

TW Type

5.0 x 3.2 mm SMD High Precision Voltage Controlled Temperature Compensated Crystal Oscillator

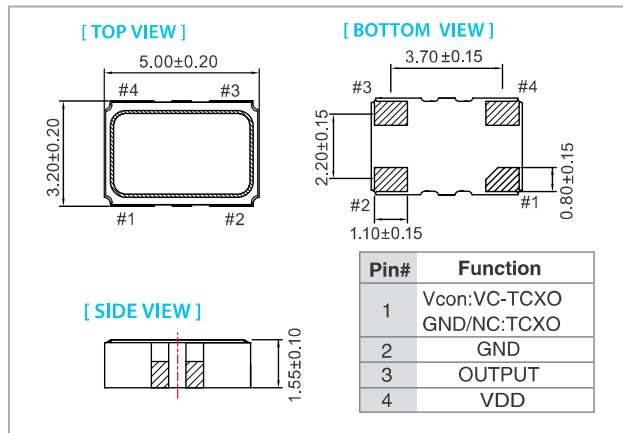
FEATURE

- Typical 5.0 x 3.2 x 1.55 mm ceramic SMD package.
- $\pm 0.2\text{ppm}$, $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$; $\pm 0.05\text{ppm}$, $-10^{\circ}\text{C} \sim +70^{\circ}\text{C}$
- CMOS and Clipped Sine wave (without DC-cut capacitor) output optional.

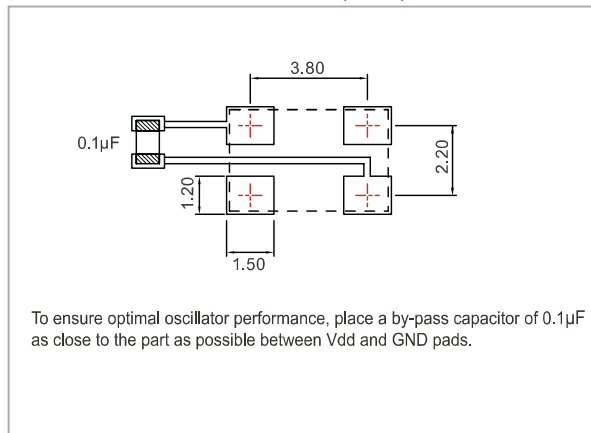
TYPICAL APPLICATION

- Base Stations, Stratum 3
- Femtocell

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



RoHS Compliant

ELECTRICAL SPECIFICATION

Parameter	5.0 V		3.3 V		Unit	
	Min.	Max.	Min.	Max.		
Supply Voltage Variation (VDD) ±5%	4.75	5.25	3.135	3.465	V	
Frequency Range	10	52	10	52	MHz	
Standard Frequency (for CMOS)	10, 12.8,13, 19.2, 20, 25, 26, 30.72,40					
Standard Frequency (for Clipped Sine Wave)	10, 12.8,13, 19.2, 20, 25, 26, 30.72,40					
Frequency Tolerance*	—	±2.0	—	±2.0	ppm	
Frequency Stability						
Vs Supply Voltage (±5%) change (for CMOS)	—	±0.3	—	±0.3	ppm	
Vs Load (±10%) change	—	±0.2	—	±0.2		
Vs Aging (@ 1st year)	—	±1.0	—	±1.0		
Supply Current (CMOS output)	—	8	—	8	mA	
Supply Current (Clipped Sine Wave)	—	3.5	—	3.5		
Output Level (CMOS) Output High (Logic “1”) Output Low (Logic “0”) Duty	4.5	—	2.97	—	V	
	—	0.5	—	0.33	%	
	45	55	45	55		
Output Level (Clipped Sine Wave)	0.8	—	0.8	—	Vp-p	
Lead (CMOS)	15pF		15pF			
Lead (Clipped Sine Wave)	10 KΩ // 10pF		10 KΩ // 10pF			
Control Voltage Range (VCTCXO)	0.5	2.5	0.5	2.5	V	
Pulling Range (VCTCXO)	±5.0	—	±5.0	—	ppm	
Vc Input Impedance (VCTCXO)	100	—	100	—	kΩ	
Phase Noise @ 12.8 MHz 100 Hz 1 kHz 10 kHz	-125		-125		dBc/Hz	
	-145		-145			
	-150		-150			
Start time	—	2	—	2	mSec	
Storage Temp. Range	-55	125	-55	125	°C	

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position. *Frequency at 25°C, 1 hour after reflow.

FREQ. STABILITY vs. TEMP. RANGE

Temp. ($^{\circ}\text{C}$) \ ppm	± 0.05	± 0.1	± 0.2	± 0.28	± 0.5
0 ~ +55	○	○	○	○	○
-10 ~ +60	○	○	○	○	○
-20 ~ +70	△	○	○	○	○
-40 ~ +85	×	×	△	○	○

* ○: Available △: Conditional ×: Not available

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

Rev(4)03/2015

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Specifications subject to change without notice.