

# T E Type

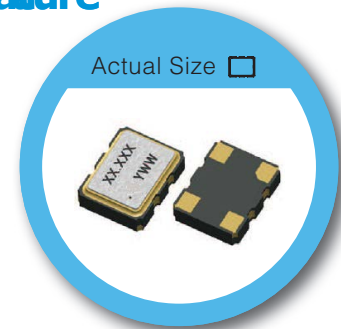
## 3.2 x 2.5 mm SMD Voltage Controlled Temperature Compensated Crystal Oscillator

### 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

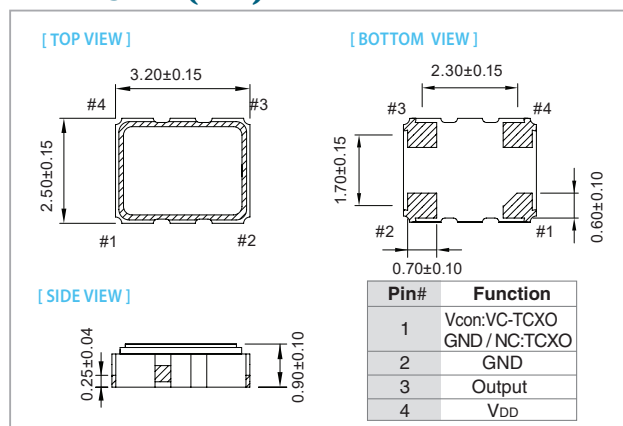
### TYPICAL APPLICATION

- GPS
- WiMAX, WLAN
- Mobile Phone

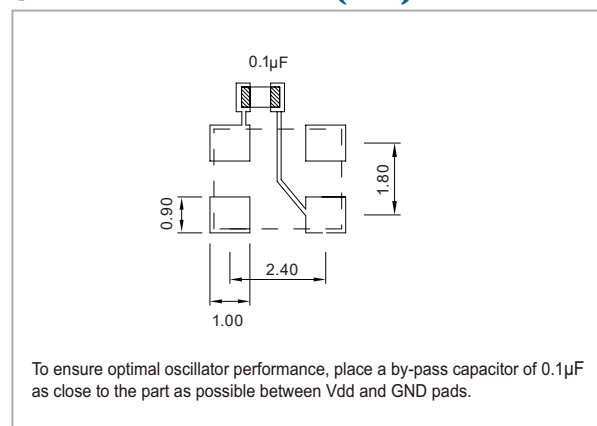


RoHS Compliant

### DIMENSION (mm)



### SOLDER PAD LAYOUT (mm)



### 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	-						ppm					
Vs Supply Voltage (±5%) change								±0.2	-	±0.2	-	±0.2
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		26 MHz < Fo ≤ 52 MHz				mA					
	-	1.5	-	1.5	-	1.5						
	-	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		1 kHz		10 kHz		dBc/Hz					
	-115		-115		-115							
	-135		-135		-135							
	-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.

Specifications subject to change without notice.