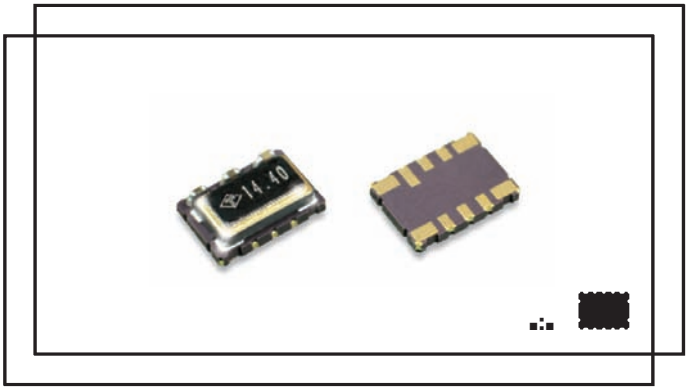
Type TC Stratum 3 TC-VCXO (10.0 ~ 52.0)MHz

- # very low power
- # ±4.6ppm including 20 years ageing
- # (7 x 5)mm footprint
- # +3.3Vd.c., +5.0Vd.c. supply
- # RoHS compliant



Electrical specification

Case style		type TC: (7 x 5)mm, height 2.0mm		
Frequency range		(10.0 ~ 52.0)MHz		
Standard frequencies		12.80MHz, 19.44MHz, 38.88MHz		
Stability		±0.28ppm over temperature range ±4.6ppm including 20 years ageing		
Pulling/ trim range		TC-VCXO: ±5ppm, ±8ppm, TCXO: fixed frequency		
Supply voltage V_{cc}		+3.3Vd.c., +5.0Vd.c.		
Supply current max.		**Frequency**	**CMOS o/p**	**Clipped sine wave o/p**
		(10 ~ 18)MHz	5mA	4mA
		(18 ~ 30)MHz	6mA	5mA
		(32 ~ 52)MHz	10mA	6mA
Phase noise		**10MHz**	**32.0MHz**	**38.88MHz**
	f_0 +100Hz	-120dBc/Hz	-112dBc/Hz	-108dBc/Hz
	f_0 +1kHz	-142dBc/Hz	-134dBc/Hz	-130dBc/Hz
	f_0 +10kHz	-150dBc/Hz	-150dBc/Hz	-148dBc/Hz
Operating temperature		(-20 +70)°C ~ (-40 +85)°C		
Storage temperature		(-55 +125)°C		
Output		0.8Vp/p: clipped sine wave 10k//10pF, CMOS 15pF		
Symmetry		CMOS: (45 ~ 55)%		

Environmental test conditions

Mechanical shock	1500g, half sine wave, 0.5ms, 3 directions	MIL STD 883D 2002.3, condition A
Thermal shock	(-55 ~ +125)°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°C ±5°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°C, 500 hours	JIS-C 7022 B-5, conditionC

Telephone: +44 (0)1903 740000, Fax: +44 (0)1903 742208,
e-mail: sales@tfc.co.uk, url: www.tfc.co.uk

ISO9001: 2000
RS13124
ISO14001: 2004
EMS53965

Type TC Stratum 3 TC-VCXO

Ordering information

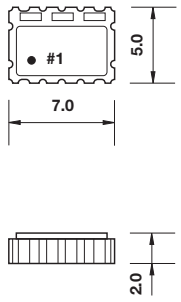
Example .... type TC TC-VCXO, 12.80MHz, +3.3Vd.c., ±4.6ppm(-40 +85)°C, CMOS 15pF o/p

TFC PART NUMBER .... TC 12.80M E T T L J

'TC' .... type number: TC = TC-VCXO type TC
'12.80M' .... frequency: 12.80M = 12.80MHz, frequency range from (10.0 ~ 52.0)MHz
'E' .... supply voltage: E = +3.3Vd.c.
'T' .... trim range, pin #1: T = TCXO no trim range
'T' .... frequency stability: T = ±4.6ppm including 20 years ageing
'L' .... temperature range: L = (-40 +85)°C
'J' .... output: J = CMOS 15pF

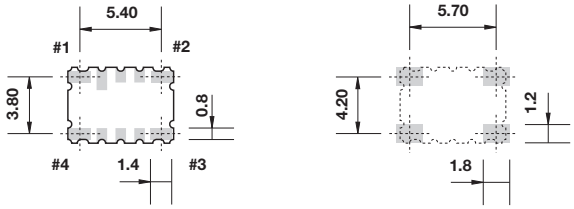
Supply voltage	*C: +5Vd.c.,* *E: +3.3Vd.c.*
Trim range, pin #1, V_t (+1.5 ±1.0)Vd.c.	*A: ±5.0ppm VCXO voltage trim* *B: ±8.0ppm VCXO voltage trim* *T: fixed frequency TCXO, no voltage trim*
Frequency stability	*TC-VCXO: ±0.28ppm over temperature range* *TCXO: ±4.6ppm including 20 years ageing*
Temperature range	*C: (-20 +70)°C, L: (-40 +85)°C*
Output logic and symmetry	*J: CMOS 15pF(45 ~ 55)%, S: clipped sine wave 10K//10pF*

Dimensions(mm) shown twice full size



Suggested land pattern

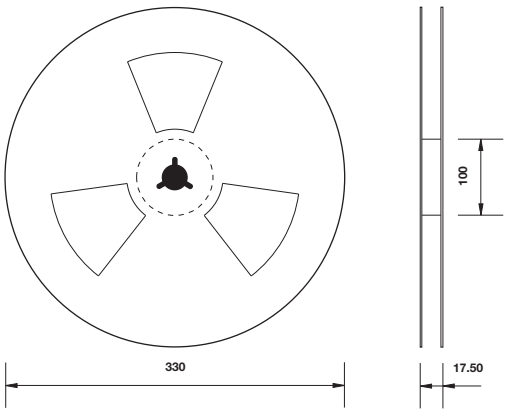
Pads are gold, 2.5µ min., over nickel, suitable for vapour phase or reflow soldering, preheat +150°C for 2 minutes, peak temperature +250°C for 30 seconds max.



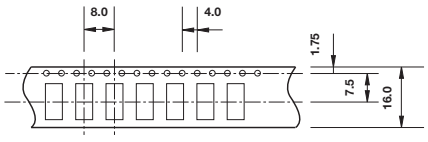
Pads viewed from bottom

#1 vcxo: trim, tcxo: n/c
#2 ground
#3 output
#4 Vcc

Tape and reel dimensions(mm)



Centre hole diameter 13.0mm, slot width 2mm spaced at 120 °
Reel quantity 3000 pieces, leader tape 400mm minimum
Trailer tape: 10 empty compartments minimum



Tape transport hole diameter 1.5mm
Compartment size 5.56mm x 8.18mm, depth 2.16mm
Component spacing 8.0mm

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