Crystal Oscillator

NDK Crystal Bridge to the Future

NH14M09WA

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

■ Main Application

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

■ Features

- Compact.
- Excellent temperature characteristics.
- Excellent Long-term frequency stability.
- Excellent phase noise characteristics.
- Supports wide temperature range.

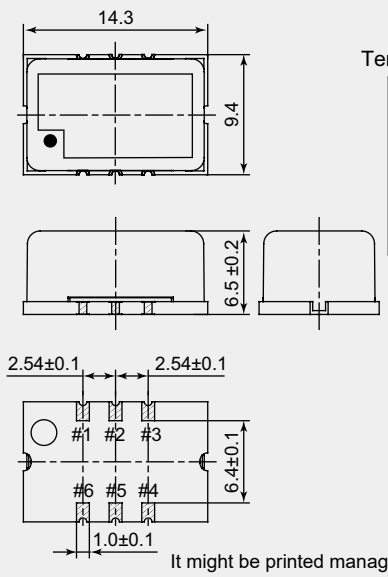
RoHS Compliant
Directive 2011/65/EU
Directive (EU) 2015/863

■ Specifications

Item \ Model		NH14M09WA			
Nominal Frequency Range (MHz)		5 to 40			
Nominal Frequency f_{nom} (MHz)		10, 12.8, 13, 19.2, 20, 25.6, 30.72, 38.88			
Supply Voltage Vcc (V)		+3.3			
Load Impedance C_L (pF)		15			
Operating Temperature Range T_{opr} (°C)		–20 to + 70		–40 to + 85	
Storage Temperature Range T_{str} (°C)		–40 to + 85			
Power Consumption P_{CC} (W)	at start	Max. 2.0 (Typ. 1.3)			
	when stable, at +25 °C	Max. 1.0 (Typ. 0.6)			
Frequency Tolerance $\Delta f/f_{nom}$	at +25°C, V_{cont} = Center, before shipment	Max. 500×10^{-9}			
Frequency/Temperature Characteristics Δf/f	at Operating Temperature Range	Max.$\pm10\times10^{-9}$	Max.$\pm50\times10^{-9}$	Max.$\pm10\times10^{-9}$	Max.$\pm50\times10^{-9}$
Frequency/Voltage Coefficient Δf/f	V_{CC} ± 5%	Max. $\pm10\times10^{-9}$ (Typ. $\pm5\times10^{-9}$)			
Long-term Frequency Stability Δf/f	Based on frequency after 30 days operation	Max. $\pm5\times10^{-9}$ / day			
		Max. $\pm300\times10^{-9}$ / year			
Stabilization Time (min.)	Time within specified frequency tolerance after power on at +25°C, based on frequency after 60minutes operation.	Max. 3 / within ± 100×10^{-9}			
Frequency Control Range (*) Δf/f		V_{cont} = +1.5V±1.3V			
		Min. $\pm5\times10^{-6}$			
Frequency Change Polarity		Positive			
Linearity (%)		Typ. ±1			
Output Voltage		LVCMOS V_{OL} : Max. +0.3 V V_{OH} : Min. +3.0 V			
Symmetry (%)	at $(V_{OH} + V_{OL}) / 2$	45 to 55			
Specification Number		NSA3540A	NSA3540B	NSA3540C	NSA3540D

(*) Digital frequency control by I2C interface is available.

■ Dimensions



Terminal land connections

#1	V_{cont}
#2	DNC (Don't connect)
#3	GND
#4	OUTPUT
#5	DNC (Don't connect)
#6	V_{CC}

Terminal numbers are not printed.

■ Reference Value

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

We offer dedicated tool (charge) for evaluation of this product

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