

Type TS stratum 3 smd VCTCXO
(5 ~ 52)MHz, ±4.6ppm over 20 years
(7.0 x 5.0)mm, height typically 1.90mm

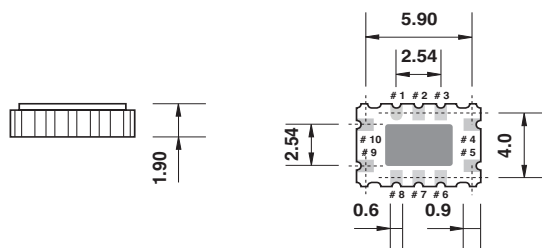
Stratum 3 compliant voltage controlled temperature compensated oscillator. A high quality, smd crystal oscillator manufactured over the frequency range of 5MHz to 52MHz.

Developed for miniature applications in Base Stations, and Stratum 3 qualified systems. ±4.6ppm total tolerance including 20 years ageing.

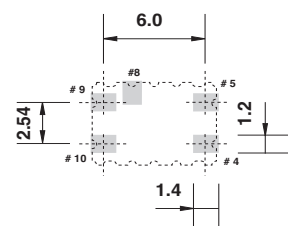
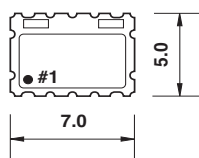
Total tolerance includes ageing, load variation and supply voltage variation, calibration tolerance and tolerance over temperature range, shock and vibration.

CMOS or clipped sine wave output, supplied on tape and reel; 1000 or 3000 pieces per reel.

Dimensions



Pads viewed from bottom



Suggested land pattern

pad connections

- # 1 NC
- # 2 NC
- # 3 NC
- # 4 ground
- # 5 output
- # 6 NC
- # 7 NC
- # 8 Tri-State
- # 9 V_{DD}
- # 10 TCXO: ground or NC

VCTCXO: ±5ppm min.
 for V_{DD} = +1.5V ±1.0V

pads are gold, 2.5µ min. over nickel, suitable for vapour phase or reflow soldering. To ensure optimal oscillator performance, place a 0.1µF by-pass capacitor as close as possible between V_{DD} and ground pads: #9 and #4

Electrical specification:

	5.0Vd.c.		3.3Vd.c.		
	min.	max.	min.	max.	
supply voltage ±5%	4.75	5.25	3.13	3.465	Vd.c.
frequency range	5.0 ~ 52.0				MHz
standard frequencies	8.192, 10, 12.80, 16.384, 19.2, 19.44, 20, 25, 26				MHz
operating temperature range	(-20 +70), (-40 +85)				°C
overall frequency stability(20 years)	-	±4.6	-	±4.6	ppm
vs temperature range	-	±0.28	-	±0.28	ppm
holdover stability	-	±0.37	-	±0.37	ppm
supply current CMOS o/p	-	6	-	6	mA
supply current clipped sine wave o/p	-	3.5	-	3.5	mA
CMOS o/p high logic 1	4.5Vd.c.		2.97Vd.c.		V
CMOS o/p low logic 0		0.5Vd.c.		0.33Vd.c.	V
duty cycle CMOS	45	55	45	55	%
output level clipped sine wave o/p	0.8	-	0.8	-	Vp-p
load CMOS	15pF		15pF		
load clipped sine wave	10kΩ//10pF		10kΩ//10pF		
V_c control voltage range	0.5	2.5	0.5	2.5	V
pulling range	±5	-	±5	-	ppm
V_c input impedance TCVCXO	100	-	100	-	kΩ
phase noise @12.80MHz +100Hz	-120		-120		dBc/Hz
phase noise @12.80MHz +1kHz	-140		-140		dBc/Hz
phase noise @12.80MHz +10kHz	-148		-148		dBc/Hz
start up time	-	2	-	2	milli sec.
tri-state, disable	-	1.5	-	0.99	V
tri-state, enable	3.5	-	2.31	-	V
storage temperature range	(-55 +125)°C				°C

Ordering information

EXAMPLE	<i>type TS stratum 3, 12.80MHz, +3.3Vd.c. supply, ±4.6ppm(-40 +85)°C, CMOS 15pF load</i>
TFC PART NUMBER	TS stratum 12.80M E L J
TS	<i>type: TS = TS stratum VCTCXO type TS</i>
12.80M	<i>frequency: 12.80MHz, frequency range (5 ~ 52)MHz</i>
E	<i>supply voltage: E = +3.3Vd.c.</i>
L	<i>temperature range: L = (-40 +85)°C</i>
J	<i>output: J = CMOS 15pF</i>
OPTIONS	
supply voltage	<i>C: +5Vd.c., E: +3.3Vd.c.</i>
temperature range	<i>C: (-20 +70)°C, L: (-40 +85)°C</i>
output logic	<i>J: CMOS 15pF(45 ~55)%, S: clipped sine wave 10K//10pF</i>