

# Crystal oscillator for 5G

## NH9070WC

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

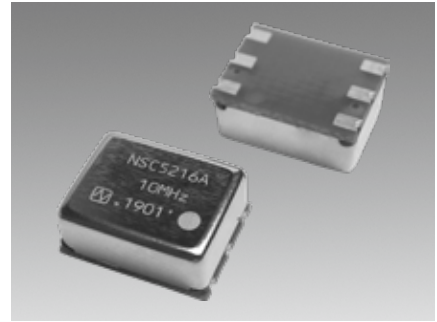
### Main Application

- Base stations for system mobile communications (5G DU, 4G RRH)
- IEEE1588, Synchronous Ethernet clock (SyncE)
- Optical transmission systems Stratum 3E      • GNSS-DO
- Timing and synchronous measuring equipment

### Features

- Compact, with a low height.
- Supports high temperature range.(+95°C)
- 14×9 mm OCXO compatible and replaceable foot pattern.

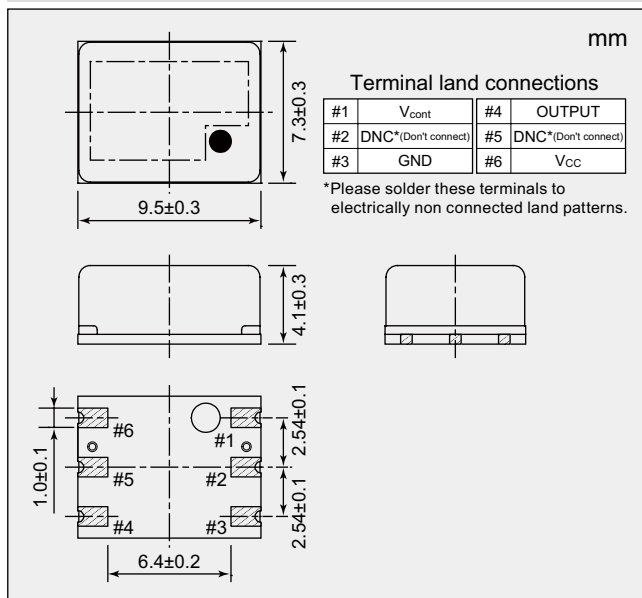
RoHS Compliant  
Directive 2011/65/EU  
Directive (EU) 2015/863



### Specifications

Item	Model	NH9070WC	
Nominal Frequency $f_{nom}$ (MHz)		10, 20, 30.72	
Supply Voltage $V_{CC}$ (V)		+3.3	
Load Impedance $C_L$ (pF)		15	
Operating Temperature Range $T_{opr}$ (°C)		-40 to +95	
Storage Temperature Range $T_{str}$ (°C)		-40 to +95	
Power Consumption $P_{CC}$ (W)	at start	Max. 1.5 (Typ. 1.0)	
	when stable, at +25 °C	Max. 0.6 (Typ. 0.45)	
Frequency Tolerance $\Delta f/f_{nom}$	at +25°C, $V_{cont}$ = Center, before shipment	Max. $500 \times 10^{-9}$	
Frequency/Temperature Characteristics $\Delta f/f$	at Operating Temperature Range	Max. $\pm 20 \times 10^{-9}$	Max. $\pm 50 \times 10^{-9}$
		Frequency Temperature Slope $\Delta f/\Delta t$ (°C)	Max. $\pm 0.5 \times 10^{-9}$
Frequency/Voltage Coefficient $\Delta f/f$	$V_{CC} \pm 5\%$	Max. $\pm 10 \times 10^{-9}$ (Typ. $\pm 5 \times 10^{-9}$ )	
Long-term Frequency Stability $\Delta f/f$	Based on frequency after 30 days operation	Max. $\pm 3 \times 10^{-9}$ / day	
		Max. $\pm 300 \times 10^{-9}$ / year	
Stabilization Time (min.)	Time within specified frequency tolerance after power on at +25°C, based on frequency after 60minutes operation.	Max. 3 / within $\pm 300 \times 10^{-9}$	
Frequency Control Range (*) $\Delta f/f$		$V_{cont} = +1.65V \pm 1.65V$	
		Min. $\pm 1 \times 10^{-6}$	
Frequency Change Polarity		Positive	
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	

### Dimensions



### Reference Value

Phase noise (at 20 MHz)	Offset Frequency	dBc/Hz
	1 Hz	Typ. -80
	10 Hz	Typ. -115
	100 Hz	Typ. -140
	1 kHz	Typ. -152
	10 kHz	Typ. -155
	100 kHz	Typ. -155

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

### Contact Us

Standard catalog specifications are listed for the products listed.  
Custom is available upon request.  
Mail : 5g-sl@ndk.com