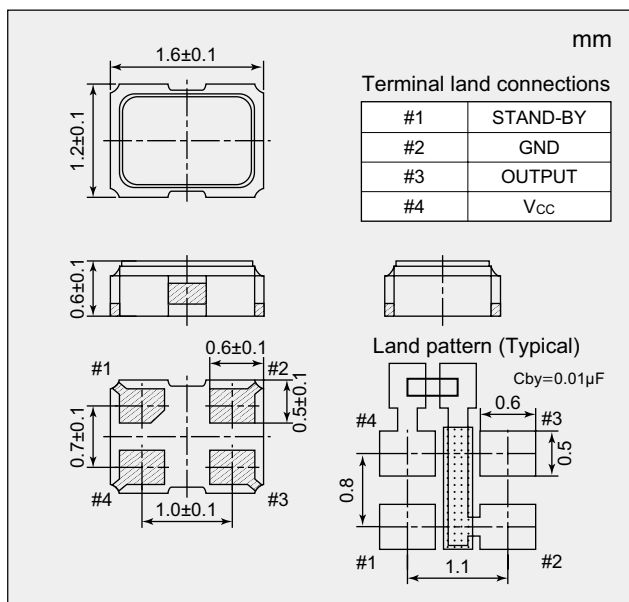
RoHS Compliant
Directive 2011/65/EU
Directive (EU) 2015/863

Absolute maximum rating
Supply Voltage (V_{CC}) -0.3 to +4.5 V
Storage Temperature Range -55 to +125 °C

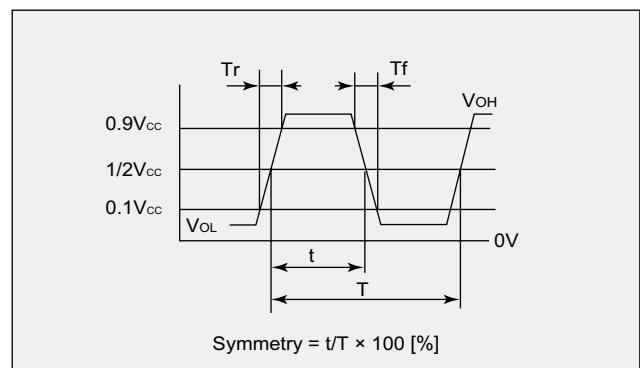
Specifications

Item	Model	NZ1612SHB		
Output Specification		CMOS		
Nominal Frequency	(kHz)	32.768		
Overall Frequency Tolerance	(×10 ⁻⁶)	±100	±50	±30
Operating Temperature Range	(°C)	-40 to +125	-40 to +105	-40 to +85
Supply Voltage (V _{CC})	(V)	+1.8 to +3.3		
Current Consumption Max.	During Operation	+25 °C, No-load	32 (Typ.18μA)	
	During Standby	+25 °C	5	
V _{OL} Max. / V _{OH} Min.	(V)	0.1 V _{CC} / 0.9 V _{CC}		
Tr Max. / Tf Max.	(ns)	50 / 50 (at 0.1V _{CC} to 0.9V _{CC})		
Symmetry Min. to Max.	(%)	45 to 55 (at 0.5V _{CC})		
Load (C _L) Max.	(pF)	15		
Start-up Time Max.	(ms)	20 (V _{CC} : +2.5V ~ +3.3V), 30 (V _{CC} : +1.8V)		
Frequency Aging Max.	(×10 ⁻⁶)	±5 (+25°C, First year)		
Standby function		Available (Three-state)		

Dimensions



Output Waveform <CMOS>



Standby Function

#1 Input	#3 Output
Level H ($0.7 V_{CC} \leq V_{IH} \leq V_{CC}$) or OPEN is selected.	Oscillation output ON
Level L ($V_{IL} \leq 0.3 V_{CC}$) is selected.	High impedance

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■ Specification Number

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	NSC5154A	NSC5154B	NSC5154C	NSC5154D
±50 × 10 ⁻⁶	-40 to +105	NSC5153A	NSC5153B	NSC5153C	NSC5153D
±30 × 10 ⁻⁶	-40 to +85	NSC5102A	NSC5102B	NSC5102C	NSC5102D

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