

2.5V/3.3V CMOS XO

JX501



5.0 x 3.2mm 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

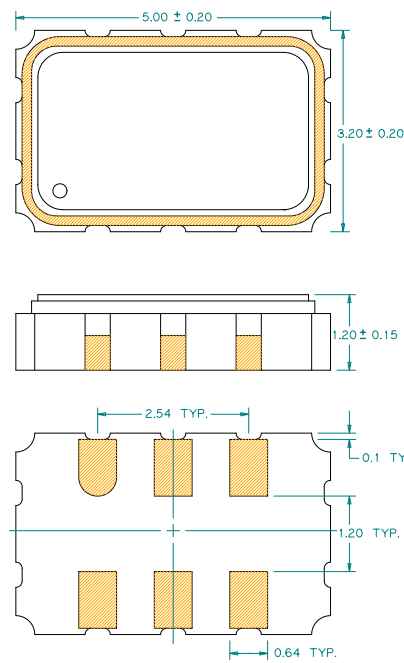
**Product Description**

The JX501 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.

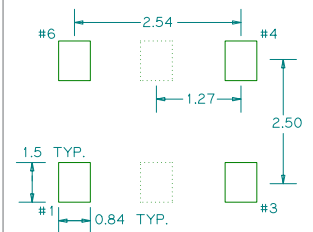
**Applications**

- 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 Function
2	N/C
3	Ground
4	Output
5	N/C
6	V <sub>DD</sub>

\*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 501 V 1 FFFF.FFFFFFF

<p>Voltage:</p> <p>1 = +3.3V</p> <p>2 = +2.5V</p>	<p>Stability and Temp Range:</p> <table border="1"> <thead> <tr> <th>Stability</th> <th>Temp Range</th> </tr> </thead> <tbody> <tr> <td>A = +/-20 ppm</td> <td>-20/+70°C</td> </tr> <tr> <td>B = +/-25 ppm</td> <td>-20/+70°C</td> </tr> <tr> <td>C = +/-50 ppm</td> <td>-20/+70°C</td> </tr> <tr> <td>D = +/-25 ppm</td> <td>-40/+85°C</td> </tr> <tr> <td>E = +/-50 ppm</td> <td>-40/+85°C</td> </tr> </tbody> </table>	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	<p>Frequency:</p> <p>FFFF.FFFFFFF</p> <p>MHz, "4 digits/decimal/6 digits" format</p>
Stability	Temp Range													
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**Ultra Low Jitter PLL Crystal Oscillator 5.0 x 3.2mm**

**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 <sub>OL</sub>			0.4	V	
Output Logic 1, V <sub>OH</sub>	V <sub>DD</sub> -0.4			V	
Output Load			15	pF	
Duty Cycle	45		55	%	Measured 50% V <sub>DD</sub>
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 <sub>DD</sub> = 3.3V	20	40	ps	100,000 random periods
Jitter, pk-pk	V <sub>DD</sub> = 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 other 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 <sub>DD</sub>			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.3 V <sub>DD</sub>	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/crystals-and-crystal-oscillators/hiflex-xo/?part=JX501>

**For test circuit go to:** [http://www.pericom.com/pdf/sre/tc\\_6pcmos.pdf](http://www.pericom.com/pdf/sre/tc_6pcmos.pdf)

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