

# Crystal Clock Oscillator

## NZ3225SH

Standard Type (32.768kHz)

### Application

For Smartphone and Tablet computer etc

### Features

- Compact and light. Dimensions : 3.2 x 2.5 x 0.9 mm, weight : 0.02 g.
- Quick oscillation start up time(Typ. 1ms) is available compared to our Tuning Fork Crystal.



Pb Free

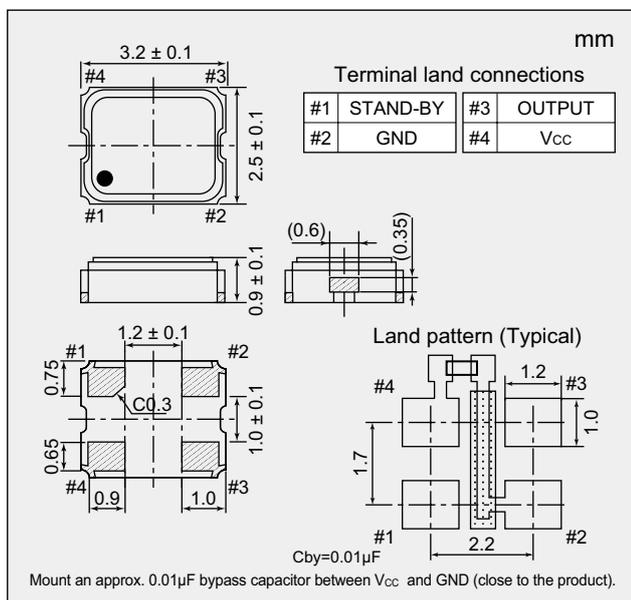
RoHS Compliant  
Directive 2011/65/EU

Absolute maximum rating  
Supply Voltage (V<sub>CC</sub>) -0.3 to +7.0 V  
Storage Temperature Range -55 to +125 °C

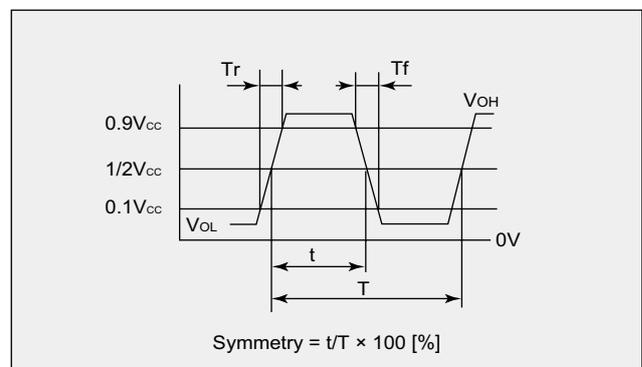
### Specifications

Item	Model	NZ3225SH	
Output		CMOS	
Nominal Frequency	(kHz)	32.768	
Overall Frequency Tolerance	( $\times 10^{-6}$ )	$\pm 30$	
Operating Temperature Range	(°C)	-40 to +85	
Supply Voltage (V <sub>CC</sub> )	(V)	+1.8 to +3.3	
Current Consumption Max.	During Operation +25°C	( $\mu$ A)	160 to 180
	During Standby +25°C	( $\mu$ A)	20
V <sub>OL</sub> Max. / V <sub>OH</sub> Min.	(V)	0.1 V <sub>CC</sub> / 0.9 V <sub>CC</sub>	
Tr Max. / Tf Max.	(ns)	200 / 200 (at 0.1V <sub>CC</sub> to 0.9V <sub>CC</sub> )	
Symmetry Min. to Max.	(%)	45 to 55 (at 0.5V <sub>CC</sub> )	
Load (C <sub>L</sub> ) Max.	(pF)	15	
Start-up Time Max.	(ms)	4 (Typ. 1ms)	
Frequency Aging Max.	( $\times 10^{-6}$ )	$\pm 5$ (+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
±30 × 10 <sup>-6</sup>	-40 to +85	NSC5049A	NSC5049B	NSC5049C	NSC5049D

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