

# OE Type High Precision Crystal Oscillator

RoHS Compliant Standard

## FEATURE

1. Typical 5.0 x 3.2 x 1.15mm ceramic SMD package.
2.  $\pm 10$ ppm over  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ ,  $\pm 20$ ppm over  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  Including 10years Aging.
3. Ideal for Wireless LAN Hot Spot applications at 40 MHz.
4. Tight Symmetry (45 to 55%) available.
5. Packing: Tape & Reel, 1000/2000/3000/5000 pcs per Reel, 1~99 pcs per Bulk/Tape.



Actual Size

## ORDERING INFORMATION

O	E	E	T	C	L	J	-	N	F	-	?
XO	Package	Supply Voltage (V)	Tri-State Function	Freq. Stability (ppm)	Temp. Range( $^{\circ}\text{C}$ )	Output Logic and Symmetry	Dash	Appearance	Lead Free	Dash	Ferq. (MHz)
	5x3.2	C: 5 E: 2.8~3.3	T: Fixed-Freq. with Tri-State	B: $\pm 10$ C: $\pm 20$ (Including 10 years aging)	B: $0\sim+50$ I: $-10\sim+60$ C: $-20\sim+70$ L: $-40\sim+85$	50 $\pm$ 5% CMOS 15pF J K		N: Normal	F: RoHS Compliant		xx.xxxxxx

### Ordering Example: OEETCLJ-NF-20.000000 MHz

XO E-TYPE;  $V_{DD}$ : 3.3V; Fixed-Freq. with Tri-State; Freq. Stability:  $\pm 20$ ppm; Temp Range:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ ; Load: CMOS 15pF, Symmetry: 50 $\pm$ 5%; Normal Appearance; RoHS Compliant; Freq. 20.000000MHz.

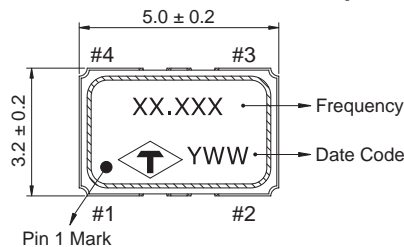
## FREQ. STABILITY vs. TEMP. RANGE

Temp.( $^{\circ}\text{C}$ )	ppm	B: $\pm 10$	C: $\pm 20$
B	$0\sim+50$	○	○
I	$-10\sim+60$	○	○
C	$-20\sim+70$	○	○
L	$-40\sim+85$	X	○

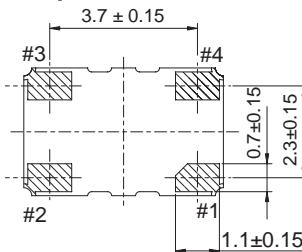
○: Standard X: Not available

## OUTLINE DRAWING

[ TOP VIEW ]

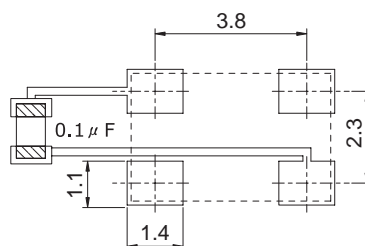
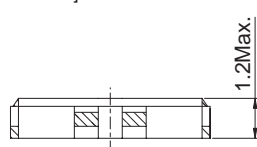


[ BOTTOM VIEW ]



Pin	Function
#1	TRI-STATE
#2	GND
#3	OUTPUT
#4	$V_{DD}$

[ SIDE VIEW ]



UNIT : mm

Recommended soldering pattern

## ELECTRICAL SPECIFICATION

Parameter	Min.		Max.		Unit
	5.0	3.3	5.0	3.3	V
<b>Supply Voltage Variation(V<sub>DD</sub>) 10%</b>	4.5	2.97	5.5	3.63	V
<b>Frequency Range</b>	1.5		55		MHz
<b>Operating Temp. Range</b>	Refer to Ordering information				°C
<b>Frequency Stability *</b>	Refer to Ordering information				ppm
<b>Supply Current</b>					
1.5MHz Fo < 20MHz	—		15	10	mA
20MHz Fo < 40MHz	—		20	15	
40MHz Fo 55MHz	—		30	22	
<b>Output Level (CMOS)</b>					
Output High (Logic "1")	90% V <sub>DD</sub>		—		V
Output Low (Logic "0")	—		10% V <sub>DD</sub>		
<b>Transition Time:Rise/Fall Time*</b>	6				nSec
<b>Start Time</b>	8				mSec
<b>Tri-State</b>					
Output Active	4.0	2.0	—		V
Output in High Impedance State	—		0.8	0.5	
<b>Absolute Clock Period Jitter</b>	—		40		pSec
<b>Standby Current</b>	—		50		μA
<b>Storage Temp. Range</b>	-55		125		°C

\*Inclusive of calibration @ 25°C, operating temperature range, input voltage variation, load variation, aging, shock, and vibration.

\*Transition times are measured between 10% and 90% of V<sub>DD</sub>, with an output load of 15pF.