

# Crystal Oscillator

## NT2016SA

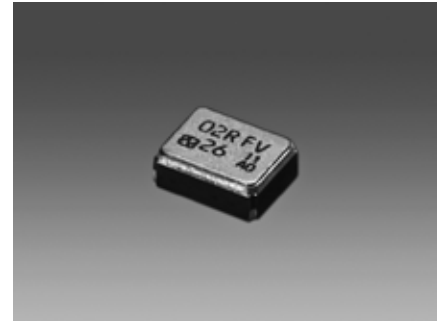
Temperature Compensated Crystal Oscillator  
with AFC function(VC-TCXO)

### 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)
- Ultra-compact and light with a height, cubic volume, and weight of Max. 0.8 mm, 0.0022 cm<sup>3</sup>, and 0.008 g, 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

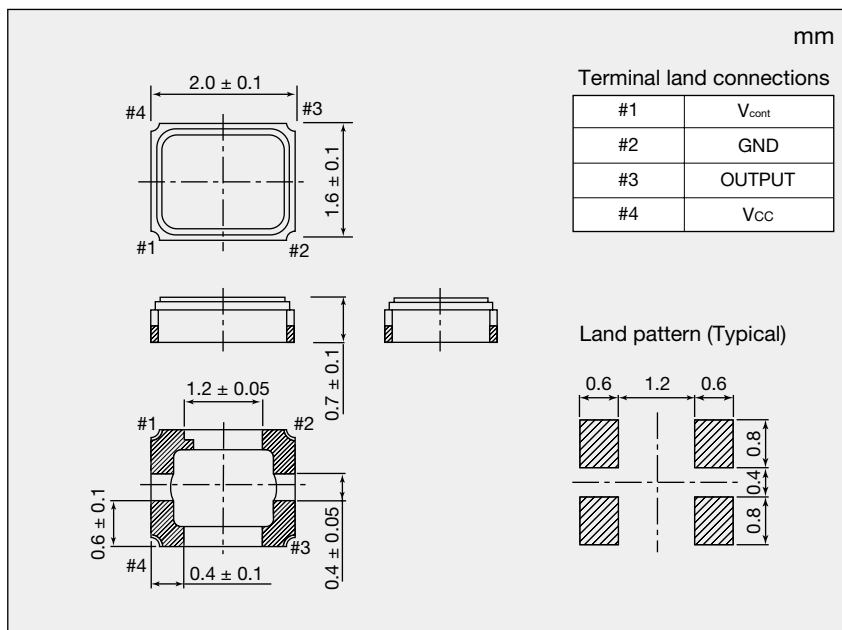
| Item                                  | Model | NT2016SA   |          |          |          |          |          |          |
|---------------------------------------|-------|--|----------|----------|----------|----------|----------|----------|
| Nominal Frequency Range (MHz)         |       | 10 to 52   |          |          |          |          |          |          |
| Standard Frequency (MHz)              |       | 16.368   | 16.369   | 19.2     | 26       | 33.6     | 38.4     | 52       |
| Supply Voltage [V <sub>cc</sub> ] (V) |       | +1.8   |          |          |          |          |          |          |
| Load Impedance                        |       | 10 kΩ//10 pF   |          |          |          |          |          |          |
| Current Consumption (mA)              |       | Max. 1.5   |          |          |          | Max. 1.7 | Max. 2.0 |          |
| Output Voltage                        |       | Min. 0.8 V(p-p) (DC Coupling *1)   |          |          |          |          |          |          |
| Frequency/Temperature Characteristics |       | Max. $\pm 2.0 \times 10^{-6}$  |          |          |          |          |          |          |
| Operating Temperature Range (°C)      |       | -30 to +85   |          |          |          |          |          |          |
| Storage Temperature Range (°C)        |       | -40 to +85   |          |          |          |          |          |          |
| Frequency/Voltage Coefficient         |       | Max. $\pm 0.2 \times 10^{-6}/+1.8 \text{ V} \pm 5 \%$                                  |          |          |          |          |          |          |
| 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               |       | $\pm 8.0 \times 10^{-6}$ to $\pm 13.0 \times 10^{-6}/+0.9 \text{ V} \pm 0.8 \text{ V}$ |          |          |          |          |          |          |
| Specification Number                  |       | NSA3508A   | NSA3508A | NSA3508A | NSA3508B | NSA3508B | NSA3508C | NSA3508D |

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

\* Products without 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



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