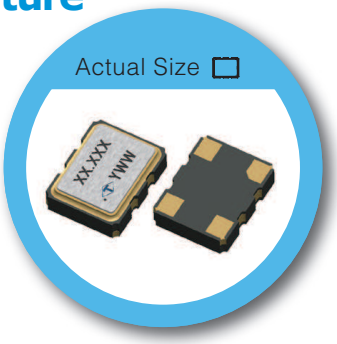
TX Type
3.2 x 2.5 mm SMD Voltage Controlled Temperature Compensated Crystal Oscillator

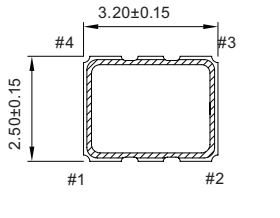


RoHS Compliant

FEATURE
- Typical 3.2 x 2.5 x 0.9 mm SMD.
- For automatic assembly.
- Compactness and lightweight.
- Low power consumption.
- VCTCXO available.
- Low thickness

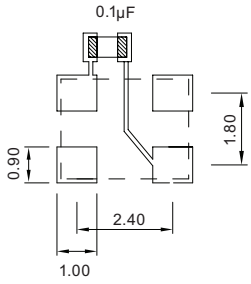
TYPICAL APPLICATION
- GPS
- WiMAX, WLAN
- Mobile Phone

DIMENSION (mm)



Pin#	Function
1	Vcon:VC-TCXO GND / NC:TCXO
2	GND
3	Output
4	VDD

SOLDER PAD LAYOUT (mm)



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1µF as close to the part as possible between Vdd and GND pads.

ELECTRICAL SPECIFICATION

Parameter	3.3 / 3.0 / 2.8 V		2.5 V		1.8 V		Unit
	Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation (VDD)	2.66	3.465	2.375	2.625	1.71	1.89	V
Frequency Range	10	52	10	52	10	52	MHz
Standard Frequency	10, 12.8, 13, 16.367667, 16.368, 16.369, 19.2, 19.44, 20, 25, 26, 27, 30 30.72, 32, 38.4						
Frequency Tolerance*	–	±2.0	–	±2.0	–	±2.0	ppm
Frequency stability							
Vs Supply Voltage (±5%) change	–	±0.2	–	±0.2	–	±0.2	ppm
Vs Load (±10%) change	–	±0.2	–	±0.2	–	±0.2	
Vs Aging (@1st year)	–	±1.0	–	±1.0	–	±1.0	ppm
Supply Current 10 MHz ≦ Fo ≦ 26 MHz	–	1.5	–	1.5	–	1.5	mA
26 MHz < Fo ≦ 52 MHz	–	2.0	–	2.0	–	2.0	
Output Level (Clipped sine wave)	0.8	–	0.8	–	0.8	–	Vp-p
Load	10KΩ//10pF		10KΩ//10pF		10KΩ//10pF		
Control Voltage Range (VCTCXO)	0.5	2.5	0.4	2.4	0.3	1.5	V
Pulling Range (VCTCXO)	±5.0	–	±5.0	–	±5.0	–	ppm
Vc Input Impedance (VCTCXO)	500	–	500	–	500	–	kΩ
Phase Noise @ 19.2 MHz 100 Hz	-115		-115		-115		dBc/Hz
1 kHz	-135		-135		-135		
10 kHz	-148		-148		-148		
Start time	–	2	–	2	–	2	mSec
Storage Temp. Range	-40	85	-40	85	-40	85	°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	±0.5	±1.0	±1.5	±2.0	±2.5
-20 ~ +70	○	○	○	○	○
-30 ~ +85	○	○	○	○	○
-40 ~ +85	○	○	○	○	○

* ○: Available △:Conditional X: Not available

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