

# Crystal Oscillator

## NT2016SD

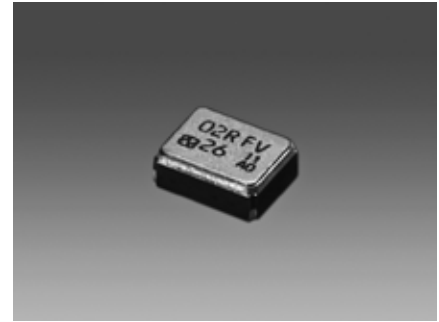
Temperature Compensated Crystal Oscillator(TCXO)  
with temperature sensor voltage output and E/D function for high-precision GPS

### Main Application

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

### Features

- Supports low power supply voltage. (Supports DC +1.7 V to +3.3 V.)
- A crystal oscillator with highly stable frequency / temperature characteristics best suited for GPS.
- 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.
- A surface-mount crystal oscillator. (Reflow soldering is possible.)
- Lead-free. Meets the requirements for re-flow profiling using lead-free solder.
- Temperature sensor voltage output function (0.95V typ. @+25°C, -8.7mV/°C typ.)
- With Enable / Disable(Stand-by) function.
- With an AFC (Automatic Frequency Control) function.(Option)



Pb Free

RoHS Compliant  
Directive 2011/65/EU

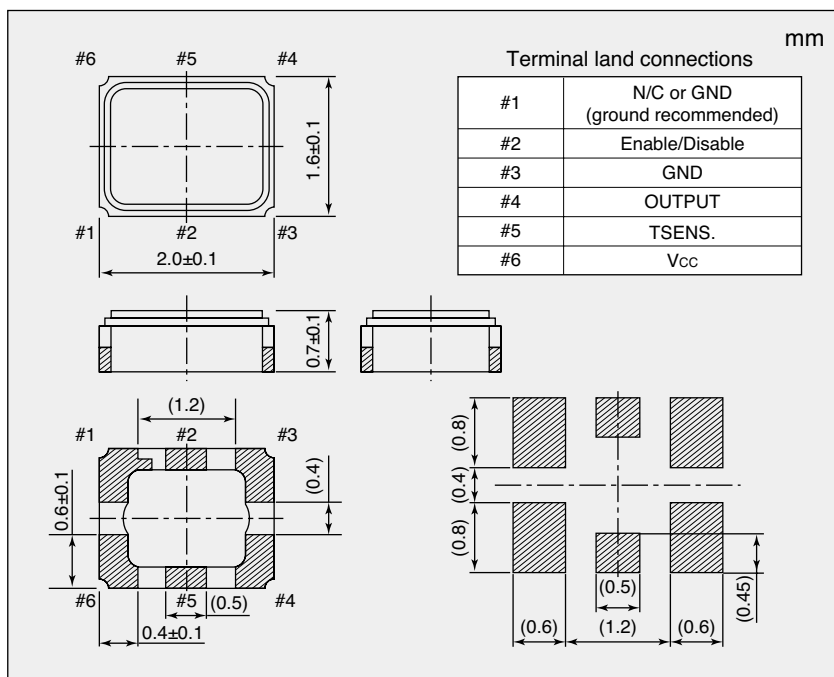
### Specifications

Item	Model	NT2016SD						
Nominal Frequency (MHz)		10 to 52						
Standard Frequency (MHz)		16.368	16.369	19.2	26	33.6	38.4	54
Supply Voltage [V <sub>CC</sub> ] (V)		+1.8						
Load Impedance		10 kΩ//10 pF						
Current Consumption	Enable (mA)	Max. 1.5				Max. 1.7		Max. 2.0
	Disable (μA)	Max. 3						
Output voltage		Min. 0.8 V(p-p) (DC Coupling *1)						
Frequency/Temperature Characteristics		Max. ±0.5×10 <sup>-6</sup>						
Operating Temperature Range (°C)		-30 to +85						
Storage Temperature Range (°C)		-40 to +85						
Frequency/Voltage Coefficient		Max. ±0.1×10 <sup>-6</sup> /+1.8 V±5 %						
Frequency/Load Coefficient		Max. ±0.1×10 <sup>-6</sup> /(10 kΩ//10 pF) ±10 %						
Long-term Frequency Stability		Max. ±1.0×10 <sup>-6</sup> /year						
Temperature Sensor Output Voltage		0.95V typ. @25°C, -8.7mV/°C typ.						
Specification Number		NSA3503A	NSA3503A	NSA3503A	NSA3503B	NSA3503B	NSA3503C	NSA3503D

\* 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.

### 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.