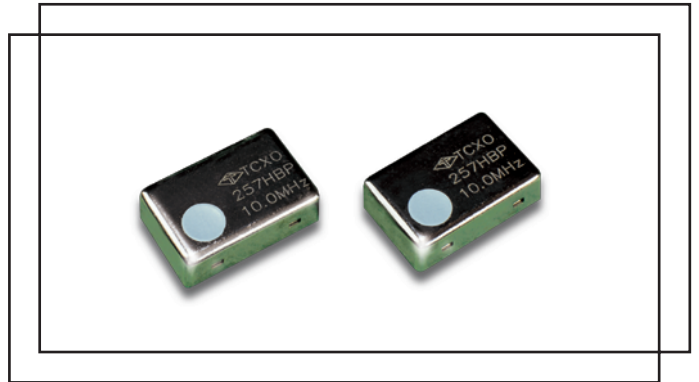


Type TB TCXO (1.20 ~ 30.0)MHz

- # low current
- # metal case
- # low profile 4 pin(14 pin DIL layout)
- # low ageing



Electrical specification

Case style	4 pin(14 pin DIL layout): (18.3 x11.60)mm, height 5.0mm	
Frequency range		clipped sine wave output (9.60 ~ 30.0)MHz
		TTL, CMOS output (1.20 ~ 30.0)MHz
Stability	$\pm(0.5 \sim 5.0)$ ppm, temperature range dependent	
Supply voltage V_{cc}	+3.0Vd.c., +5.0Vd.c.	
Supply current max.		clipped sine wave output
	(9.60 ~ 20)MHz	2.0mA
	(20 ~ 30)MHz	2.5mA
		TTL, CMOS output
	(1.20 ~ 20)MHz	20mA
	(20 ~ 30)MHz	25mA
Phase noise	$f_0 + 100$ Hz	-110dBc/Hz
	$f_0 + 1$ kHz	-135dBc/Hz
	$f_0 + 100$ kHz	-145dBc/Hz
Operating temperature	(-40 +85) $^{\circ}$ C	
Storage temperature	(-55 +125) $^{\circ}$ C	
Output	0.8Vp/p, clipped sine wave 10k//10pF, TTL, CMOS	
Symmetry *	(45 ~ 55)%, (40 ~ 60)%	
Trim range	fixed frequency or voltage trim	
Ageing	± 1.0 ppm first year max.	

* measured, with an output load of 15pF, between (10 ~ 90)% V_{cc}

Environmental test conditions

Mechanical shock	1500g, half sine wave, 0.5ms, 3 directions	MIL STD 883D 2002.3, condition A
Thermal shock	(-55 ~ +125) $^{\circ}$ C, 20 cycles	MIL STD 883D 1011.9, condition B
Vibration	(10 ~ 2000)Hz, 1.25mm, sine wave, 20g, each of three planes, duration 4 hours	MIL STD 883D 2005.2, condition B
Solderability	+245 $^{\circ}$ C $\pm 5^{\circ}$ C, 5 seconds ± 0.5 seconds	MIL STD 883D 2003.7
Fine leak	Mass spectrometer leak rate less than 2^{10-8} atm.cc/sec. helium	MIL STD 883D 1014.9, condition A
Gross leak	Leak test in de-ionised water, vacuum 70cm/Hg	
Humidity	85% relative humidity, +85 $^{\circ}$ C, 500 hours	JIS-C 7022 B-5, condition C

Type TB TCXO

Ordering information

Example type TB TCXO, 10.0.00MHz, +3.3Vd.c., ±10ppm trim, ±4ppm(-20 +70)°C, clipped sine wave o/p

TFC PART NUMBER TB 10.00M E H F E S

'TB' type number: TB = TCXO type TB

'10.0M' frequency: 10.0M = 10.00MHz, frequency range from (1.25 ~ 40.0)MHz

'E' supply voltage: E = +3.3Vd.c., T = +5Vd.c.

'H' trim range, pin #7: H = ±10.0ppm voltage trim, control voltage (+1.65 ±1.5)Vd.c.

'F' frequency stability: F = ±4.0ppm

'E' temperature range: E = (-20 +70)°C

'S' output: S = clipped sine wave output 10kΩ//10pF, symmetry (40 ~ 60)%

Supply voltage E = +3.3Vd.c., T = +5Vd.c.

Trim range, pin #7, V_t (+2.5 ±2.0)Vd.c. A: ±5.0ppm, B: ±8ppm, C: ±10ppm, D: ±12ppm, E: ±15ppm

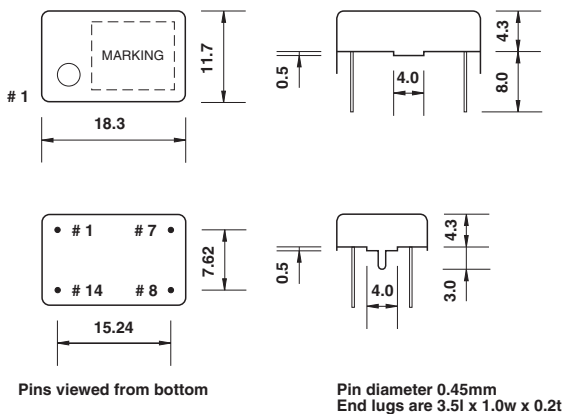
Trim range, pin #7, V_t (+1.65 ±1.5)Vd.c. F: ±5.0ppm, G: ±8ppm, H: ±10ppm, I: ±12ppm, J: ±15ppm
T: fixed frequency TCXO, no voltage trim

Frequency stability A: ±0.5ppm, B: ±1.0ppm, P: ±1.5ppm, C: ±2.0ppm
D: ±2.5ppm, E: ±3.0ppm, F: ±4.0ppm, G: ±5.0ppm

Temperature range C: (-10 +60)°C, E: (-20 +70)°C, I: (0 +70)°C
U: (-40 +85)°C, W: (0 +55)°C, H = (-30 +75)°C

Output logic and symmetry S: clipped sine wave, 0.8Vp/p, 10kΩ//10pF
B: TTL/10LSTTL (40 ~ 60)%, J: CMOS, 15pF (45 ~ 55)%

Dimensions(mm)



Pins viewed from bottom

Pin diameter 0.45mm
End lugs are 3.51 x 1.0w x 0.2t

Pin connections

- # 1 V_t
- # 7 ground
- # 8 output
- # 14 Vcc