

# Crystal Oscillator

## NT3225SB

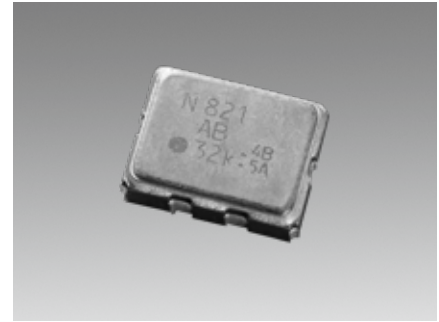
32.768kHz  
Digital Temperature Compensated Crystal Oscillator

### Main Application

High accuracy time reference and High accuracy time reference for RTC

### Features

- Small size SMD type : 3.2 × 2.5 × 1.0mm
- High precision frequency temperature stability : Max.  $\pm 7 \times 10^{-6}$  / -40 to +105°C
- Temperature compensated voltage range : +2.0V to +5.5V
- Low current consumption
- Conforms to AEC-Q200



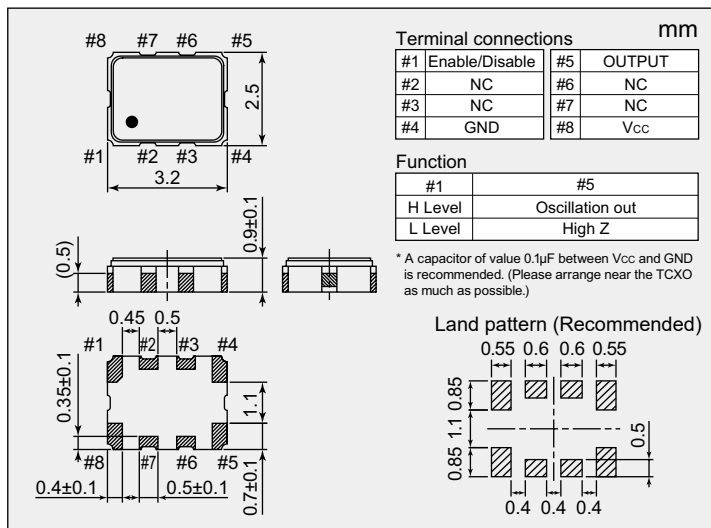
Pb Free

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

### Specifications

Item	Model	NT3225SB
Nominal Frequency (kHz)		32.768
Supply Voltage (V)		+2.0 to +5.5
Storage Temperature (°C)		-40 to +105
Operating Temperature (°C)		-40 to +105
Frequency Tolerance	Ta=25±2°C	Max. $\pm 3.0 \times 10^{-6}$
Frequency / Temperature Characteristics	-40 to +105°C	Max. $\pm 7.0 \times 10^{-6}$
	-40 to +85°C	Max. $\pm 5.0 \times 10^{-6}$
	-40 to +60°C	Max. $\pm 3.8 \times 10^{-6}$
Frequency / Voltage Coefficient	V <sub>CC</sub> =+2.0 to +5.5V, Ta=+25±2°C	Max. $\pm 1.0 \times 10^{-6}$
Current Consumption (µA)	E/D=V <sub>CC</sub> , V <sub>CC</sub> =+3.0V, Output at no load	Max. 4.5
	E/D=GND, V <sub>CC</sub> =+3.0V	Max. 4.0
Low Level Output Voltage (V <sub>OL</sub> )	I <sub>OL</sub> =50µA	Max. 0.2V <sub>CC</sub>
High Level Output Voltage (V <sub>OH</sub> )	I <sub>OH</sub> =-50µA	Min. 0.8V <sub>CC</sub>
Symmetry Min. to Max. (%)	C <sub>L</sub> =15pF	40 to 60%
Rise Time (nsec)	20%V <sub>CC</sub> →80%V <sub>CC</sub> , C <sub>L</sub> =15pF, V <sub>CC</sub> =+3V	Max. 70
Fall Time (nsec)	80%V <sub>CC</sub> →20%V <sub>CC</sub> , C <sub>L</sub> =15pF, V <sub>CC</sub> =+3V	Max. 70
Start-up Time (sec)	Ta=-40 to +105°C	Max. 3.0
Output Load Condition (pF)	CMOS Output	Max. 15.0
Specification Number		NSC5090A

### Dimensions



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