

TT Type High Precision TCXO

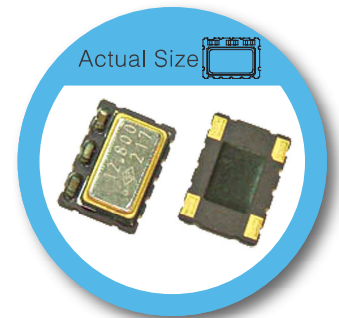
7.0 x 5.0 mm SMD Voltage Controlled Temperature Compensated Crystal Oscillator

FEATURE

- Typical 7.0 x 5.0 x 1.9 mm ceramic SMD package.
- High Precision for -40°C ~ +85°C, ±0.2ppm, -40°C ~ +105°C, ±2ppm.
- CMOS and Clipped Sine wave (without DC-cut capacitor) output optional.

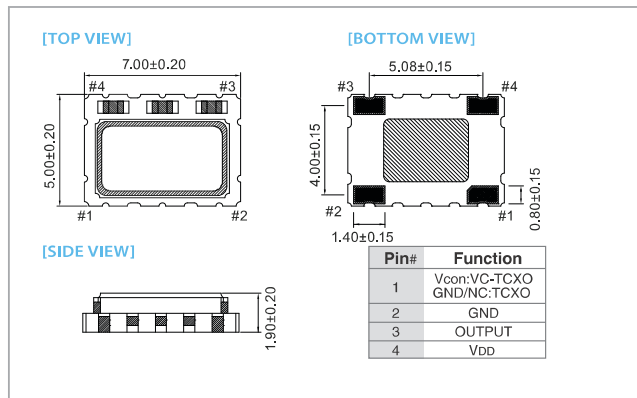
TYPICAL APPLICATION

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

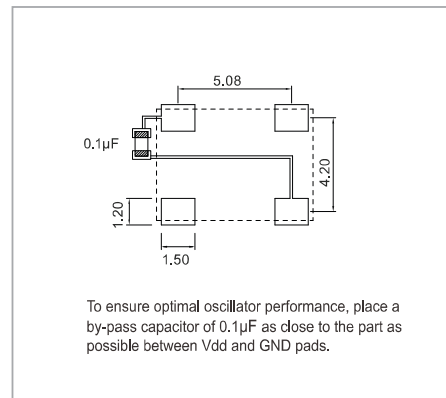


RoHS Compliant

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



ELECTRICAL SPECIFICATION

Parameter	5.0 V		3.3V		Unit	
	Min.	Max.	Min.	Max.		
Supply Voltage Variation (VDD)	VDD-5%	VDD+5%	VDD-5%	VDD+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						
Vs Supply Voltage (±5%) change	-	±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%VDD	-	90%VDD	V	
	Output Low (Logic "0")	-	10%VDD	10%VDD	V	
	Duty	45	55	45	55	%
Output Level (Clipped Sine Wave)		0.8	-	0.8	Vp-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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Model Numbering Guide – VCTCXO / TCXO

Available options

Type	package (mm)	Supply Voltage (V)	Pulling Range (ppm)	Freq. Stability (ppm)	Temp. Range(°C)	Output Logic And Symmetry	Oscillator Mode	Appearance	Lead Free	Dash	Freq. (MHz)
T: TCXO	Z: 2.0x1.6 Y: 2.5x2.0 X: 3.2x2.5 S: 7.0x5.0 (10Pads) A: 7.0x5.0 (4Pads) K: 14.3x8.4 F: 20.4x12.8 (Dip)	C: 5.0 E: 2.8/3.0/3.3 J: 2.5 K: 1.8 (TX / TY)	A: ± 5 B: ± 8 C: ± 10 T: TCXO Vcon range: 0.5V to 2.5V	A: ±0.5 B: ±1.0 P: ±1.5 C: ±2.0 D: ±2.5 Q: ±0.05 M: ±0.1 J : ±0.14 R: ±0.2 K: ±0.28 L : ±0.37 T : ±4.6 (Including 20 Years Aging)	B: 0~+55 I : -10~+60 J: -10~+70 C: -20~+70 H: -30~+75 D: -30~+85 L : -40~+85	A: TTL 15pF / 50±5% J: CMOS 15pF / 50±5% K: CMOS 15pF / 50±10% S: Clipped sine wave 10KΩ//10pF	A: AT Fundamental Not selectable by customer	N: Normal	F: RoHs Compliant	-	XX.XXXXXX
T: TCXO (High Precision /Stratum 3)	W: 5.0x3.2 S: 7.0x5.0 (10Pads) T: 7.0x5.0 (4Pads)	C: 5.0 E: 3.3									

T X E C D D S A N F – 26.000000

*Not all combinations of options are available.

Example: TXECDDSANF-26.000000

Type	VCTCXO
Package	3.2 x 2.5 mm
Supply Voltage(V)	3.0 V
Pulling Range	±10 ppm
Freq. Stability	±2.5 ppm
Temp Range	-30~+85 °C
Output	Clipped sine wave
Oscillator Mode	AT Fundamental
Appearance	Normal Appearance
Lead Free	RoHs Compliant
Frequency	26.000000 MHz