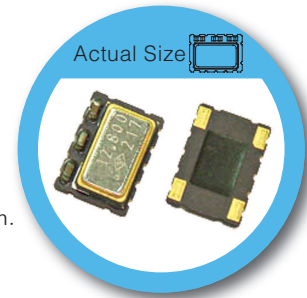


TT Type High Precision TCXO

7.0 x 5.0 mm SMD Voltage Controlled Temperature Compensated Crystal Oscillator



FEATURE

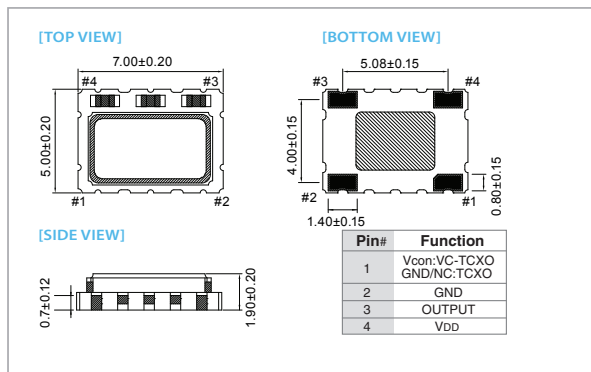
- Typical 7.0 x 5.0 x 1.9 mm ceramic SMD package.
- High Precision for -40°C ~ +85°C, ±0.28ppm , -40°C ~ +105°C , ±2ppm.
- CMOS and Clipped Sine wave (without DC-cut capacitor) output optional.

TYPICAL APPLICATION

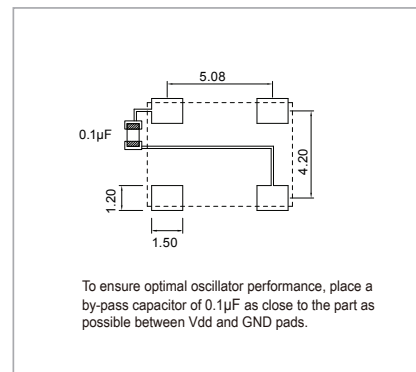
- Femtocell , Base Stations
- WLAN/WiMAX/WIFI, Wireless Communications

RoHS Compliant

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



ELECTRICAL SPECIFICATION

Parameter	5.0 V		3.3V		Unit
	Min.	Max.	Min.	Max.	
Supply Voltage Variation (V _{DD})	V _{DD} -5%	V _{DD} +5%	V _{DD} -5%	V _{DD} +5%	V
Frequency Range	5	52	5	52	MHz
Standard Frequency	10, 12.8, 16.384, 19.2, 19.44, 20, 25, 26				
Frequency Tolerance*	-	±2.0	-	±2.0	ppm
Frequency Stability					ppm
Vs Supply Voltage (±5%) change	-	±0.1	-	±0.05	
Vs Load (±10%) change	-	±0.05	-	±0.05	
Vs Aging (@1st year)	-	±1.0	-	±1.0	ppm / year
Supply Current (CMOS output)	-	6	-	6	mA
Supply Current (Clipped Sine Wave)	-	3.5	-	3.5	
Output Level (CMOS)					V
Output High (Logic "1")	90%V _{DD}	-	90%V _{DD}	-	
Output Low (Logic "0")	-	10%V _{DD}	-	10%V _{DD}	
Output Level (Clipped Sine Wave)	0.8	-	0.8	-	V _{p-p}
Load (CMOS)	15pF		15pF		
Load (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 @ 10 MHz	100 Hz	-	-130	-	dBc/Hz
	1 kHz	-	-145	-	
	10 kHz	-	-154	-	
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. (°C)	ppm							
	±0.05	±0.1	±0.14	±0.2	±0.28	±0.5	±2	
-10 ~ +70	○	○	○	○	○	○	○	
-20 ~ +70	×	○	○	○	○	○	○	
-40 ~ +85	×	×	×	△	○	○	○	
-40 ~ +95	×	×	×	×	×	△	○	
-40 ~ +105	×	×	×	×	×	×	○	

* ○: Available △: Conditional X: Not available

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

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