

7.0 x 5.0 mm SMD Voltage Controlled Temperature Compensated Crystal Oscillator(VCTCXO)

## FEATURE

- Typical 7.0x5.0x1.9 mm ceramic SMD package.
- High Precision for -40 °C~+85 °C, ±0.2ppm
- CMOS and Clipped Sine wave (without DC-cut capacitor) output optional



## TYPICAL APPLICATION

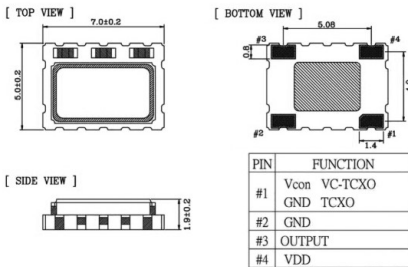
Femtocell, Base Stations  
WLAN/WiMAX/WiFi, Wireless Communications

## ELECTRICAL SPECIFICATION

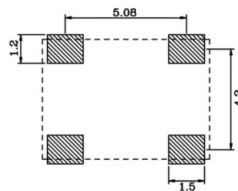
Parameter	5.0V		3.3V		Unit
	Min.	Max.	Min.	Max.	
Supply Voltage Variation (VDD) 5%	4.75	5.25	2.97	3.63	V
Frequency Range	5	40	5	40	MHz
Standard Frequency	10, 12.8, 16.384, 19.2, 19.44, 20, 25, 26				
Frequency Tolerance*	-	±2.0	-	±2.0	ppm
Frequency Stability					
Vs Supply Voltage (±5%) change (CMOS)	-	±0.1	-	±0.05	ppm
Vs Load (±10%) change	-	±0.05	-	±0.05	ppm
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	mA
Output Level (CMOS)					
Output High (Logic "1")	90% V <sub>DD</sub>	-	90% V <sub>DD</sub>	-	V
Output Low (Logic "0")	-	10% V <sub>DD</sub>	-	10% V <sub>DD</sub>	V
Duty	45	55	45	55	%
Output Level (Clipped Sine Wave)	0.8	-	0.8	-	V <sub>pp</sub>
Load (CMOS)	15pF		15pF		
Load (Clipped Sine Wave)	10KΩ//10pF		10KΩ//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 (Typ.)					
	100 Hz		-130		
	1 KHz		-145		dBc/Hz
	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 2 times reflow Packing: Tape & Reel, 1000/3000 pcs per Reel.

## DIMENSION (mm)



## SOLDER PAD LAYOUT (mm)



## FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppm ±0.05	ppm ±0.1	ppm ±0.14	ppm ±0.2	ppm ±0.28
0~+55	O	O	O	O	O
-10~+60	O	O	O	O	O

Temp. (°C)	ppm ±0.05	ppm ±0.1	ppm ±0.14	ppm ±0.2	ppm ±0.28
-10~+70	Δ	O	O	O	O
-40~+85	X	X	X	O	O

O: Available Δ: Conditional X: Not available