

A miniature, low profile, smd crystal clock oscillator manufactured over the frequency range of 20MHz to 60MHz. Tight symmetry, low jitter, low ageing, combined tolerance from $\pm 20\text{ppm}$. Extended temperature range (-40 ~ 105) $^{\circ}\text{C}$.

Designed specifically for ultra low phase noise and Hi-resolution audio(HiFi and HD audio).

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

Frequency stability -vs- temperature:

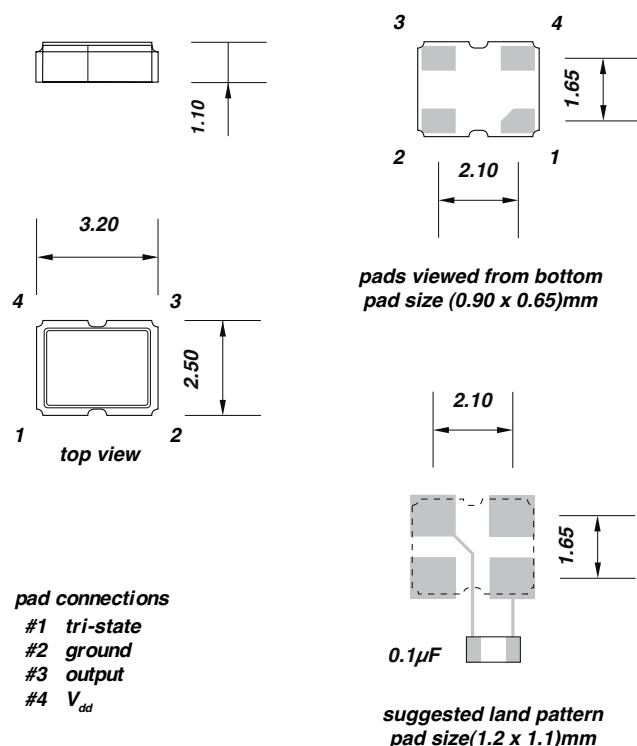
temp. range	combined tolerance			
(-10 +60) $^{\circ}\text{C}$	$\pm 20\text{ppm}$	$\pm 25\text{ppm}$	$\pm 30\text{ppm}$	$\pm 50\text{ppm}$
(-20 +70) $^{\circ}\text{C}$		$\pm 25\text{ppm}$	$\pm 30\text{ppm}$	$\pm 50\text{ppm}$
(-40 +85) $^{\circ}\text{C}$		$\pm 25\text{ppm}$	$\pm 30\text{ppm}$	$\pm 50\text{ppm}$
(-40 +105) $^{\circ}\text{C}$				$\pm 50\text{ppm}$

Tolerance inclusive of calibration tolerance at +25 $^{\circ}\text{C}$, temperature tolerance, load variation and supply voltage variation, first year ageing, vibration and shock

Electrical specification:

	3.3Vd.c.		2.5Vd.c.		1.8Vd.c.		
	min.	max.	min.	max.	min.	max.	
supply voltage $\pm 10\%$	2.97	3.63	2.25	2.75	1.62	1.98	Vd.c.
frequency range	(20 ~ 60)MHz						MHz
standard frequencies	45.1584, 49.1520						MHz
supply current	-	8	-	7	-	5	mA
duty cycle	45% ~ 55%						%
CMOS logic 1	2.97		2.25		1.62		V
CMOS logic 0		0.33		0.25		0.18	V
Rise and fall time t_r	-	6	-	6	-	6	nano sec.
start up time		2		2		2	milli sec.
tri-state pin #1: enable (high voltage or floating)	2.31	-	1.75	-	1.26	-	V
tri-state pin #1: disable low voltage or ground	-	0.99	-	0.75	-	0.54	V
RMS phase jitter (integrated 12kHz ~ 20MHz)	-	0.5	-	0.5	-	0.5	pico sec
1st year aging @ +25 $^{\circ}\text{C}$	-	± 3	-	± 3	-	± 3	ppm
storage temp	(-55 ~ +125)						$^{\circ}\text{C}$
typical phase noise	f = 20MHz		f = 40MHz		f = 60MHz		
1.8Vd.c., +25 $^{\circ}\text{C}$	+1kHz		-147		-143		dBc/Hz
	+100kHz		-156		-154		dBc/Hz
3.3Vd.c., +25 $^{\circ}\text{C}$	+1kHz		-151		-148		dBc/Hz
	+100kHz		-157		-156		dBc/Hz

Dimensions(mm)



Ordering information

EXAMPLE	<i>type OX-U clock oscillator, 40.00MHz, ±30ppm(-40 +85)°C, +3.3Vd.c., output CMOS</i>
TFC PART NUMBER	OXU 40.0M E E L
OXU	<i>type: OXU = clock oscillator type OX-U, smd</i>
40.0M	<i>frequency: 40.0M = frequency in MHz, frequency range (20 ~ 60)MHz</i>
E	<i>supply voltage: E = +3.3Vd.c.,</i>
E	<i>frequency stability: E = ±30ppm</i>
L	<i>temperature range: L = (-40 +85)°C</i>
OPTIONS	
supply voltage	<i>K = 1.8Vd.c., J = 2.5Vd.c., E: +3.3Vd.c.</i>
frequency stability	<i>C: ±20ppm , D: ±25ppm, E: ±30ppm, G: = ±50ppm</i>
temperature range	<i>I: (-10 +60)°C, C: (-20 +70)°C , L: (-40 +85)°C, H: (-40 +105)°C</i>