



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



NT3225SA

Temperature Compensated Crystal Oscillator(TCXO)
for high-precision GPS

■ Main Application

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

■ Features

- A crystal oscillator with highly stable frequency / temperature characteristics best suited for GPS.
- Supports low power supply voltage.
(Supports DC +1.7V to +3.3V. Standard specification : +1.8V and +2.8V)
- Compact and light with a height, cubic volume, and weight of Max. 1.0 mm, 0.007 cm³, 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.
- Conforms to AEC-Q100/200.



Pb Free

RoHS Compliant
Directive 2011/65/EU

■ Specifications

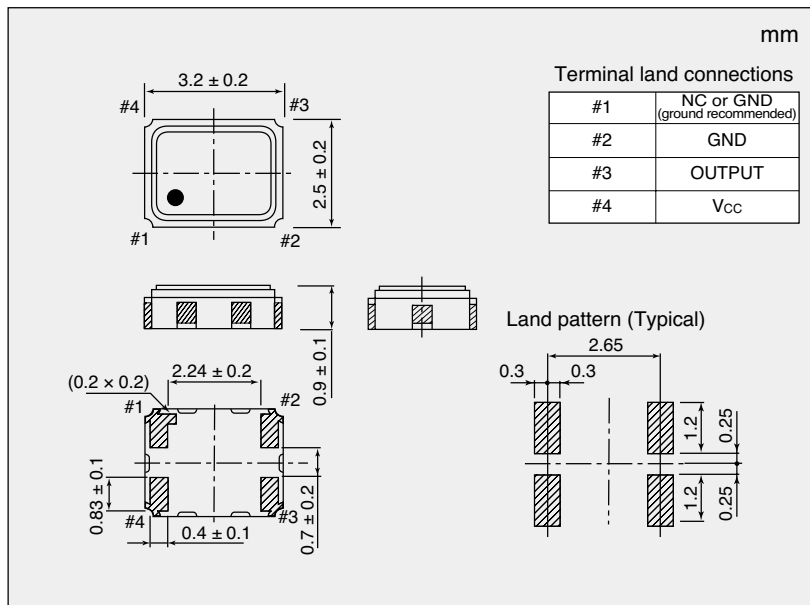
Item	Model	NT3225SA	
Nominal Frequency Range (MHz)		10 to 40	
Standard Frequency (MHz)		10, 13, 16.367667, 16.368, 16.369, 16.8, 19.2, 20, 23.104, 24.5535, 25, 26	38.4
Supply Voltage [V _{cc}] (V)		+1.8, +2.8	
Load Impedance		10 kΩ//10 pF	
Current Consumption (mA)		Max. 1.5	Max. 1.7
Output Voltage		Min. 0.8 V(p-p) (DC Coupling *1)	
Frequency/Temperature Characteristics		Max. ±0.5×10 ⁻⁶	
Operating Temperature Range (°C)		-30 to +85	
Storage Temperature Range (°C)		-40 to +85	
Frequency/Voltage Coefficient		Max. ±0.2×10 ⁻⁶ /V _{cc} ±5 %	
Frequency/Load Coefficient		Max. ±0.2×10 ⁻⁶ /(10 kΩ//10 pF) ±10 %	
Long-term Frequency Stability		Max. ±1.0×10 ⁻⁶ /year	

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

Connect the #1 terminal of the oscillator to the ground that comes with the oscillator.

*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.

■ Dimensions



■ Specification Number

Frequency (MHz)	Supply Voltage	
	+1.8V	+2.8V
10	NSA3590A	NSA3591A
13	NSA3590A	NSA3591A
16.367667	NSA3590A	NSA3591A
16.368	NSA3590A	NSA3591A
16.369	NSA3590A	NSA3591A
16.8	NSA3590A	NSA3591A
19.2	NSA3590A	NSA3591A
20	NSA3590A	NSA3591A
23.104	NSA3590B	NSA3591B
24.5535	NSA3590B	NSA3591B
25	NSA3590B	NSA3591B
26	NSA3590B	NSA3591B
38.4	NSA3590C	NSA3591C

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