

A high quality, miniature ceramic smd, crystal clock oscillator manufactured over the wide frequency range of 1MHz to 200MHz. Low supply current, tight symmetry, supply voltage from 1.8Vd.c. to 3.3Vd.c.

Output frequency is pre-programmed from standard units providing custom frequencies with minimum delivery times.

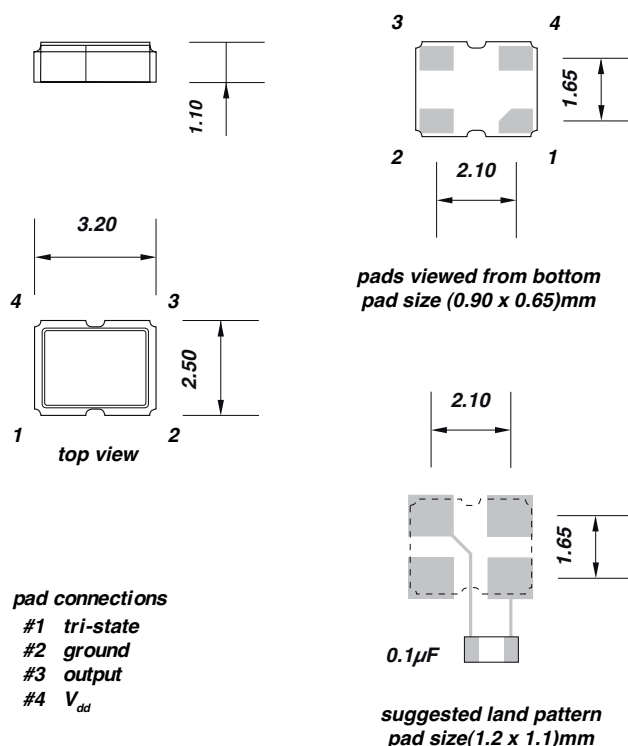
Suitable for new designs in miniature equipment, supplied on tape and reel, 1000, 2000, 3000 or 5000 pieces per reel.

### Frequency stability -vs- temperature:

TEMP. RANGE	COMBINED TOLERANCE		
	(-10 +60)°C	±20ppm	±25ppm
(-20 +70)°C	±20ppm	±25ppm	±50ppm
(40 +85)°C		±25ppm	±50ppm

Tolerance inclusive of calibration tolerance at +25°C, temperature tolerance, load variation and supply voltage variation, first year ageing, vibration and shock

### Dimensions(mm)



### Electrical specification:

	3.3Vd.c.		2.5Vd.c.		1.8Vd.c.		
	min.	max.	min.	max.	min.	max.	
supply voltage ±10%	2.97	3.63	2.25	2.75	1.62	1.98	Vd.c.
frequency range	1	200	1	166	1	133	MHz
$V_{DD}$ sensitivity ±10%	±2						ppm
supply current (1 ~ 30)MHz	-	10	-	8	-	6	mA
supply current (30 ~ 75)MHz	-	15	-	10	-	8	mA
supply current (75 ~ 133)MHz	-	20	-	15	-	12	mA
supply current (133 ~ 166)MHz	-	22	-	15	-	-	mA
supply current (166 ~ 200)MHz	-	25	-	-	-	-	mA
duty cycle	45	55	45	55	45	55	%
CMOS o/p high	90% $V_{DD}$	-	90% $V_{DD}$	-	90% $V_{DD}$	-	V
CMOS o/p low	-	10% $V_{DD}$	-	10% $V_{DD}$	-	10% $V_{DD}$	V
$t_r$ (1 ~ 10)MHz	-	3	-	4	-	5	nano sec.
$t_f$ (10 ~ 200)MHz	-	2	-	3	-	4	nano sec.
start up time	-	2	-	2	-	2	milli sec.
tri-state: active o/p	0.7 $V_{DD}$	-	0.7 $V_{DD}$	-	0.7 $V_{DD}$	-	V
tri-state: high impedance o/p	-	0.3 $V_{DD}$	-	0.3 $V_{DD}$	-	0.3 $V_{DD}$	V
absolute jitter - specified frequencies*	-	40	-	40	-	40	pico sec.
absolute jitter - other frequencies*	-	200	-	200	-	200	pico-sec
standby current	-	15	-	15	-	15	µA
ageing	-	±3	-	±3	-	±3	ppm
storage temperature range	(-55 +125)°C						°C

\*specified frequencies include: 4.0MHz, 6.0MHz, 8.0MHz, 12.0MHz, 13.0MHz, 16.0MHz, 19.20MHz, 20.0MHz, 24.0MHz, 26.0MHz, 32.0MHz 38.40MHz



**Ordering information**

<b>EXAMPLE</b>	<i>type PX clock oscillator, 40.00MHz, <math>\pm 25\text{ppm}(-20 +70)^\circ\text{C}</math>, +3.3Vd.c., output CMOS</i>
<b>TFC PART NUMBER</b>	<b>PX 40.0M E D C</b>
<b>PX</b>	<i>type: PX = clock oscillator type PX, smd</i>
<b>40.0M</b>	<i>frequency: 40.0M = frequency in MHz, frequency range (1 ~ 200)MHz</i>
<b>E</b>	<i>supply voltage: E = +3.3Vd.c.,</i>
<b>D</b>	<i>frequency stability: D = <math>\pm 25\text{ppm}</math></i>
<b>C</b>	<i>temperature range: C = <math>(-20 +70)^\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>C: <math>\pm 20\text{ppm}</math>, : D = <math>\pm 25\text{ppm}</math>, G = <math>\pm 50\text{ppm}</math></i>
<b>temperature range</b>	<i>I: <math>(-10 +60)^\circ\text{C}</math>, C: <math>(-20 +70)^\circ\text{C}</math>, L: <math>(-40 +85)^\circ\text{C}</math></i>