# **Crystal Oscillator**



# NT2520SB

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
- 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. 0.9 mm, 0.004 cm3, and 0.014 g, respectively.
- A surface-mount crystal oscillator. (Reflow soldering is possible.)
- Lead-free. Meets the requirements for re-flow profiling using lead-free solder.
- Products with the AFC (Automatic Frequency Control) function is available.
- Conforms to AEC-Q100/200.



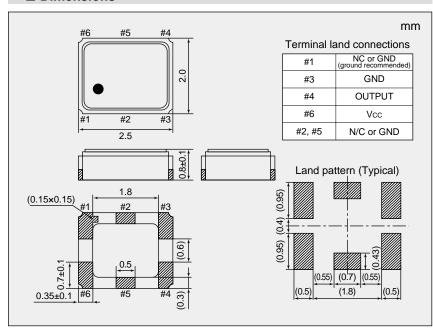




## ■ Specifications

| Item Model                            | NT2520SB                            |        |      |    |      |      |    |
|---------------------------------------|-------------------------------------|--------|------|----|------|------|----|
| Nominal Frequency (MHz)               | 10 to 52                            |        |      |    |      |      |    |
| Standard Frequency (MHz)              | 16.368                              | 16.369 | 19.2 | 26 | 33.6 | 38.4 | 52 |
| Supply Voltage [Vcc] (V)              | +1.8, +2.8                          |        |      |    |      |      |    |
| 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. ±0.5×10 <sup>-6</sup>          |        |      |    |      |      |    |
| Operating Temperature Range (°C)      | -30 to +85                          |        |      |    |      |      |    |
| Storage Temperature Range (°C)        | -40 to +85                          |        |      |    |      |      |    |
| Frequency/Voltage Coefficient         | Max. ±0.2×10-6/Vcc±5 %              |        |      |    |      |      |    |
| Frequency/Load Coefficient            | Max. ±0.2×10-6/(10 kΩ//10 pF) ±10 % |        |      |    |      |      |    |
| Long-term Frequency Stability         | Max. ±1.0×10-6/year                 |        |      |    |      |      |    |

#### **■** Dimensions



### ■ Specification Number

| Frequency | Supply Voltage |          |  |  |  |
|-----------|----------------|----------|--|--|--|
| (MHz)     | +1.8V          | +2.8V    |  |  |  |
| 16.368    | NSA3557A       | NSA3556A |  |  |  |
| 16.369    | NSA3557A       | NSA3556A |  |  |  |
| 19.2      | NSA3557A       | NSA3556A |  |  |  |
| 26        | NSA3557B       | NSA3556B |  |  |  |
| 33.6      | NSA3557B       | NSA3556B |  |  |  |
| 38.4      | NSA3557C       | NSA3556C |  |  |  |
| 52        | NSA3557D       | NSA3556D |  |  |  |

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

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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.