

A miniature, low profile, smd voltage controlled TCXO manufactured over the frequency range of 10MHz to 52MHz. Tolerance from  $\pm 0.5\text{ppm}$ , low ageing.

A standard package for new designs and volume applications combining small size and tight tolerance over an extended temperature range.

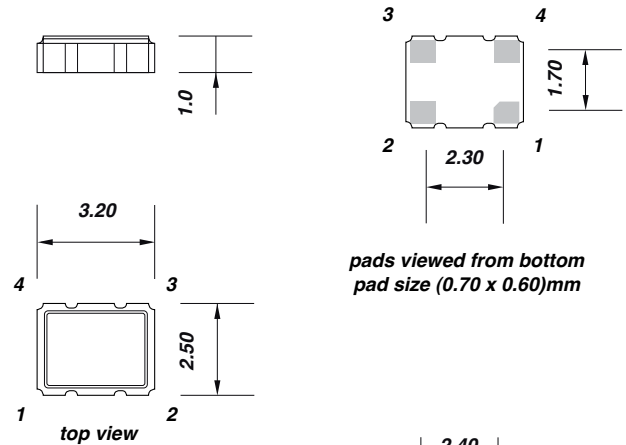
Supplied on tape and reel; 1000, 2000, 3000 or 5000 pieces per reel.

External DC cut capacitor required, NPO 100pF recommended.

**Frequency stability -vs- temperature:**

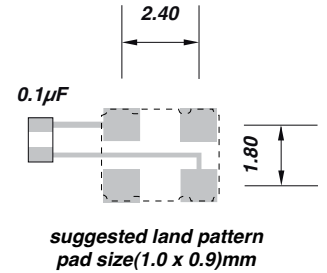
TEMP. RANGE	TOLERANCE				
	(0 +55)°C	$\pm 0.5\text{ppm}$	$\pm 1.0\text{ppm}$	$\pm 1.5\text{ppm}$	$\pm 2.0\text{ppm}$
(-10 +60)°C	$\pm 0.5\text{ppm}$	$\pm 1.0\text{ppm}$	$\pm 1.5\text{ppm}$	$\pm 2.0\text{ppm}$	$\pm 2.5\text{ppm}$
(-20 +70)°C	$\pm 0.5\text{ppm}$	$\pm 1.0\text{ppm}$	$\pm 1.5\text{ppm}$	$\pm 2.0\text{ppm}$	$\pm 2.5\text{ppm}$
(-30 +85)°C		$\pm 1.0\text{ppm}$	$\pm 1.5\text{ppm}$	$\pm 2.0\text{ppm}$	$\pm 2.5\text{ppm}$
(-40 +85)°C			$\pm 1.5\text{ppm}$	$\pm 2.0\text{ppm}$	$\pm 2.5\text{ppm}$

**Dimensions(mm)**



pads viewed from bottom  
pad size (0.70 x 0.60)mm

- pad connections  
 #1  $V_c$ : VCTCXO  
 ground: TCXO  
 #2 ground  
 #3 output  
 #4  $V_{dd}$



suggested land pattern  
pad size(1.0 x 0.9)mm

**Electrical specification:**

	3.0Vd.c.		2.5Vd.c.		1.8Vd.c.		
	min.	max.	min.	max.	min.	max.	
supply voltage $\pm 5\%$	2.85	3.15	2.375	2.625	1.71	1.89	Vd.c.
frequency range	(10 ~ 52)MHz						MHz
standard frequencies	16.367667, 16.368, 16.369, 19.20, 20.0, 26.0, 40.0						MHz
standard frequency tolerance*	$\pm 2.0$						ppm
frequency stability vs supply $\pm 5\%$	-	$\pm 0.2$	-	$\pm 0.2$	$\pm 0.2$	$\pm 0.2$	ppm
frequency stability vs load $\pm 10\%$	-	$\pm 0.2$	-	$\pm 0.2$	$\pm 0.2$	$\pm 0.2$	ppm
frequency stability vs ageing		$\pm 1.0$	-	$\pm 1.0$		$\pm 1.0$	ppm per year
supply current: (10 ~ 26)MHz	-	2.0	-	2.0		2.0	mA
supply current: (26 ~ 52)MHz	-	2.5	-	2.5		2.5	mA
output level clipped sine wave	0.8	-	0.8	-	0.8	-	Vp-p
load	10K $\Omega$ //10pF		10K $\Omega$ //10pF		10K $\Omega$ //10pF		
$V_c$ voltage control range	0.5	2.5	0.5	2.5	0.2	1.5	V
pulling range	$\pm 5$		$\pm 5$		$\pm 5$		ppm
$V_c$ input impedance	500		500		500		K $\Omega$
phase noise @19.2MHz +100Hz	-115		-115		-115		dBc/Hz
phase noise @19.2MHz +1kHz	-135		-135		-135		dBc/Hz
phase noise @19.2MHz +10kHz	-148		-148		-148		dBc/Hz
start up time	-	2	-	2	-	2	milli sec
storage temperature range	(-55 +125)°C						°C



**Ordering information**

<b>EXAMPLE</b>	type TX smd TCXO, 19.20MHz, $\pm 2.0\text{ppm}(-20 +70)^{\circ}\text{C}$
<b>TFC PART NUMBER</b>	<b>TX 19.20M C C</b>
<b>TX</b>	type: TX = TCXO type TX
<b>19.20M</b>	frequency: 19.20MHz, frequency range (10 ~ 52)MHz
<b>C</b>	frequency stability: C = $\pm 2\text{ppm}$
<b>C</b>	temperature range: C = $(-20 +70)^{\circ}\text{C}$
<b>OPTIONS</b>	
<b>frequency stability</b>	A: $\pm 0.5\text{ppm}$ , B: $\pm 1.0\text{ppm}$ , P: $\pm 1.5\text{ppm}$ , C: $\pm 2.0\text{ppm}$ , D: $\pm 2.5\text{ppm}$
<b>temperature range</b>	B: $(0 +55)^{\circ}\text{C}$ , I: $(-10 +60)^{\circ}\text{C}$ , C: $(-20 +70)^{\circ}$ , D: $(-30 +85)^{\circ}\text{C}$ , L: $(-40 +85)^{\circ}\text{C}$