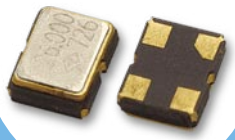
Actual Size



PY Type Crystal Oscillator

RoHS Compliant Standard

FEATURE

1.Typical 2.5 × 2.0 × 0.95 mm ceramic SMD package.
2.Tight symmetry (45 to 55 %) available.
3.Operation voltage: 1.8V, 2.5V, 3.3V
4.Packing: Tape & Reel, 1000/2000/3000/5000 pcs per Reel.

ORDERING INFORMATION

Select option

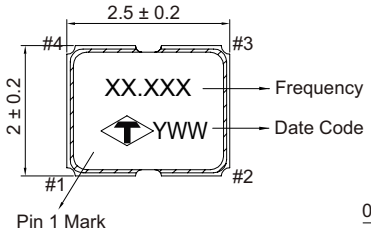
XO	Package (mm)	Supply Voltage(V)	Tri-State Function	Freq. Stability (ppm)	Temp. Range (°C)	Output LOgic and Symmetry	Oscillator Mode	Appearance	Lead Free	Dash	Freq. (MHz)
	2.5× 2.0	E : 3.3 J : 2.5 K : 1.8	T: Fixed- Freq with Tri-State	C :± 20 D :± 25 G :± 50 H :±100	I : -10~+60 C : -20~+70 L : -40~+85	CMOS 15pF 50±5% J	-A: AT Fundamental NOT SELECTABLE BY CUSTOMER	N : Normal	F : RoHS Compliant		XX.XXXXXX

P Y □ □ □ □ □ □ □ □ — □

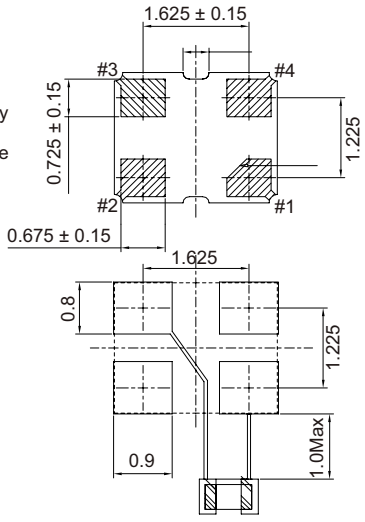
Example PYETDCJANF-13.000000
XO Y-TYPE; VDD: 3.3V; Fixed-Freq. with Tri-State; Freq. Stability: ±25ppm; Temp. Range: -20ºC to +70ºC; Load: CMOS 15pF, Symmetry: 50 ±5%; AT Fundamental; Normal Appearance; RoHS Compliant; Freq. 13.000000MHz.
* Not all combinations of options are available.

OUTLINE DRAWING

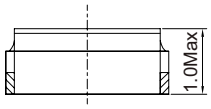
[TOP VIEW]



[BOTTOM VIEW]



[SIDE VIEW]



UNIT:mm

Recommended soldering pattern

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	VDD

ELECTRICAL SPECIFICATION

Parameter	Min.			Max.			Unit
	3.3	2.5	1.8	3.3	2.5	1.8	V
Supply Voltage Variation(V_{DD}) 10%	2.97	2.25	1.62	3.63	2.75	1.98	V
Frequency Range		1		200	166	133	MHz
Operating Temp. Range		Refer to Ordering Information					°C
Frequency Stability *		Refer to Ordering Information					ppm
V_{DD} Sensitivity (±10%)		-2			2		ppm
Supply Current							
1MHz ≦ Fo < 30MHz		–		10	8	6	mA
30MHz ≦ Fo < 75MHz		–		15	10	8	
75MHz ≦ Fo < 133MHz		–		20	15	12	
133MHz ≦ Fo < 166MHz		–		22	15	–	
166MHz ≦ Fo ≦ 200MHz		–		25	–	–	
Transition Time:Rise/Fall Time +							
1MHz ≦ Fo < 10MHz		–		6	8	10	nSec
10MHz ≦ Fo		–		5	5	6	
Duty Cycle		45			55		%
Output Level							
Output High (Logic "1")		90% V_{DD}			–		V
Output Low (Logic "0")		–			10% V_{DD}		
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							
Specific Frequency "		–			40		pSec
Others		–			200		
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.

" Specific frequency including 4.0, 6.0, 8.0, 12.0, 13.0, 16.0, 19.2, 20, 24.0, 26.0, 32, 38.4, and 40 MHz.