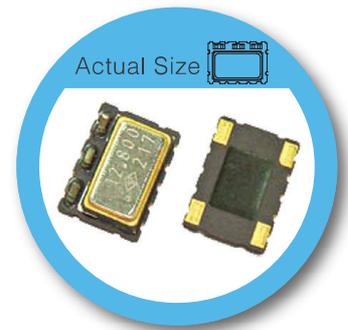


# TT Type < for Stratum 3 > 7.0 x 5.0 mm SMD Voltage Controlled Temperature Compensated Crystal Oscillator



RoHS Compliant

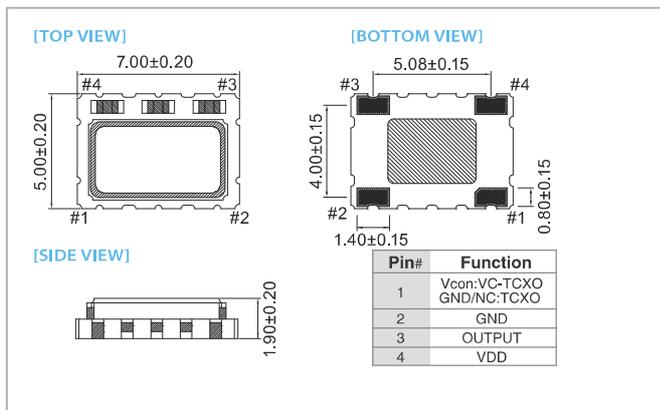
## FEATURE

- Typical 7.0 x 5.0 x 1.9 mm ceramic SMD package.
- Stratum 3 (Overall  $\pm 4.6$ ppm including 20 years aging.)
- CMOS and Clipped Sine wave (without DC-cut capacitor) output optional.

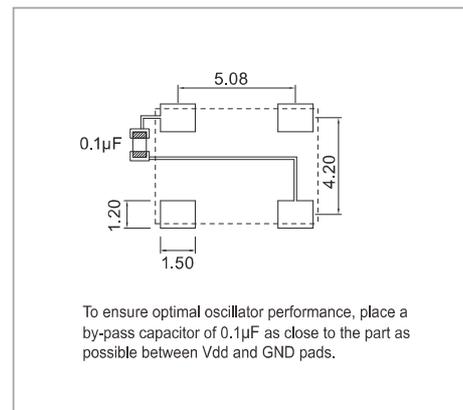
## TYPICAL APPLICATION

- Stratum 3
- Femtocell, Base Stations

## DIMENSION (mm)



## SOLDER PAD LAYOUT (mm)



## ELECTRICAL SPECIFICATION

Parameter	5.0 V		3.3 V		Unit
	Min.	Max.	Min.	Max.	
Supply Voltage Variation (VDD) $\pm 5\%$	4.75	5.25	3.13	3.47	V
Frequency Range	5	52	5	52	MHz
Standard Frequency	10, 12.8, 16.384, 19.2, 19.44, 20, 25, 26				
Operating Temp. Range	-20 ~ 70 -40 ~ 85				°C
Frequency Stability (Overall, 20 Years)*	-	$\pm 4.6$	-	$\pm 4.6$	ppm
Frequency Stability Vs Temp. Range (Ref. to (FMAX+Fmin)/2)	-	$\pm 0.14$ (-20~+70°C) $\pm 0.28$ (-40~+85°C)	-	$\pm 0.14$ (-20~+70°C) $\pm 0.28$ (-40~+85°C)	ppm
Holdover Stability +	-	$\pm 0.32$	-	$\pm 0.32$	ppm
Supply Current (CMOS output)	-	6	-	6	mA
Supply Current (Clipped Sine Wave)	-	3.5	-	3.5	
Output Level (CMOS) Output High (Logic "1") Output Low (Logic "0") Duty	4.5	-	2.97	-	V
	-	0.5	-	0.33	
	45	55	45	55	%
Output Level (Clipped Sine Wave)	0.8	-	0.8	-	Vp-p
Load (CMOS)	15pF		15pF		
Load (Clipped Sine Wave)	10 K $\Omega$ // 10pF		10 K $\Omega$ // 10pF		
Control Voltage Range (VCTCXO)	0.5	2.5	0.5	2.5	V
Pulling Range (VCTCXO)	$\pm 5.0$	-	$\pm 5.0$	-	ppm
Vc Input Impedance (VCTCXO)	100	-	100	-	k $\Omega$
Phase Noise @ 12.8 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.

\* Including calibration @ 25°C, supply voltage VDD $\pm 5\%$ , load  $\pm 10\%$ , reflow soldering, 20 years aging and frequency stability over temperature.

+ Including 24hours aging, supply voltage VDD $\pm 5\%$  and frequency stability over temperature.

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

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Specifications subject to change without notice.