

Crystal Oscillator

Model Name NT3225SA

Temperature Compensated Crystal Oscillator
with AFC Function (VC-TCXO) NT3225S Series

■ Main Application

For mobile phones, etc.

■ Features

- 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 0.024g, respectively.
- With an AFC (Automatic Frequency Control) function.
- 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, 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 _{CC}] (V)		+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. $\pm 2.5 \times 10^{-6}$
Operating temperature range (°C)		-30 to +75
Storage temperature range (°C)		-40 to +85
Frequency/Voltage coefficient		Max. $\pm 0.3 \times 10^{-6}/+3.0 \text{ V} \pm 5 \%$
Frequency/Load coefficient		Max. $\pm 0.2 \times 10^{-6}/(10 \text{ k}\Omega/10 \text{ pF}) \pm 10 \%$
Long-term frequency stability		Max. $\pm 1.0 \times 10^{-6}/\text{year}$
Frequency control range		$\pm 9.0 \times 10^{-6}$ to $\pm 15.0 \times 10^{-6}/+1.5 \text{ V} \pm 1 \text{ V}$ (*2)

• Frequency setting conditions

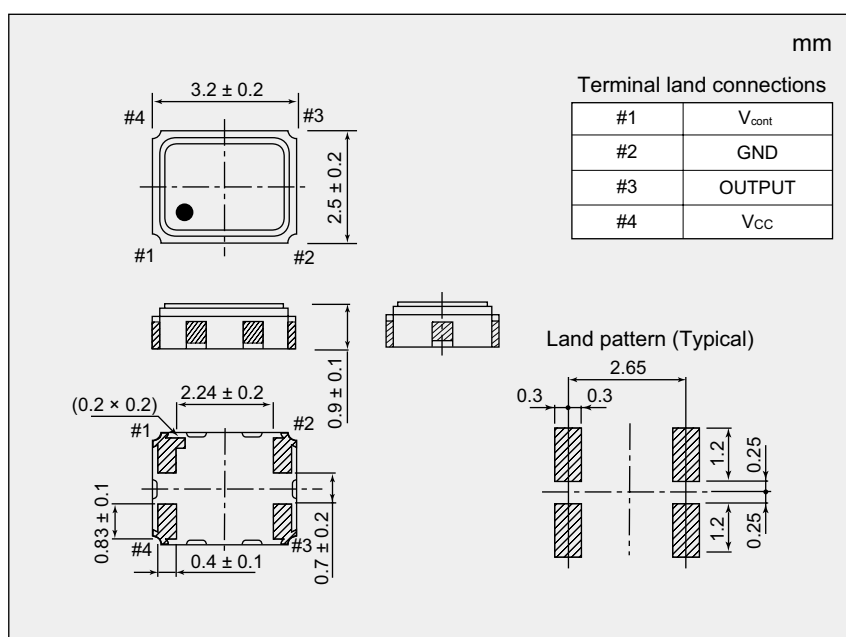
1. Frequencies are set at normal temperatures (+25±2 °C).

• 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.

*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.

*2. This is a representative specification. The specifications may change according to the frequency and the supply voltage that you request.

■ Dimensions



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■ List of Ordering Codes

Frequency (MHz)	Ordering Code
10	NT3225SA-10M-NSA3630A
12	NT3225SA-12M-NSA3630A
12.288	NT3225SA-12.288M-NSA3630A
12.8	NT3225SA-12.8M-NSA3630A
13	NT3225SA-13M-NSA3630A
14.4	NT3225SA-14.4M-NSA3630A
14.7456	NT3225SA-14.7456M-NSA3630A
15	NT3225SA-15M-NSA3630A
15.36	NT3225SA-15.36M-NSA3630A
16	NT3225SA-16M-NSA3630A
16.368	NT3225SA-16.368M-NSA3630A
16.369	NT3225SA-16.369M-NSA3630A
16.384	NT3225SA-16.384M-NSA3630A
16.8	NT3225SA-16.8M-NSA3630A
18	NT3225SA-18M-NSA3630A
19.2	NT3225SA-19.2M-NSA3630A
19.44	NT3225SA-19.44M-NSA3630A
19.68	NT3225SA-19.68M-NSA3630A
20	NT3225SA-20M-NSA3630A
21.25	NT3225SA-21.25M-NSA3630B
22.4	NT3225SA-22.4M-NSA3630B
24	NT3225SA-24M-NSA3630B
24.576	NT3225SA-24.576M-NSA3630B
25	NT3225SA-25M-NSA3630B
26	NT3225SA-26M-NSA3630B
38.4	NT3225SA-38.4M-NSA3630C
40	NT3225SA-40M-NSA3630C

The above frequencies are NDK's standard frequencies.

Frequencies other than the above are available. Feel free to contact our sales representatives.