

OX Type Crystal Oscillator

Actual Size



FEATURE

1. Typical 3.2 x 2.5 x 1.05 mm ceramic SMD package.
2. Tight symmetry (45 to 55 %) available.
3. Low period jitter.
4. Operation voltage: 1.8V, 2.5V, 3.3V
5. Packing: Tape & Reel, 1000/2000/3000/5000 pcs per Reel.

ORDERING INFORMATION

Select option

XO	Package (mm)	Supply Voltage(V)	Tri-State Function	Freq. Stability (ppm)	Temp. Range (°C)	Output Logic and Symmetry	Oscillator Mode	Appearance	Lead Free	Dash	Freq. (MHz)
	3.2×2.5	E : 3.3 J : 2.5 K : 1.8	T: Fixed- Freq with Tri-State	C: ± 20 D: ± 25 G: ± 50 H: ± 100	I : -10~+60 C : -20~+70 L : -40~+85	50±5% CMOS 15pF J	-A: AT Fundamental -T: AT 3 rd Overtone NOT SELECTABLE BY CUSTOMER	N: Normal	F:RoHS Compliant		XX.XXXXX



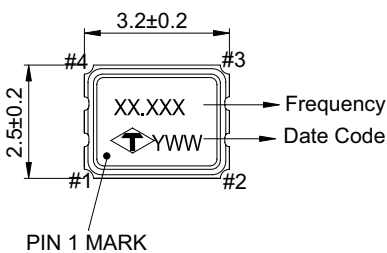
Example OXETDCJANF-13.000000

XO X-TYPE; V_{DD}: 3.3V; Fixed-Freq. with Tri-State; Freq. Stability: ±25ppm; Temp. Range: -20°C to +70°C; Load: CMOS 15pF, Symmetry: 50±5%; AT Fundamental; Normal Appearance; RoHS Compliant; Freq. 13.000000MHz.

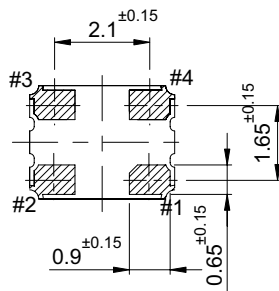
* Not all combinations of options are available.

OUTLINE DRAWING

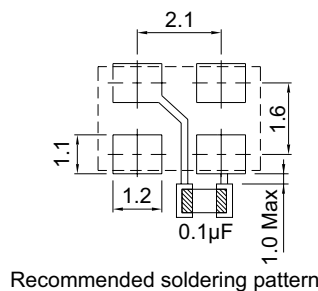
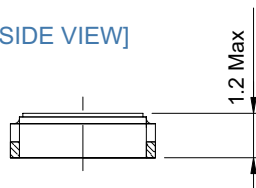
[TOP VIEW]



[BOTTOM VIEW]



[SIDE VIEW]



UNIT:mm

FREQ. STABILITY vs. TEMP. RANGE

Temp (°C)	ppm	C: ±20	D: ±25	G: ±50
I	-10~+60	○	○	○
C	-20~+70	△	○	○
L	-40~+85	×	△	○

○:Standard △:Available (case by case) ×:Not available

Pin	Function
#1	Tri-State
#2	GND
#3	Output
#4	V _{DD}



ELECTRICAL SPECIFICATION

Parameter	Min.			Max.			Unit
	3.3	2.5	1.8	3.3	2.5	1.8	
Supply Voltage Variation(V _{DD}) 10%	2.97	2.25	1.62	3.63	2.75	1.98	V
Frequency Range	1			40			MHz
Standard Frequency	4.0, 6.0, 8.0, 12.0, 13.0, 16.0, 19.2, 20, 24.0, 26.0, 32, 38.4, 40						MHz
Operating Temp. Range	Refer to Ordering Information						°C
Supply Current	-		15	10	7		mA
Output Level (CMOS)							
Output High (Logic "1")	90% V _{DD}			-			V
Output Low (Logic "0")	-			10% V _{DD}			
Transition Time:Rise/Fall Time⁺							
1MHz ≤ Fo < 20MHz	-		6	8	8		nSec
20MHz ≤ Fo < 40MHz	-		5	6	6		
Start Time	-		5				mSec
Tri-State (Input to Pin 1)							
Output Active	0.7 V _{DD}			-			V
Output in High Impedance State	-			0.3 V _{DD}			
Absolute Clock Period Jitter	-		40				pSec
Standby Current	-		10				μA
Storage Temp. Range	-55		125				°C

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.

* 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_{DD}, with an output load of 15pF.