

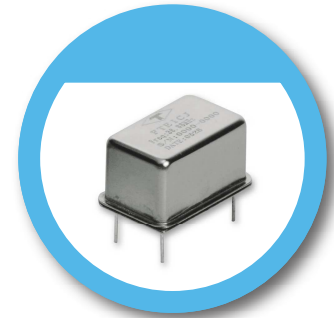
NF Type 20.3 x 12.7 mm Oven Controlled Crystal Oscillator

FEATURE

- Dimension 20.3 x 12.7 x 11.0 mm typical
- Stratum 3 (Overall ± 4.6 ppm including 10 years aging.)

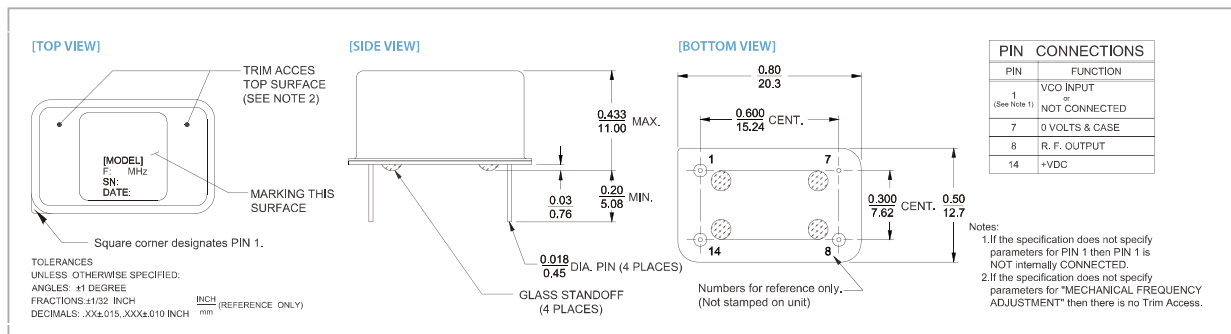
TYPICAL APPLICATION

- SDH/SONET, Telecommunication base station
- Test and measurement equipment
- Synthesizer, Digital switch, Reference Timing Circuit



RoHS Compliant

DIMENSION



ELECTRICAL SPECIFICATION

Parameter	Min.	Typ.	Max.	Unit	Test Condition & Notes
Output Frequency		10		MHz	Available frequency range is from 5MHz to 40MHz. Standard frequencies are 10, 12.8, 15.36, 19.2, 20, 26 and 38.88MHz.
Waveform		Rectangular			Sine wave output is available. Consult factory for more information.
"1" Level	2.4			V	
"0" Level			0.5		
Load		15		pF	
Duty cycle	45	50	55	%	@ 2.0 V
Spurious			-60	dBc	
Frequency Stability Ambient	-0.1		-0.1	ppm	-30°C to +70°C, referenced to +25°C Refer to Freq. Stability Vs Temp. Range table.
Aging	-5.0		+5.0	ppb	Per day, at time of shipment
Daily	-5.0		+5.0	ppb	after 30 days
Yearly	-0.5		+0.5	ppm	
10 years	-3.0		+3.0	ppm	
Voltage	-50		+50	ppb	$\pm 5\%$ Change
Warm-up	-0.1		+0.1	ppm	In 2 minutes @ +25°C, referenced to 1 hour
Phase Noise			-105	dBc/Hz	@ 10 Hz
			-130		@ 100 Hz
			-140		@ 1 kHz
			-150		@ 10 kHz
Electrical Frequency Adjustment					
Range			-5.0	ppm	VCO @ 0 V
	5.0			ppm	VCO @ +5.0 V
Control	0	2.5	5.0	V	
Slope		Positive			
VCO Input impedance	100			k Ω	
Input Power Voltage	4.75	5.0	5.25	V	3.3V input voltage is available. Consult factory for control voltage and output level.
Current			400	mA	@ turn on
Steady state			0.8	W	@ +25°C

FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppb	± 50	± 100	± 200
0 ~ +70		○	○	○
-30 ~ +70		△	○	○
-40 ~ +85		△	○	○

* ○: Available △: Conditional X: Not available

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