Crystal Oscillator

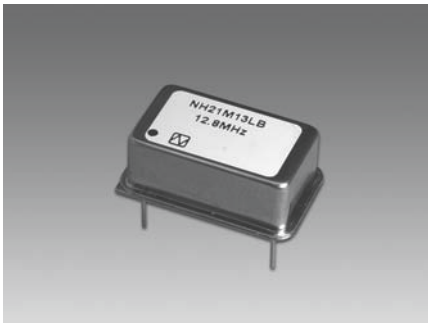
NDK Crystal Bridge to the Future

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



RoHS Compliant
Directive 2002/95/EC

■ 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).

■ Specifications

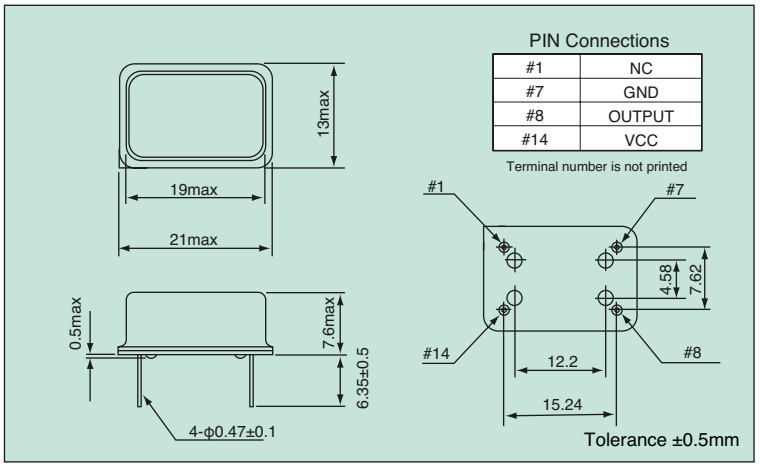
Item / Measurement condition			Model: NH21M13LB
Standard nominal frequency (MHz)			10 , 12.8
Power supply voltage			DC +3.3V
Power consumption			1.7 W max. at the start and 1 W max. when stable (+25°C)
Output level			HCMOS (V_{OL} : 0.4V max., V_{OH} : 2.4V min.)
Load			15pF
Duty Cycle (1/2Vcc)			45 to 55%
Operating temperature range			−10 to +70°C
Frequency stability	Frequency warm-up characteristic	+25°C five minutes after power is on	$\pm500\times10^{-9}$ max.
	Aging	Based on frequency after 30 days operation	$\pm10\times10^{-9}$/day max.
		Based on frequency after 30 days operation	$\pm500\times10^{-9}$/year max.
	Frequency / temperature characteristic	−10 to +70°C	$\pm100\times10^{-9}$ max.
	Power supply variation characteristics	DC +3.3V±5%	$\pm50\times10^{-9}$ max.

■ Reference Value

	Offset frequency	dBc/Hz
Phase noise (@12.8MHz)	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.