

# Crystal Oscillator

## NT3225SA

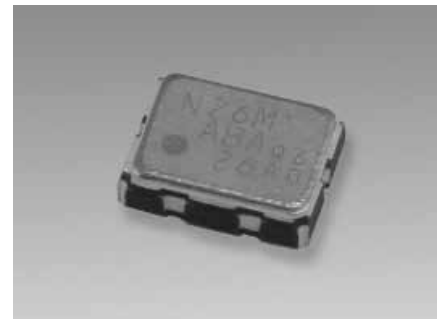
Temperature Compensated Crystal Oscillator (TCXO)

### ■ Main Application

Smartphone / Mobile phone, Wireless module, and GPS / GNSS module, etc.

### ■ Features

- Supports low power supply voltage.  
(Supports DC +1.7V to +3.3V. Standard specification : +1.8V and +3.0V)
- Compact and light with a height, cubic volume, and weight of Max. 1.0 mm, 0.007 cm<sup>3</sup>, and 0.024 g, respectively.
- Low power consumption.
- A surface-mount crystal oscillator. (Reflow soldering is possible.)
- Lead-free. Meets the requirements for re-flow profiling using lead-free solder.



Pb Free

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

### ■ Specifications

Item	Model	NT3225SA	
Nominal Frequency Range (MHz)		10 to 40	
Standard Frequency (MHz)		10, 12, 12.288, 12.8, 13, 14.4, 14.7456, 15, 15.36, 16, 16.368, 16.369, 16.384, 16.8, 18, 19.2, 19.44, 19.68, 20, 21.25, 22.4, 24, 24.576, 25, 26	38.4, 40
Supply Voltage [V <sub>CC</sub> ] (V)		+1.8, +3.0	
Load Impedance		10 kΩ//10 pF	
Current Consumption (mA)		Max. 1.5	Max. 1.7
Output Voltage		Min. 0.8 V(p-p) (DC Coupling *1)	
Frequency/Temperature Characteristics		Max. ±2.5×10 <sup>-6</sup>	
Operating Temperature Range (°C)		-30 to +75	
Storage Temperature Range (°C)		-40 to +85	
Frequency/Voltage Coefficient		Max. ±0.3×10 <sup>-6</sup> /V <sub>CC</sub> ±5 %	
Frequency/Load Coefficient		Max. ±0.2×10 <sup>-6</sup> /(10 kΩ//10 pF) ±10 %	
Long-term Frequency Stability		Max. ±1.0×10 <sup>-6</sup> /year	

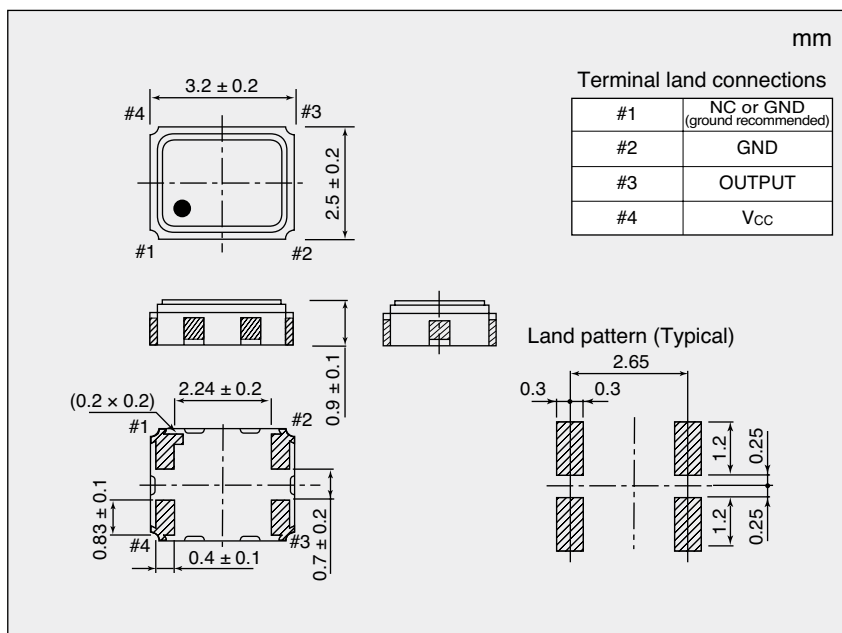
• Frequency setting conditions : Frequencies are set at normal temperatures (+25±2 °C).

\*1. A DC-cut capacitor is not embedded in this crystal oscillator. Connect a DC-cut capacitor (1,000 pF) to the line-out terminal of the oscillator.

### ■ Specification Number

Frequency (MHz)	Supply voltage	
	+1.8V	+3.0V
10	NSA3631A	NSA3632A
12	NSA3631A	NSA3632A
12.288	NSA3631A	NSA3632A
12.8	NSA3631A	NSA3632A
13	NSA3631A	NSA3632A
14.4	NSA3631A	NSA3632A
14.7456	NSA3631A	NSA3632A
15	NSA3631A	NSA3632A
15.36	NSA3631A	NSA3632A
16	NSA3631A	NSA3632A
16.368	NSA3631A	NSA3632A
16.369	NSA3631A	NSA3632A
16.384	NSA3631A	NSA3632A
16.8	NSA3631A	NSA3632A
18	NSA3631A	NSA3632A
19.2	NSA3631A	NSA3632A
19.44	NSA3631A	NSA3632A
19.68	NSA3631B	NSA3632B
20	NSA3631A	NSA3632A
21.25	NSA3631B	NSA3632B
22.4	NSA3631B	NSA3632B
24	NSA3631B	NSA3632B
24.576	NSA3631B	NSA3632B
25	NSA3631B	NSA3632B
26	NSA3631B	NSA3632B
38.4	NSA3631C	NSA3632C
40	NSA3631C	NSA3632C

### ■ 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.