

Crystal Oscillator

Model Name NH21M13LB Oven-Controlled Crystal Oscillator (OCXO) for Fixed Communication Equipment

■ Main Application

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

■ Features

- Compact, with a low height. (Compatible with 14-pin Dip)
- Excellent rise characteristics.
- Excellent phase noise characteristics.
- Excellent aging characteristics.
- Excellent short-term stability
(can be used instead of a TCXO because of its higher precision).



RoHS Compliant
Directive 2002/95/EC

■ Specifications

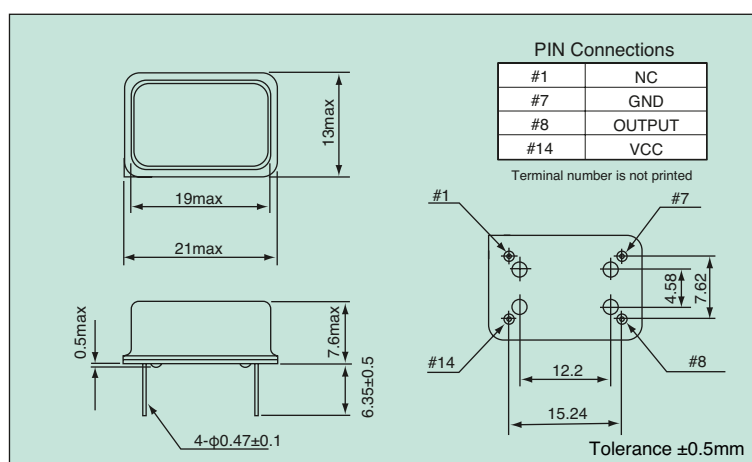
Item	Measurement condition	Model	NH21M13LB
Standard nominal frequency (MHz)			10, 12.8
Power supply voltage			DC +3.3V
Power consumption			1.7 W max. at the start and 1 W max. when stable (+25°C)
Output level			HCMOS (V _{OL} : 0.4V max., V _{OH} : 2.4V min.)
Load			15pF
Duty Cycle (1/2V _{CC})			45 to 55%
Operating temperature range			-10 to +70°C
Frequency stability	Frequency warm-up characteristic	+25°C five minutes after power is on	±500×10 ⁻⁹ max.
	Aging	Based on frequency after 30 days operation	±10×10 ⁻⁹ /day max.
		Based on frequency after 30 days operation	±500×10 ⁻⁹ /year max.
	Frequency / temperature characteristic	-10 to +70°C	±100×10 ⁻⁹ max.
	Power supply variation characteristics	DC +3.3V±5%	±50×10 ⁻⁹ max.

■ Reference Value

Phase noise (@12.8MHz)	Offset frequency	dBc/Hz
	1 Hz	-60 max.
	10 Hz	-90 max.
	100 Hz	-120 max.
	1k Hz	-140 max.
	10k Hz	-145 max.

The value of phase noise changes when the frequency changes.

■ Dimensions



■ List of Options

Operating temperature range	-20 to +70°C
Power supply voltage	DC +5.0V
Nominal frequency (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.