

Crystal Oscillator

Model Name NH21M13LB

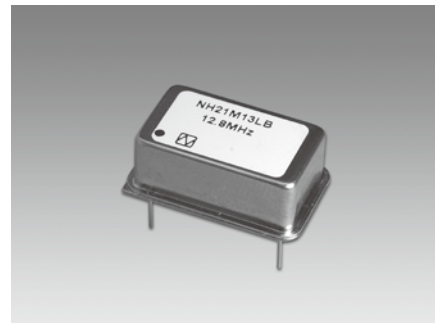
Oven-Controlled Crystal Oscillator (OCXO)
for Fixed Communication Equipment

Main Application

- Mobile communication base station
- Exchanger
- Measuring instrument
- Synthesizer
- High-end router

Features

- Compact, with a low height. (Compatible with 14-pin Dip)
- Excellent short-term stability (can be used instead of a TCXO because of its higher precision).
- Excellent phase noise characteristics. (12.8MHz : -140dBc/Hz at 1kHz)
- Excellent long-term frequency stability.(±500×10⁻⁹/year)



RoHS Compliant
Directive 2002/95/EC

Specifications

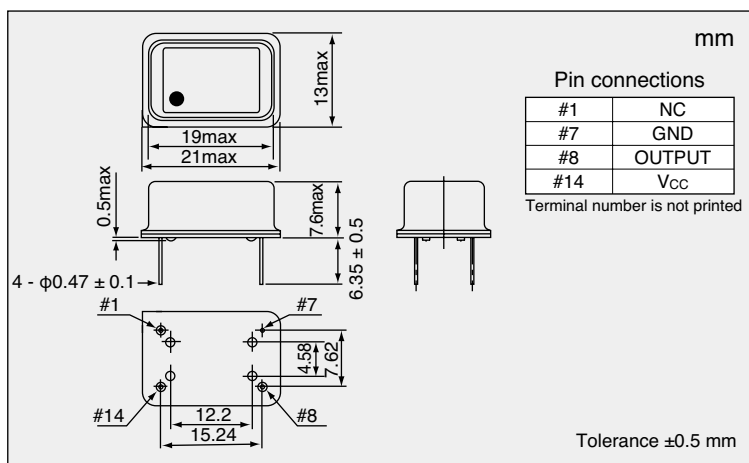
Item	Measurement condition	Model	NH21M13LB
Nominal frequency (MHz)			10, 12.8
Supply voltage [V _{CC}] (V)			+3.3 ±5 %
Power consumption (W)	at start		Max. 1.7
	when stable (+25 °C)		Max. 1
Output voltage			HCMOS level (V _{OL} Max. 0.4 V, V _{OH} Min. 2.4 V)
Symmetry (%)	at 1/2 V _{CC}		40 to 60
Load impedance (pF)			15
Operating temperature range (°C)			-10 to +70
Storage temperature range (°C)			-40 to +85
Stabilization time	Stabilization Time (Frequency Stability) within ±500 ×10 ⁻⁹ after power on at +25°C , based on frequency after 60minutes operation.		5 minutes
Long-term frequency stability	Based on frequency after 30 days operation		Max. ±10×10 ⁻⁹ /day
	Based on frequency after 30 days operation		Max. ±500×10 ⁻⁹ /year
Frequency/Temperature characteristics	-10 °C to +70 °C		Max. ±100×10 ⁻⁹
Frequency/Voltage coefficient	V _{CC} +3.3 V ±5 %		Max. ±50×10 ⁻⁹

Reference Value

Phase noise (at 12.8 MHz)	Offset frequency	dBc/Hz
	1 Hz	Max. -60
	10 Hz	Max. -90
	100 Hz	Max. -120
	1 kHz	Max. -140
	10 kHz	Max. -145

The value of phase noise changes when the frequency changes.

Dimensions



List of Options

Operating temperature range (°C)	-20 to +70
Power supply voltage [V _{CC}] (V)	+5
Nominal frequency range (MHz)	10 to 20

For details of options, please feel free to contact our sales representatives.

List of Ordering Codes

Frequency (MHz)	Ordering Code
10	NH21M13LB-10M-NSA3422A
12.8	NH21M13LB-12.8M-NSA3422A

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