

**Type TY-J smd TCXO, CMOS o/p**  
**(9.5 ~ 60)MHz, (1.8 ~ 3.3)Vd.c. supply**  
**(2.5 x 2.0)mm, height 0.9mm**  
**temperature tolerance from ±2.5ppm**  
**tri-state enable/ disable**

A sub-miniature, low profile, smd TCXO, manufactured over the frequency range of 9.5MHz to 60MHz, temperature tolerance from ±2.5ppm, low ageing and low power consumption.

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; 3000 pieces per reel, RoHS compliant.

### Frequency stability -vs- temperature:

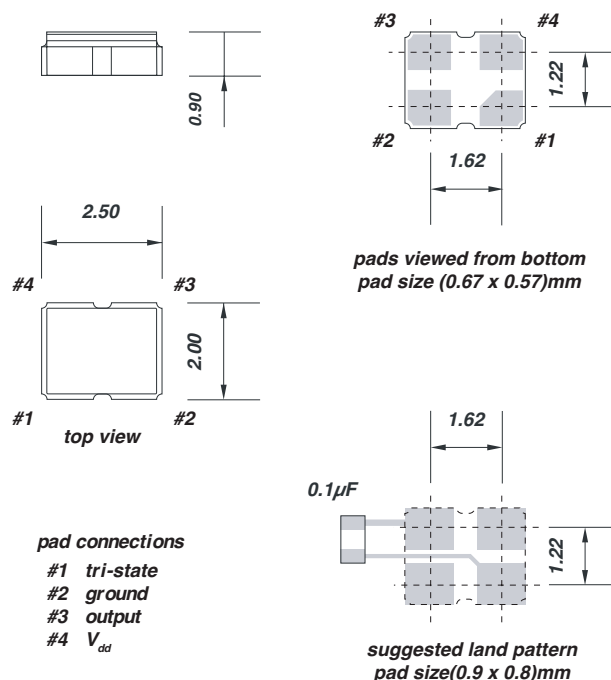
TEMP. RANGE	TOLERANCE		
(-40 +85)°C	±2.5ppm	±5.0ppm	±10ppm
(-40 +90)°C	-	±5.0ppm	±10ppm
(-40 +105)°C	-	-	±10ppm

### Electrical specification:

	3.3Vd.c.		2.5Vd.c.		1.8Vd.c.		
	min.	max.	min.	max.	min.	max.	
supply voltage ±5%	3.135	3.465	2.375	2.625	1.71	1.89	Vd.c.
frequency range	(9.5 ~ 60)MHz						MHz
standard frequency tolerance*	±2.0@25°C						ppm
supply current	-	10	-	7	-	5	mA
duty cycle	45/ 55						%
output level CMOS high, logic 1	2.97	-	2.25	-	1.62	-	V
output level CMOS low, logic 0	-	0.33	-	0.25	-	0.18	V
transition time: rise/ fall time	-	8	-	8	-	8	nano sec
start up time	-	5	-	5	-	5	milli sec
tri-state: pin #1 input enable - high voltage or floating disable - low voltage or ground	2.31	-	1.75	-	1.26	-	V
	-	0.99	-	0.75	-	0.54	V
RMS phase jitter (12kHz ~ 20MHz)	1						pico sec
phase noise @26MHz +10Hz	-	-80	-	-80	-	-80	dBc/Hz
phase noise @26MHz +100Hz	-	-110	-	-110	-	-110	dBc/Hz
phase noise @26MHz +1kHz	-	-130	-	-130	-	-130	dBc/Hz
phase noise @26MHz +10kHz	-	-145	-	-145	-	-145	dBc/Hz
ageing @25°C first year	-	±1	-	±1	-	±1	ppm
storage temperature range	(-55 +125)°C						°C

\* frequency at +25°C one hour after reflow

### Dimensions(mm)



**Ordering information**

<b>EXAMPLE</b>	<i>type TY-J smd TCXO, 19.20MHz, <math>\pm 2.5\text{ppm}(-40 +85)^{\circ}\text{C}</math>, +3.3Vd.c. supply, output CMOS</i>
<b>TFC PART NUMBER</b>	<b>TYJ 19.20M E D L</b>
<b>TYJ</b>	<i>type: TYJ = TCXO type TY-J</i>
<b>19.20M</b>	<i>frequency: 19.20MHz, frequency range (9.5 ~ 60)MHz</i>
<b>E</b>	<i>supply voltage: E = 3.3Vd.c.</i>
<b>D</b>	<i>frequency stability: D = <math>\pm 2.5\text{ppm}</math></i>
<b>L</b>	<i>temperature range: L = <math>(-40 +85)^{\circ}\text{C}</math></i>
<b>OPTIONS</b>	
<b>supply voltage</b>	<i>K: +1.8Vd.c., J: +2.5Vd.c., E: +3.3Vd.c.</i>
<b>frequency stability</b>	<i>D: <math>\pm 2.5\text{ppm}</math>, G: <math>\pm 5.0\text{ppm}</math>, H: <math>\pm 10.0\text{ppm}</math></i>
<b>temperature range</b>	<i>L: <math>(-40 +85)^{\circ}</math>, M: <math>(-40 +95)^{\circ}\text{C}</math>, K: <math>(-40 +105)^{\circ}\text{C}</math></i>