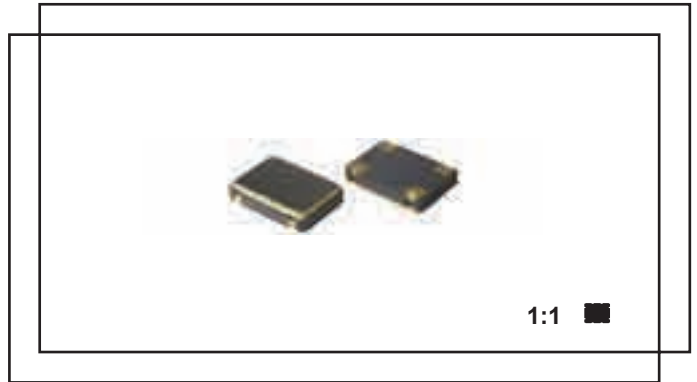


## Type VX-U smd VCXO smd ceramic package (12.0 ~ 50.0)MHz

- # HCMOS / TTL compatible
- # (3.2 x 2.5)mm footprint
- # +1.8Vd.c. ~ +5.0Vd.c. supply options
- # RoHS compliant



### Electrical specification

Case style	X: (3.2 x 2.5)mm, height 1.0mm	
Frequency range	(12.0 ~ 50.0)MHz	
Overall Stability *	$\pm(15 \sim 50)$ ppm, temperature range dependent	
Pulling range (positive slope)	$\pm(50 \sim 100)$ ppm min.	
Control voltage $V_t$	(+2.5 $\pm$ 2.5)Vd.c., $V_{cc} = +5.0$ Vd.c., (+1.65 $\pm$ 1.65)Vd.c., $V_{cc} = +3.3$ Vd.c.	
Supply current max.	(0.5 ~ 29)MHz	15mA
	(30 ~ 52)MHz	20mA
Rise and fall time max. **	(0.5 ~ 29)MHz	10ns
	(30 ~ 52)MHz	6ns
Operating temperature	(0 +70) $^{\circ}$ C ~ (-40 +85) $^{\circ}$ C	
Storage temperature	(-40 +85) $^{\circ}$ C	
Output	TTL 15pF, CMOS 15pF, CMOS 50pF	
Symmetry	(45 ~ 55)%, (40 ~ 60)%	
Ageing	$\pm 5$ ppm first year max.	

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

\*\* measured, with an output load of 15pF, between (10 ~ 90)%  $V_{cc}$

### Ordering information

**Example .... type VX-U smd clock oscillator, 40.00MHz,  $\pm 100$ ppm pulling range, +3.3Vd.c.,  $\pm 25$ ppm (-20 +70) $^{\circ}$ C, output CMOS 15pF, symmetry (45 ~ 55)%**

**TFC PART NUMBER .... VX 40.0M E U M H C J**

'VX' .... type number: VX = smd clock oscillator type VX

'40.0M' .... frequency: 40.0M = 40.00MHz, frequency range from (12.0 ~ 50)MHz

'E' .... supply voltage: E = +(2.8 ~ 3.3)Vd.c., K = 1.8Vd.c., J = 2.5Vd.c., C = +5.0Vd.c.

'U' .... VCXO designator

'M' .... frequency stability: M =  $\pm 25$ ppm

'H' .... pulling range: H =  $\pm 100$ ppm

'C' .... temperature range: C = (-20 +70) $^{\circ}$ C

'J' .... output logic and symmetry: J = CMOS 15pF, (45 ~ 55)%

**Frequency stability .... B\*:  $\pm 15$ ppm, M:  $\pm 25$ ppm, P:  $\pm 50$ ppm**

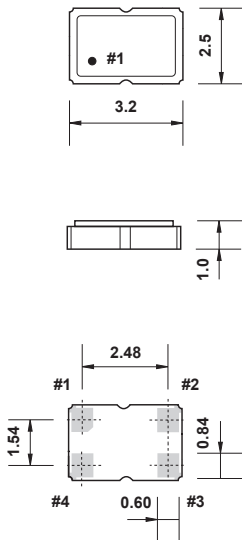
**Pulling range .... P:  $\pm 50$ ppm, H:  $\pm 100$ ppm**

**Temperature range .... B\*: (0 +70) $^{\circ}$ C, I: (-10 +60) $^{\circ}$ C, C: (-20 +70) $^{\circ}$ C, L: (-40 +85) $^{\circ}$ C**

**Output .... A: TTL 15pF (45 ~ 55)%, J: CMOS 15pF(45 ~ 55)%, F: CMOS 50pF(45 ~ 55)%,  
B: TTL 15pF (40 ~ 60)%, K: CMOS 15pF(40 ~ 60)%, G: CMOS 50pF(40 ~ 60)%**

## Type VX-U

### VX-U dimensions(mm)

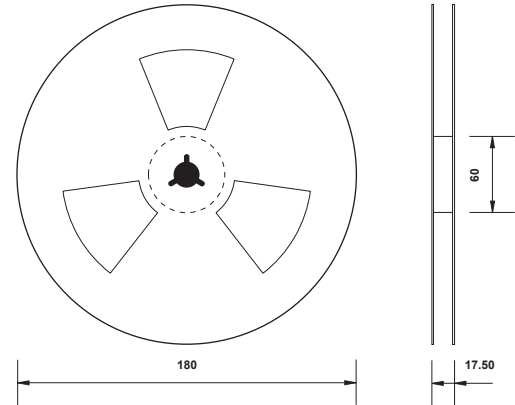


Pads viewed from bottom

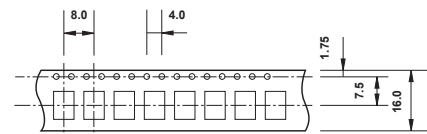
- #1 voltage control
- #2 ground
- #3 output
- #4 Vcc

Connect 0.01 $\mu$ F capacitor between Vcc and ground

### Tape and reel dimensions(mm)



Centre hole diameter 13.0mm, slot width 2mm spaced at 120°  
Reel quantity 1000 pieces, leader tape 400mm minimum  
Trailer tape: 10 empty compartments minimum



Tape transport hole diameter 1.5mm, 4.0mm pitch  
Compartment size 8.18mm x 5.56mm, depth 2.16mm  
Component spacing on 8.0mm pitch

### Environmental test conditions

<b>Mechanical shock</b>	1500g, half sine wave, 0.5ms, 3 directions	MIL STD 883D 2002.3, condition A
<b>Thermal shock</b>	(-55 ~ +125) $^{\circ}$ C, 20 cycles	MIL STD 883D 1011.9, condition B
<b>Vibration</b>	(10 ~ 2000)Hz, 1.25mm, sine wave, 20g, each of three planes, duration 4 hours	MIL STD 883D 2005.2, condition B
<b>Solderability</b>	+245 $^{\circ}$ C $\pm$ 5 $^{\circ}$ C, 5 seconds $\pm$ 0.5 seconds	MIL STD 883D 2003.7
<b>Fine leak</b>	Mass spectrometer leak rate less than 2 <sup>10-8</sup> atm.cc/sec. helium	MIL STD 883D 1014.9, condition A
<b>Gross leak</b>	Leak test in de-ionised water, vacuum 70cm/Hg	
<b>Humidity</b>	85% relative humidity, +85 $^{\circ}$ C, 500 hours	JIS-C 7022 B-5, condition C