

# NK-N Type

## 14.5 x 9.6 mm

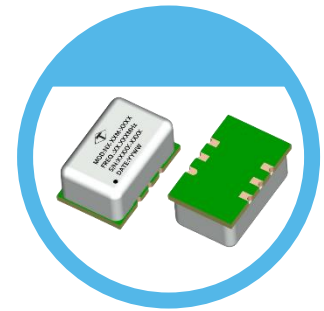
### Oven Controlled Crystal Oscillator

#### FEATURES

- Dimension 14.5 x 9.6 x 6.5 mm Typical
- 6-Pin SMD Package
- Frequency Range, 10 MHz to 40MHz
- $\pm 30$  ppb Stability over -40 to 85°C
- Stratum 3 (Overall  $\pm 4.6$  ppm including 20 years aging)

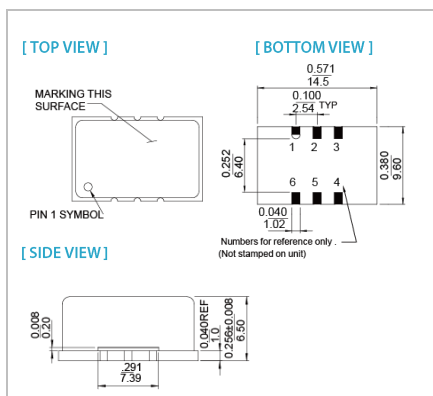
#### TYPICAL APPLICATION

- SDH/SONET, Telecommunication Base Station
- Test and Measurement Equipment
- Synthesizer, Digital Switch, Reference Timing Circuit
- Packet Timing Protocol (e.g. 1588)

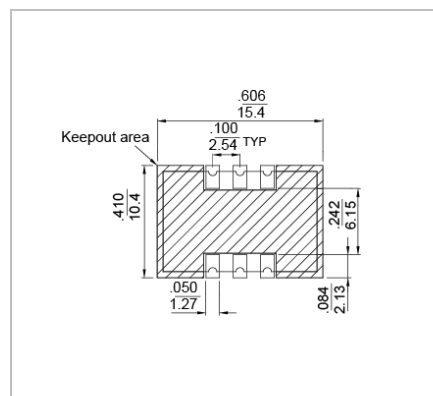


**RoHS Compliant**

#### DIMENSION (mm)



#### SOLDER PAD LAYOUT (mm)



#### PIN FUNCTION

PIN#	FUNCTION
1 (See Note1)	VCO INPUT or NOT CONNECTED
2 (See Note1)	R.F.ENABLE or NOT CONNECTED
3	0 VOLTS AND CASE
4	R.F. OUTPUT
5	NOT CONNECTED
6	+VDC

Note1:

If the specification does not specify parameters for PIN 1, PIN 2 then that respective PIN is not internally CONNECTED.  $\frac{\text{INCH}}{\text{mm}}$  (REFERENCE ONLY)

#### ELECTRICAL SPECIFICATION

Parameter		Min.	Typ.	Max.	Unit	Test Condition	
Output	Frequency Range	10		40	MHz		
	Standard Frequency	10, 12.8, 19.2, 20, 25, 38.88			MHz		
	Waveform	Rectangular					
	Level	CMOS					
		"1" Level	2.4			V	
	"0" Level			0.4	V		
	Load			15	pF		
Duty Cycle	45	50	55	%	@+1.65 V		
Spurious			-60	dBc			
Frequency Stability	Ambient	-30		+30	ppb	-40°C to +85°C, referenced to +25°C Refer to Freq. Stability Vs Temp. Range table.	
	Aging	Daily	-2.0		+2.0	ppb	after 30 days
		Yearly	-0.4		+0.4	ppm	
		10 years	-2.0		+2.0	ppm	
	Voltage	-5		+5	ppb	$\pm 5\%$ Change	
	Load	-10		+10	ppb	$\pm 10\%$ Change	
	Warm-up	-0.1		+0.1	ppm	in 5 minutes @ +25°C, referenced to 1 hour	
Phase Noise @ 20 MHz			-98	-92	dBc/Hz	@ 10Hz	
			-126	-120	dBc/Hz	@ 100Hz	
			-145	-140	dBc/Hz	@ 1KHz	
			-152	-150	dBc/Hz	@ 10KHz	
Electrical Frequency Adjustment	Range			-5.0	ppm	VCO@ 0V	
	Control	5.0			ppm	VCO@ 3.3V	
	Slope	0	1.65	3.3	V		
	Input Impedance	100			Kohm		
Input Power	Voltage	3.135	3.3	3.465	V	5.0V input voltage is available.	
	Current		500	600	mA	@ turn on	
	Steady state		0.5	0.6	W	@ +25°C	

Note: not all combination of options are available. Other specifications may be available upon request.

Specifications subject to change without notice.

**FREQ. STABILITY vs. TEMP. RANGE**

Temp.(°C)	ppb	±10	±20	±30	±50
		-20 ~ +70	△	○	○
-40 ~ +85		X	△	○	○

○: Available    △:Conditional    x: Not Available

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