

TF Type Voltage Controlled Temperature Compensated Crystal Oscillator

RoHS Compliant Optional

FEATURE

1. Frequency vs Temperature: ± 1.0 ppm @ $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$.
2. Pulling: ± 20 ppm max.
3. Aging: ± 1 ppm/year.
4. Good Phase Noise(Optional).
5. Stratum 3 (Optional).
6. Packing: 10 pcs per Tube.



ORDERING INFORMATION

T	F	T	A	D	C	J			-	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)
	20.4x12.8	Gull Wing G:5.0 F:2.8~3.3 Through Hole T:5.0 E:2.8~3.3	A: ± 5 B: ± 8 C: ± 10 D: ± 12 E: ± 15 F: ± 20 T: TCXO	A: ± 0.5 B: ± 1.0 P: ± 1.5 C: ± 2.0 D: ± 2.5 F: ± 4.0 G: ± 5.0	W: 0~+55 C: -10~+60 I: 0~+70 E: -20~+70 H: -30~+75 U: -40~+85	10TTL 15pF CMOS 15pF CMOS 50pF S: Clipped Sine@10KK//10pF	50 $\pm 5\%$	50 $\pm 10\%$		N: Normal	F: RoHS Compliant L: Not RoHS Compliant		xx.xxxxxx

Ordering Example: TFTADCJ-NL-10.000000 MHz

VCTCXO F-TYPE; V_{DD} : 5V; Pulling Range: ± 5 ppm; Freq. Stability: ± 2.5 ppm; Temp. Range: -10°C to $+60^{\circ}\text{C}$. CMOS 15pF, Duty: 50 $\pm 5\%$; Normal Appearance; Not RoHS Compliant; Freq. 10.000000MHz.

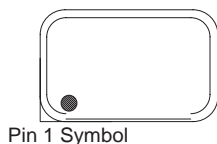
FREQ. STABILITY vs. TEMP. RANGE

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

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

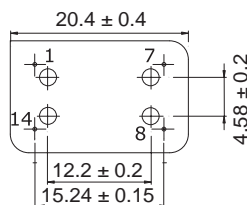
OUTLINE DRAWING

[TOP VIEW]



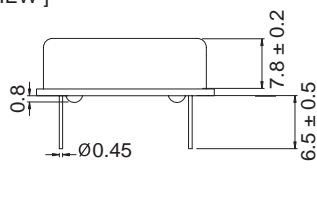
Pin 1 Symbol

[BOTTOM VIEW]



Pin	Function
#1	VC / NC
#7	GND
#8	OUTPUT
#14	V_{DD}

[SIDE VIEW]



UNIT : mm

VCTCXO / TCXO

ELECTRICAL SPECIFICATION

Parameter	Min.		Max.		Unit
	5.0	2.8	5.0	2.8	
Supply Voltage Variation(V_{DD}) 5%	4.75	2.66	5.25	2.94	V
Frequency Range (for TTL/CMOS output)	1.250		36.000		MHz
Frequency Range (for Clipped Sine output)	10		36.000		MHz
Operating Temp. Range	Refer to Ordering Information				°C
Frequency Stability	Refer to Ordering Information				ppm
Frequency Stability					
Vs Supply Voltage(±5%) change	—		±0.2		ppm
Vs Load(±10%) change	—		±0.2		
Vs Aging	—		±1.0		ppm/year
Supply Current (for TTL/CMOS output)					
1.2500MHz Fo < 10.000MHz	—		10	7	mA
10.000MHz Fo < 15.000MHz	—		15	10	
15.000MHz Fo < 26.000MHz	—		20	15	
26.000MHz Fo < 36.000MHz	—		25	20	
Supply Current (for Clipped Sine output)					
10.000MHz Fo < 15.000MHz	—		1.5		mA
15.000MHz Fo < 26.000MHz	—		2.0		
26.000MHz Fo < 36.000MHz	—		2.5		
Output Level (TTL/CMOS output)					
High Level("1")	90% V _{DD} or 2.4V		—		V
Low Level ("0")	—		10% V _{DD} or 0.4V		
Duty	40%		60%		
Output Level (for Clipped Sine output)	0.8		—		Vp-p
Vc Input Impedance	100				KΩ
Phase Noise @13.0MHz					
100Hz			-115		dbc/Hz
1KHz			-135		
10KHz			-148		
Start Time	—		2		mSec
Storage Temp. Range	-55		125		°C