

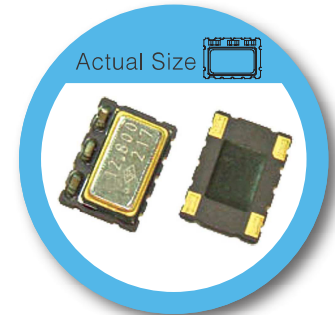
# TT Type < for Stratum 3 > 7.0 x 5.0 mm SMD Voltage Controlled Temperature Compensated Crystal Oscillator

## FEATURE

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

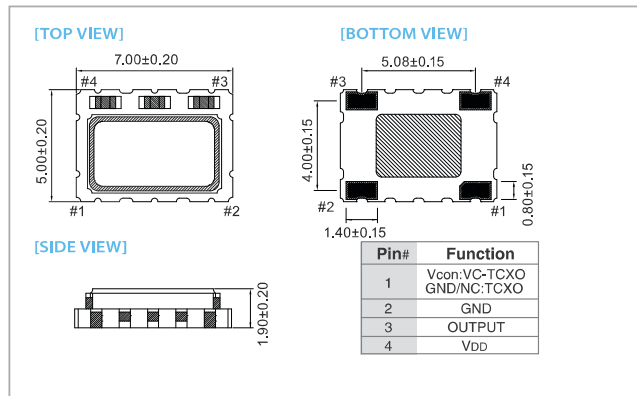
## TYPICAL APPLICATION

- Stratum 3
- Femtocell, Base Stations

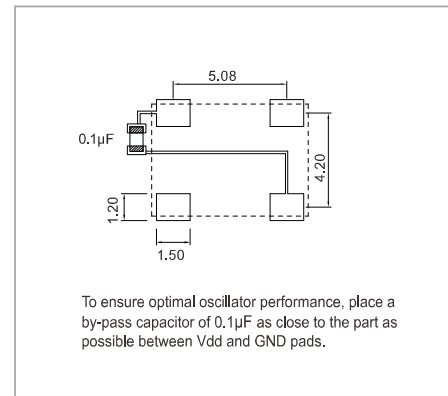


RoHS Compliant

## 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				
Operating Temp. Range	-20 ~ 70 -40 ~ 85				°C
Frequency Stability (Overall, 20 Years)*	—	±4.6	—	±4.6	ppm
Frequency Stability Vs Temp. Range (Ref. to (FMAX+Fmin)/2)	—	±0.14 (-20~+70°C) ±0.28 (-40~+85°C)	—	±0.14 (-20~+70°C) ±0.28 (-40~+85°C)	ppm
Holdover Stability +	—	±0.32	—	±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")	90%VDD	—	90%VDD	—	V
	—	10%VDD	—	10%VDD	
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.

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

+ Including 24hours aging , supply voltage VDD±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.

# 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