

Crystal Oscillator

Model Name NH14M09WA

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

■ Main Application

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

■ Features

- Compact.
- Excellent temperature characteristics.
- Excellent Long-term frequency stability.
- Excellent phase noise characteristics.
- Supports wide temperature range. (-40 to +85°C)

Pb
Free

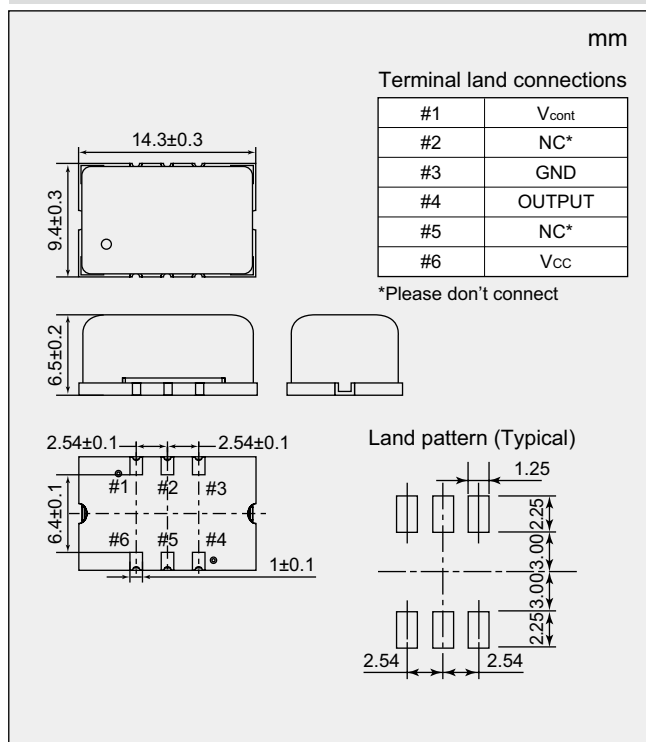
RoHS Compliant
Directive 2011/65/EU



■ Specifications

Item	Measurement condition	Model	NH14M09WA
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 _{CC}] (V)			+3.3 ±5 %
Power consumption (W)	at start		Typ. 1.3 (Max. 2.0)
	when stable (+25 °C)		Typ. 0.6 (Max. 1.0)
Output voltage			LVC MOS (V _{OL} Max. 0.3 V, V _{OH} Min. 3 V)
Symmetry (%)	at 1/2 V _{CC}		45 to 55
Load impedance (pF)			15
Operating temperature range (°C)			Refer to *1
Storage temperature range (°C)			-40 to +85
Stabilization time	Stabilization Time (Frequency Stability) within ±100 × 10 ⁻⁹ after power on at +25°C, based on frequency after 60minutes operation.		Max. 3 minutes
Long-term frequency stability	Based on frequency after 30 days operation		Max. ±5 × 10 ⁻⁹ /day
	Based on frequency after 30 days operation		Max. ±200 × 10 ⁻⁹ /year
Frequency/Temperature characteristics			Refer to *1
Frequency/Voltage coefficient	V _{CC} +3.3 V ±5 %		Typ. ±5 × 10 ⁻⁹ (Max. ±10 × 10 ⁻⁹)
Frequency control range	V _{cont} +0.2 V to +2.8 V (@ +1.5V)		Min. ±5.0 × 10 ⁻⁶
Frequency change polarity	Frequency change polarity		Positive
	Linearity		Typ. 1%

■ Dimensions



■ Reference Value

Phase noise (at 10 MHz)	Offset frequency	dBc/Hz
	1 Hz	-75
	10 Hz	-100
	100 Hz	-125
	1 kHz	-150
	10 kHz	-160

The value of phase noise changes when the frequency changes.

■ *1 List of Options

Operating temperature range (°C)	-20 to +70
Frequency/temperature characteristics	Max. ±10 × 10 ⁻⁹
Ordering Code	NH14M09WA-[]-NSA3540A
Operating temperature range (°C)	-20 to +70
Frequency/temperature characteristics	Max. ±50 × 10 ⁻⁹
Ordering Code	NH14M09WA-[]-NSA3540B
Operating temperature range (°C)	-40 to +85
Frequency/temperature characteristics	Max. ±20 × 10 ⁻⁹
Ordering Code	NH14M09WA-[]-NSA3540C
Operating temperature range (°C)	-40 to +85
Frequency/temperature characteristics	Max. ±50 × 10 ⁻⁹
Ordering Code	NH14M09WA-[]-NSA3540D

Please specify a NDK's nominal frequency in the square brackets.
(Example 10MHz : Please specify 10M in the square brackets.)
Frequencies other than the above are available.
Feel free to contact our sales representatives.