

# T9 Type Ultra High Precisioc TCXO

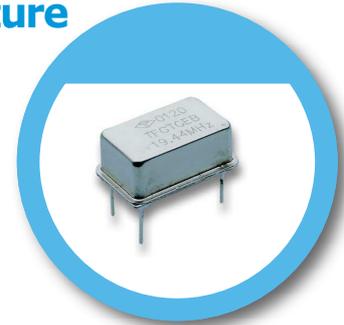
## 20.4 x 12.8 mm Voltage Controlled Temperature Compensated Crystal Oscillator

### FEATURE

- Ultra High Precision for -40°C ~ +105°C, ±100ppb;
  - 40°C ~ +85°C, ±50ppb
- Compatible with DIP-14 package
- Double sealed metal case and high reliability

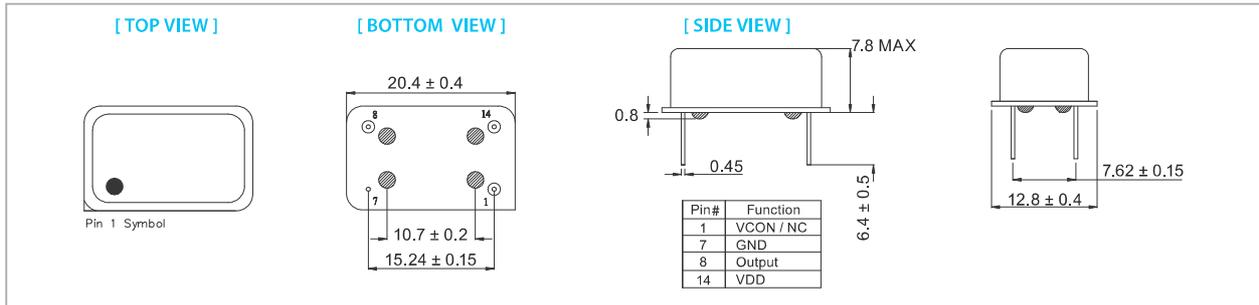
### TYPICAL APPLICATION

- Telecommunication Base Stations
- WLAN/WiMAX/WiFi, Wireless Communications
- Test instrumentation



**RoHS Compliant**

### DIMENSION



### ELECTRICAL SPECIFICATION

Parameter	5.0 V		3.3 V		Unit
	Min.	Max.	Min.	Max.	
Supply Voltage Variation (VDD) ±5%	4.75	5.25	3.13	3.47	V
Frequency Range	10	40	10	40	MHz
Standard Frequency	10, 12.8, 19.2, 19.44, 20, 26				
Frequency Tolerance*	-	±2.0	-	±2.0	ppm
Frequency stability					
Vs Temperature range (-40~85°C)	-	±50	-	±50	ppb
Vs Temperature range (-20~70°C)	-	±30	-	±30	ppb
Vs Supply Voltage (±5%) change	-	±0.02	-	±0.02	ppm
Vs Aging (@ 1st year)	-	±1.0	-	±1.0	ppm/year
Pulling Range	±5.0	-	±5.0	-	ppm
Supply Current	-	15	-	10	mA
Output Level (CMOS)					
Output High (Logic "1")	3.5	-	2.31	-	V
Output Low (Logic "0")	-	1.5	-	0.99	V
Duty	45	55	45	55	%
Output (Clipped Sine Wave)	0.8	-	0.8	-	Vp-p
Transition Time: Rise/Fall Time+	6				nSec
Phase Noise @ 10 MHz	100 Hz	-	-123	-	dBc / Hz
	1 kHz	-	-143	-	
	10 kHz	-	-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.

+Transition times are measured between 10% and 90% or VDD, with an output load of 15pF.

### FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppb		
	±30	±50	±100
-20 ~ +70	○	○	○
-40 ~ +85	△	○	○
-40 ~ +105	X	△	○

\* ○: Available △:Conditional X: Not available

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