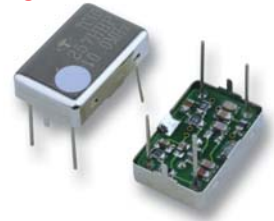


TB Type Voltage Controlled Temperature Compensated Crystal Oscillator

RoHS Compliant Optional

FEATURE

1. Frequency vs Temperature: $\pm 1.0\text{ppm}$ @ $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$.
2. Pulling: $\pm 30\text{ppm}$ max. (Optional)
3. Aging: $\pm 1\text{ppm/year}$.



ORDERING INFORMATION

T	B	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)
	18.3x11.7	T: 5.0 E: 2.8-3.3	A: ± 5 B: ± 8 C: ± 10 D: ± 12 E: ± 15 F: ± 20 G: ± 25 T: TCXO	A: ± 0.5 B: ± 1.0 P: ± 1.5 C: ± 2.0 E: ± 3.0 F: ± 4.0 G: ± 5.0	W: $0 \sim +55$ C: $-10 \sim +60$ I: $0 \sim +70$ E: $-20 \sim +70$ H: $-30 \sim +75$ U: $-40 \sim +85$	50 \pm 5% 50 \pm 10%	10TTL 15pF CMOS 15pF CMOS 50pF S: Clipped Sine@10K Ω /10pF	A J K F G		N: Normal	F: RoHS Compliant L: Not RoHS Compliant		xx.xxxxxx

Ordering Example: TBTADCJ-NL-10.000000 MHz

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

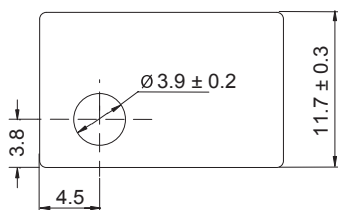
FREQ. STABILITY vs. TEMP. RANGE

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

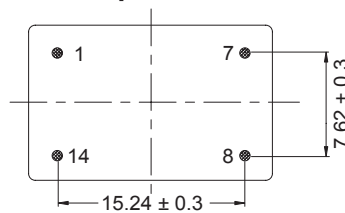
○: Standard △: Available (case by case) X: Not available

OUTLINE DRAWING

[TOP VIEW]

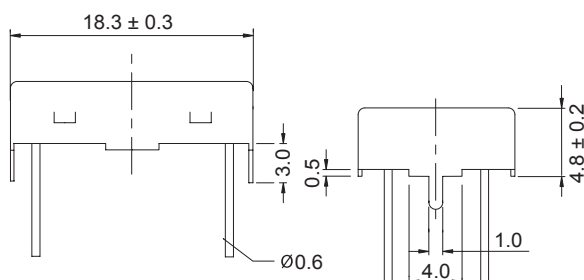


[BOTTOM VIEW]



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	V
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 ≤ F _o < 10.000MHz	—		10	7	mA
10.000MHz ≤ F _o < 15.000MHz	—		15	10	
15.000MHz ≤ F _o < 26.000MHz	—		20	15	
26.000MHz ≤ F _o < 36.000MHz	—		25	20	
Supply Current (for Clipped Sine output)					
10.000MHz ≤ F _o < 15.000MHz	—		1.5		mA
15.000MHz ≤ F _o < 26.000MHz	—		2.0		
26.000MHz ≤ F _o < 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		—		V _{p-p}
V_c 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