

# TI Type Voltage Controlled Temperature Compensated Crystal Oscillator

RoHS Compliant Optional

## FEATURE

1. Frequency vs Temperature:  $\pm 1.0$ ppm @  $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ .
2. Pulling:  $\pm 30$ ppm max. (Optional)
3. Aging:  $\pm 1$ ppm/year.
4. Mini Size.
5. Packing: Tape & Reel, 1000pcs per Reel, 1~99 pcs per Bulk/Tape.



## ORDERING INFORMATION

T	I	G	A	D	E	S	-	N	L	-	?
TCXO	Package (mm)	Supply Voltage(V) & Pin Form	Pulling Range (ppm)	Freq. Stability (ppm)	Temp. Range ( $^{\circ}\text{C}$ )	Output Logic and Symmetry	Dash	Appearance	Lead Free	Dash	Freq.(MHz)
	11.5x9.6	G: 5.0 F: 2.8~3.3	A: $\pm 5$ B: $\pm 8$ C: $\pm 10$ D: $\pm 12$ E: $\pm 15$ F: $\pm 20$ G: $\pm 25$ T: TCXO	A: $\pm 0.5$ B: $\pm 1.0$ P: $\pm 1.5$ C: $\pm 2.0$ D: $\pm 2.5$ E: $\pm 3.0$ F: $\pm 4.0$ G: $\pm 5.0$	W: $0 \sim +55$ C: $-10 \sim +60$ E: $-20 \sim +70$ H: $-30 \sim +75$ U: $-40 \sim +85$	S: Clipped Sine Wave @10KK/10pF		N: Normal	F: RoHS Compliant L: Not RoHS Compliant		xx.xxxxxx

### Ordering Example: TIGADES-NL-10.000000 MHz

VCTCXO I-TYPE;  $V_{DD}$ : 5V; Pulling Range:  $\pm 5$ ppm; Freq. Stability:  $\pm 2.5$ ppm; Temp. Range:  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ ; Clipped Sine Wave; Normal Appearance; Not RoHS Compliant; Freq. 10.000000MHz.

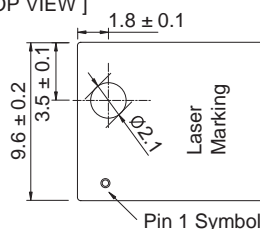
## FREQ. STABILITY vs. TEMP. RANGE

Temp.( $^{\circ}\text{C}$ )	ppm	A: $\pm 0.5$	B: $\pm 1.0$	P: $\pm 1.5$	C: $\pm 2.0$	D: $\pm 2.5$
W	$0 \sim +55$	○	○	○	○	○
C	$-10 \sim +60$	△	○	○	○	○
E	$-20 \sim +70$	X	○	○	○	○
U	$-40 \sim +85$	X	○	○	○	○

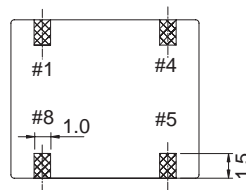
○: Standard    △: Available (case by case)    ×: Not available

## OUTLINE DRAWING

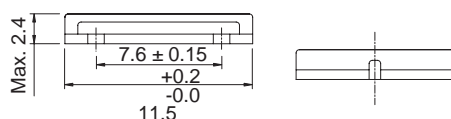
[ TOP VIEW ]



[ BOTTOM VIEW ]



[ SIDE VIEW ]



Pin	Function
#1	VC/NC
#4	GND
#5	OUTPUT
#8	$V_{DD}$

UNIT:mm

VCTCXO / TCXO

## ELECTRICAL SPECIFICATION

Parameter	Min.		Max.		Unit
	5.0	2.8	5.0	2.8	
<b>Supply Voltage Variation(V<sub>DD</sub>) 5%</b>	4.75	2.66	5.25	2.94	V
<b>Frequency Range</b>	10.000		36.000		MHz
<b>Operating Temp. Range</b>	Refer to Ordering Information				
<b>Frequency Stability</b>	Refer to Ordering Information				ppm
<b>Frequency Stability</b>					
Vs Supply Voltage(±5%) change	—		±0.2		ppm
Vs Load(±10%) change	—		±0.2		
Vs Aging	—		±1.0		ppm/year
<b>Supply Current</b>					
10.000MHz Fo < 15.000MHz	—		1.5		mA
15.000MHz Fo < 26.000MHz	—		2.0		
26.000MHz Fo 36.000MHz	—		2.5		
<b>Output Level (Clipped Sine)</b>	0.8		—		Vp-p
<b>Load</b>	10KΩ/10pF				
<b>Vc Input Impedance</b>	100		—		KΩ
<b>Phase Noise @ 13.0MHz</b>					
100Hz			-115		dbc/Hz
1KHz			-135		
10KHz			-148		
<b>Start Time</b>	—		2		mSec
<b>Storage Temp. Range</b>	-55		125		