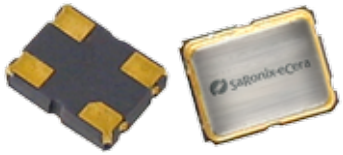
PERICOM saRonix-eCera

Ultra Low Jitter PLL Crystal Oscillator 3.2 x 2.5mm

2.5V/3.3V CMOS XO

JX321



3.2 x 2.5mm Ceramic SMD

Product Features

- Very low phase jitter - 0.8ps RMS typical
- Thicker crystal for improved reliability
- Low supply current - 45mA max.
- Industrial Temperature Range
- Pb-free & RoHS compliant
- Fast lead time

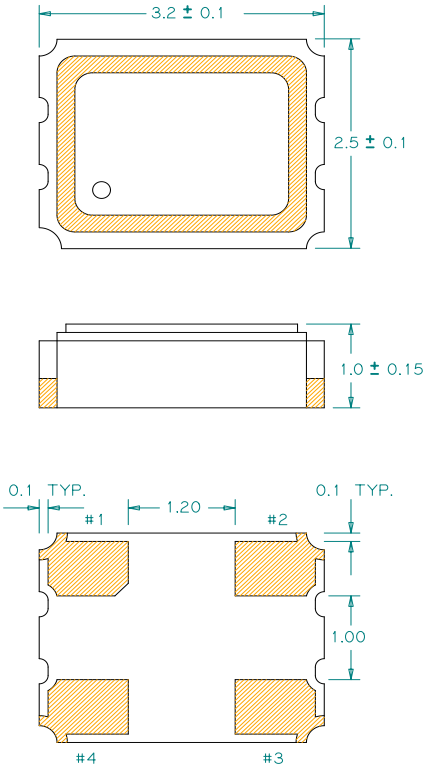
Product Description

The JX321 XO series is a high performance CMOS crystal oscillator family with very low jitter performance. It supports various options including wider frequency range, 2.5V/3.3V voltage, and various stabilities. It is designed to meet the clock source specifications for communication systems, and other high performance equipment.

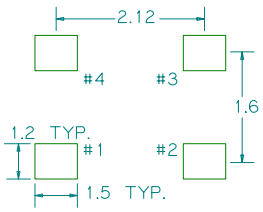
Applications

- Networking systems
- Servers and storage systems
- Profession video equipments
- Test and measurement
- FPGA/ASIC clock generation

Package: (Scale: none; dimensions are in mm)



Recommended Land Pattern:



*Note: pads 2 and 5 are optional (shown as dotted lines). XO's are designed to fit on industry standard, 4 pad layouts.

Pin Functions:

Pin	Function
1	OE
2	Ground
3	Output
4	V_{DD}

*Extended high frequency power decoupling is recommended (see test circuit for minimum recommendation). To ensure optimal performance, do not route RF traces beneath the package.

Part Ordering Information:

JX 321 V 1 FFFF.FFFFFF

Ⓐ Voltage:
1=+3.3V
2=+2.5V

Ⓑ Stability and Temp Range:

Stability	Temp Range
A = +/-20 ppm	-20/+70°C
B = +/-25 ppm	-20/+70°C
C = +/-50 ppm	-20/+70°C
D = +/-25 ppm	-40/+85°C
E = +/-50 ppm	-40/+85°C

Ⓒ Frequency:
FFFF.FFFFFF
MHz, "4 digits/decimal/6 digits" format

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Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency	10		212.5	MHz	
Supply Voltage	3.135	3.3	3.465	V	See ordering options
	2.375	2.5	2.625		
Supply Current, Output Enabled			45	mA	
Supply Current, Output Disabled only			20	mA	
Frequency Stability			±50	ppm	See ordering options
Operating Temperature Range	-40		+85	°C	See ordering options
Output Logic 0, V_{OL}			0.4	V	
Output Logic 1, V_{OH}	V_{DD}-0.4			V	
Output Load			15	pF	
Duty Cycle	45		55	%	Measured 50% V_{DD}
Rise and Fall Time		800	1600	ps	Measured 20/80% of waveform
Jitter, Phase RMS (1-σ)		0.8		ps	12kHz to 20 MHz frequency band
Jitter, pk-pk V_{DD} = 3.3V		20	40	ps	100,000 random periods
Jitter, pk-pk V_{DD} = 2.5V		40	50		

Notes:
1. Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (1 year at 25°C average effective ambient temperature), shock and vibration.
2. For specifications othere than those listed, please contact sales.

Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (pin 1), Output Enable	0.7 V_{DD}			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.3 V_{DD}	V	Output is Hi-Z
Internal Pullup Resistance		51		kΩ	
Output Disable Delay			200	ns	
Output Enable Delay			200	ns	
Start up Time			10	ms	

Absolute Maximum Ratings

Parameter	Min.	Typ.	Max.	Units	Notes
Storage Temperature	-55		+125	°C	

For the latest product information visit: http://www.pericom.com/products/timing/oscillators/

For test circuit go to: http://www.pericom.com/pdf/sre/tc_cmos2.pdf

For soldering reflow profile and reliability test ratings go to: http://www.pericom.com/pdf/sre/reflow.pdf

For tape and reel information go to: http://www.pericom.com/pdf/sre/tr_3225_xo.pdf