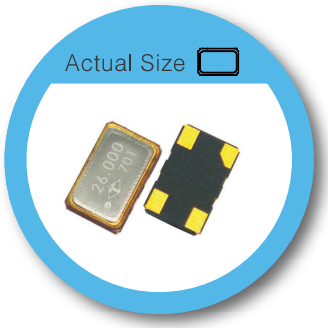
TW Type
5.0 x 3.2 mm SMD High Precision Voltage Controlled Temperature Compensated Crystal Oscillator

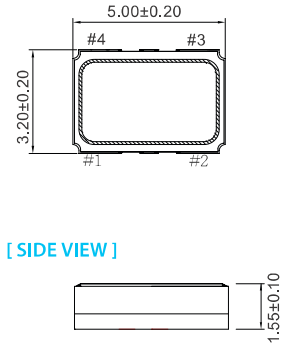


RoHS Compliant

FEATURE
- Typical 5.0 x 3.2 x 1.55 mm ceramic SMD package.
- ±0.2ppm, -40°C~+85°C ; ±0.05ppm, -10°C~+70°C
- CMOS and Clipped Sine wave (without DC-cut capacitor) output optional.

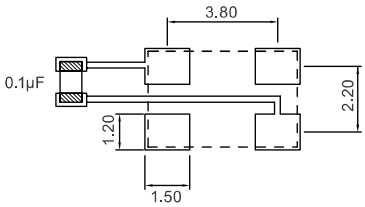
TYPICAL APPLICATION
- Base Stations, Stratum 3
- Femtocell

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	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	10	52	10	52	MHz
Standard Frequency (for CMOS)	10, 12.8,13, 19.2, 20, 25, 26, 30.72				
Standard Frequency (for Clipped Sine Wave)	10, 12.8,13, 19.2, 20, 25, 26, 30.72				
Frequency Tolerance*	–	±2.0	–	±2.0	ppm
Frequency Stability					
Vs Supply Voltage (±5%) change	–	±0.3	–	±0.3	ppm
Vs Load (±10%) change	–	±0.2	–	±0.2	
Vs Aging (@1st year)	–	±1.0	–	±1.0	
Supply Current (CMOS output)					
10 MHz≧Fo≧40 MHz	–	6	–	6	mA
40 MHz>Fo≧52 MHz	–	8	–	8	
Supply Current (Clipped Sine Wave)	–	3.5	–	3.5	
Output Level (CMOS) Output High (Logic "1")	90%VDD	–	90%VDD	–	V
Output Low (Logic "0")	–	10%VDD	–	10%VDD	
Duty	45	55	45	55	%
Output Level (Clipped Sine Wave)	0.8	–	0.8	–	Vp-p
Lead (CMOS)	15pF		15pF		
Lead (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	-125		-125		dBc/Hz
1 kHz	-145		-145		
10 kHz	-150		-150		
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	±0.2	±0.28	±0.5
-10 ~ +70	○	○	○	○	○
-20 ~ +70	×	○	○	○	○
-40 ~ +85	×	×	○	○	○

* ○: Available △:Conditional X: Not available

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