

# Crystal Oscillator

## NH20M20LC

Oven Controlled Crystal Oscillator (OCXO)  
for Fixed Communication Equipment

### Main Application

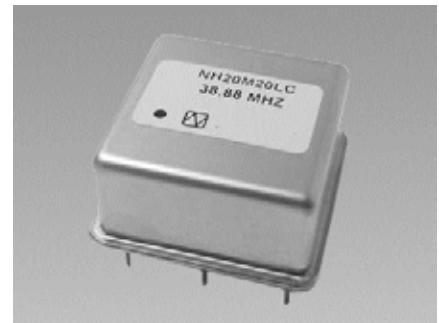
- Base stations for Mobile communication system
- Exchanger
- Measuring instrument
- Synthesizer
- High-end router

### Features

- Compact, with a low height.
- Excellent rise characteristics.
- Excellent phase noise characteristics. (38.88MHz : -145dBc/Hz at 1kHz)

Pb Free

RoHS Compliant  
Directive 2011/65/EU



### Specifications

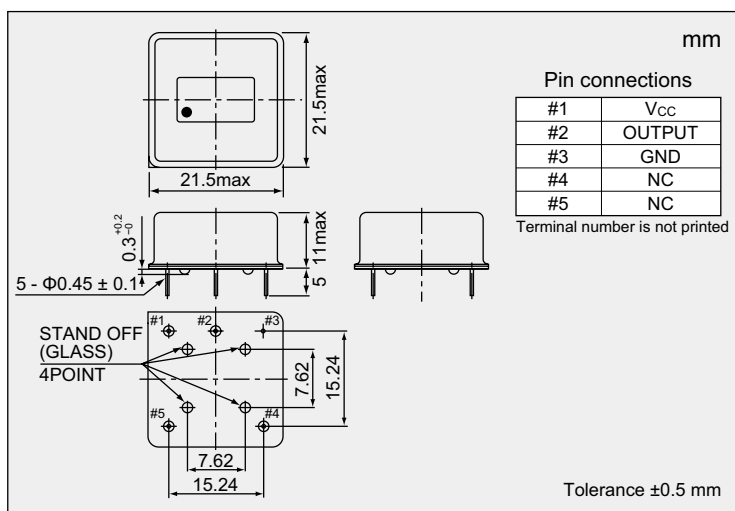
Item	Measurement condition	Model	NH20M20LC
Nominal Frequency (MHz)			38.88
Supply Voltage [V <sub>CC</sub> ] (V)			+5 ±5 %
Power Consumption (W)	at start		Max. 3
	when stable (+25 °C)		Max. 1.5
Output Voltage			HCMOS level (V <sub>OL</sub> Max. 0.5 V, V <sub>OH</sub> Min. 4.5 V)
Symmetry (%)	at 1/2 V <sub>CC</sub>		40 to 60
Load Impedance (pF)			15
Operating Temperature Range (°C)			-20 to +70
Storage Temperature Range (°C)			-40 to +85
Stabilization Time	Stabilization Time (Frequency Stability) within ±500 ×10 <sup>-9</sup> 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. ±10×10 <sup>-9</sup> /day
	Based on frequency after 30 days operation		Max. ±500×10 <sup>-9</sup> /year
Frequency/Temperature Characteristics	-20 to +70 °C		Max. ±200×10 <sup>-9</sup>
Frequency/Voltage Coefficient	V <sub>CC</sub> +5 V ± 5 %		Max. ±50×10 <sup>-9</sup>
Frequency Tolerance	at +25 °C		Max. ±50×10 <sup>-9</sup>

### Reference Value

Phase noise (at 38.88 MHz)	Offset frequency	dBc/Hz
	1 Hz	Typ. -70
	10 Hz	Typ. -100
	100 Hz	Typ. -130
	1 kHz	Typ. -145
	10 kHz	Typ. -145

The value of phase noise changes when the frequency changes.

### Dimensions



### List of Ordering Codes

Nominal frequency (MHz)	Ordering Code
38.88	NH20M20LC-38.88MHz-NSA3604A

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