

Crystal Oscillator

Model Name NT3225SA Temperature-Compensated Crystal Oscillator (TCXO) NT3225S Series (with high-precision GPS supported)

Main Application

For mobile terminals with high-precision GPS functions

Features

- A crystal oscillator with highly stable frequency / temperature characteristics best suited for GPS.
- Supports low power supply voltage. (Supports DC +1.7 V to +3.3 V.)
- 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.



Pb Free

RoHS Compliant
Directive 2011/65/EU

Specifications

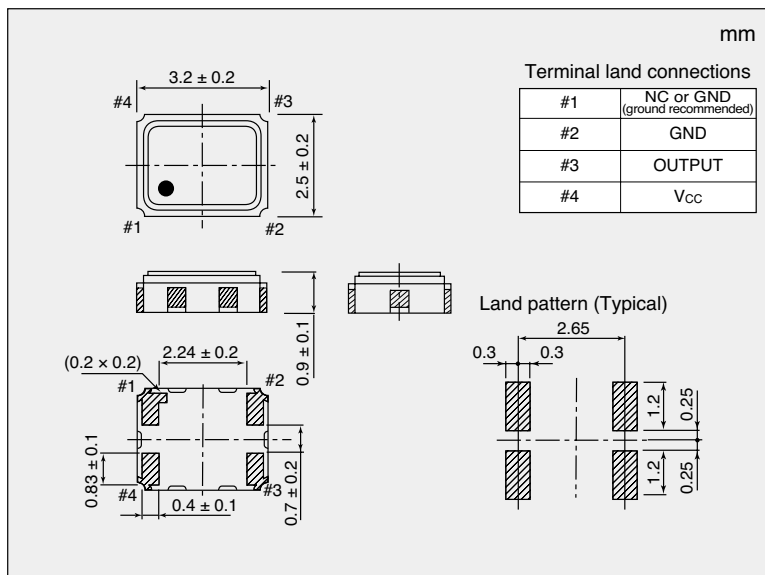
Item	Model	NT3225SA
Nominal frequency range (MHz)		10 to 40
Standard frequency (MHz)	10, 13, 16.367667, 16.368, 16.369, 16.8, 19.2, 20, 23.104, 24.5535, 25, 26	38.4
Supply voltage [V _{CC}] (V)		+1.8, +2.8
Load impedance		10 kΩ/10 pF
Current consumption (mA)		Max. 1.5 Max. 1.7
Output voltage		Min. 0.8 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

1. Frequencies are set at normal temperatures (+25±2 °C).
 2. Connect the #1 terminal of the oscillator to the ground that comes with the oscillator.
- If you require a product with a different frequency, power supply voltage, frequency control range, etc. to the standard specifications, please contact us with your enquiries.
 - Products with the AFC (Automatic Frequency Control) function are available. If you require such a product, please contact us.

*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



List of Ordering Codes

Ordering Code depends on the supply voltage.

[Supply voltage : +1.8V]

Frequency (MHz)	Ordering Code
10	NT3225SA-10M-NSA3519A
13	NT3225SA-13M-NSA3519A
16.367667	NT3225SA-16.367667M-NSA3519A
16.368	NT3225SA-16.368M-NSA3519A
16.369	NT3225SA-16.369M-NSA3519A
16.8	NT3225SA-16.8M-NSA3519A
19.2	NT3225SA-19.2M-NSA3519A
20	NT3225SA-20M-NSA3519B
23.104	NT3225SA-23.104M-NSA3519B
24.5535	NT3225SA-24.5535M-NSA3519B
25	NT3225SA-25M-NSA3519B
26	NT3225SA-26M-NSA3519B
38.4	NT3225SA-38.4M-NSA3519C

[Supply voltage : +2.8V]

Frequency (MHz)	Ordering Code
10	NT3225SA-10M-NSA3518A
13	NT3225SA-13M-NSA3518A
16.367667	NT3225SA-16.367667M-NSA3518A
16.368	NT3225SA-16.368M-NSA3518A
16.369	NT3225SA-16.369M-NSA3518A
16.8	NT3225SA-16.8M-NSA3518A
19.2	NT3225SA-19.2M-NSA3518A
20	NT3225SA-20M-NSA3518B
23.104	NT3225SA-23.104M-NSA3518B
24.5535	NT3225SA-24.5535M-NSA3518B
25	NT3225SA-25M-NSA3518B
26	NT3225SA-26M-NSA3518B
38.4	NT3225SA-38.4M-NSA3518C

The above frequencies are NDK's standard frequencies. Frequencies other than the above are available. Feel free to contact our sales representatives.