

## NT14M09TA

High Precision Oscillator (Twin-DCXO)  
for Fixed Communication Equipment

### ■ Main Application

- Base stations for system mobile communications
- Optical transmission system
- Measuring instrument
- Synthesizer
- Exchanger
- High-end router

### ■ Features

- Low current consumption (Max. 35mA) and high stability ( $\pm 50 \times 10^{-9}$  / -40°C to +85°C).
- Excellent long-term frequency stability.
- Excellent phase noise characteristics.
- Hermetic sealing package for excellent environmental-proof performance.
- Same foot pattern as the same size OCXO (foot pattern compatible).



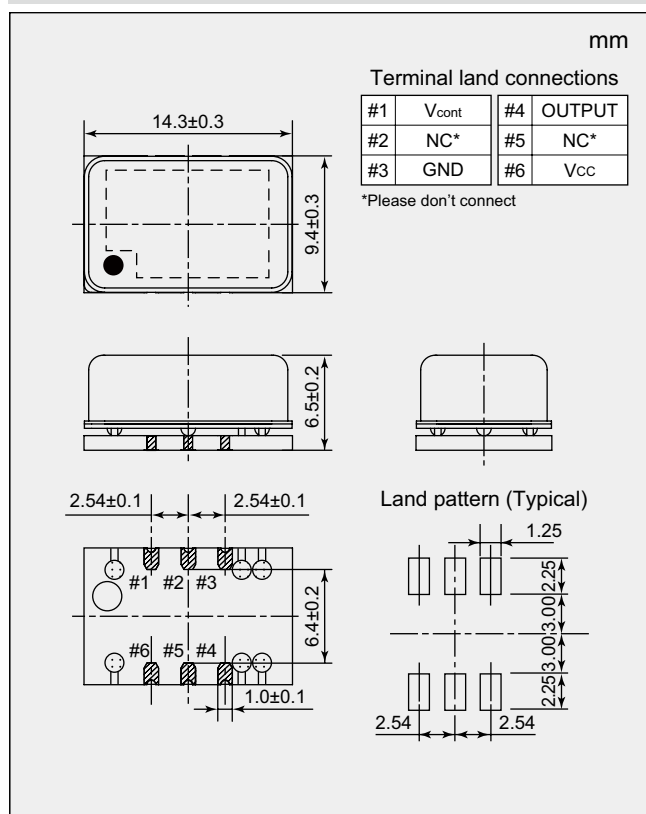
Pb  
Free

RoHS Compliant  
Directive 2011/65/EU

### ■ Specifications

| Item                                  | Measurement condition                        | Model | NT14M09TA                                                      |
|---------------------------------------|----------------------------------------------|-------|----------------------------------------------------------------|
| Nominal frequency range (MHz)         |                                              |       | 5 to 40                                                        |
| Nominal frequency (MHz)               |                                              |       | 10, 12.8, 13, 16.384, 19.2, 20, 25, 26, 30.72, 38.4, 38.88, 40 |
| Supply voltage [V <sub>CC</sub> ] (V) |                                              |       | +3.3 $\pm$ 5 %                                                 |
| Current consumption (mA)              |                                              |       | Max. 35                                                        |
| Output voltage                        |                                              |       | LVC MOS (V <sub>OL</sub> Max. 0.3 V, V <sub>OH</sub> Min. 3 V) |
| Symmetry (%)                          | at 1/2 V <sub>CC</sub>                       |       | 45 to 55                                                       |
| Load impedance (pF)                   |                                              |       | 15                                                             |
| Operating temperature range (°C)      |                                              |       | -40 to +85                                                     |
| Storage temperature range (°C)        |                                              |       | -40 to +85                                                     |
| Long-term frequency stability         | Based on frequency after 24 hours operation  |       | Max. $\pm 200 \times 10^{-9}$ / year                           |
| Frequency/Temperature characteristics |                                              |       | Max. $\pm 50 \times 10^{-9}$                                   |
| Frequency/Voltage coefficient         | V <sub>CC</sub> +3.3 V $\pm$ 5 %             |       | Typ. $\pm 5 \times 10^{-9}$ (Max. $\pm 10 \times 10^{-9}$ )    |
| Frequency control range               | V <sub>Cont</sub> +0.2 V to + 2.8 V (@1.5 V) |       | Max. $\pm 5.0 \times 10^{-6}$                                  |
| Frequency change polarity             | Frequency change polarity                    |       | Positive                                                       |
|                                       | Linearity                                    |       | Typ. 1%                                                        |

### ■ Dimensions



### ■ Reference Value

| Phase noise<br>(at 10 MHz) | Offset frequency | dBc/Hz (typ.) |
|----------------------------|------------------|---------------|
|                            | 1 Hz             | -70           |
|                            | 10 Hz            | -100          |
|                            | 100 Hz           | -125          |
|                            | 1 kHz            | -150          |
|                            | 10 kHz           | -160          |

The value of phase noise changes when the frequency changes.

### ■ List of Ordering Codes

| Nominal frequency (MHz) | Ordering Code              |
|-------------------------|----------------------------|
| 10                      | NT14M09TA-10M-NSA3543A     |
| 12.8                    | NT14M09TA-12.8M-NSA3543A   |
| 13                      | NT14M09TA-13M-NSA3543A     |
| 16.384                  | NT14M09TA-16.384M-NSA3543A |
| 19.2                    | NT14M09TA-19.2M-NSA3543A   |
| 20                      | NT14M09TA-20M-NSA3543A     |
| 25                      | NT14M09TA-25M-NSA3543A     |
| 26                      | NT14M09TA-26M-NSA3543A     |
| 30.72                   | NT14M09TA-30.72M-NSA3543A  |
| 38.4                    | NT14M09TA-38.4M-NSA3543A   |
| 38.88                   | NT14M09TA-38.88M-NSA3543A  |
| 40                      | NT14M09TA-40M-NSA3543A     |

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