

2.5/3.3V CMOS XO

WX501



5.0 x 3.2mm Ceramic SMD

**Product Features**

- Very low phase jitter - 1.0ps RMS
- Thicker crystal for improved reliability
- Industrial Temperature Range
- Pb-free & RoHS compliant

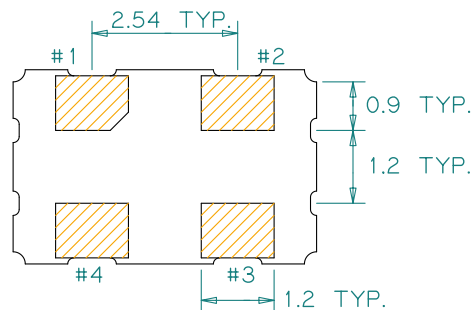
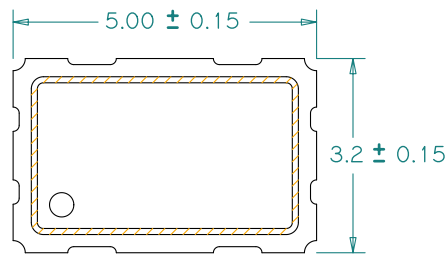
**Product Description**

The WX501 XO series is a high performance CMOS crystal oscillator family with very low jitter performance. It supports various options including wider frequency range, 2.5/3.3 voltage, various stabilities, and different package sizes. It is designed to meet the clock source specifications for communication systems, and other high performance equipment.

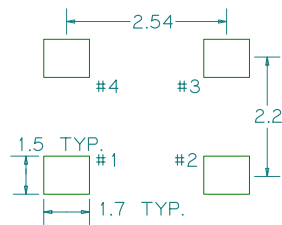
**Applications**

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

**Package:**



Recommended Land Pattern:



**Pin Functions:**

Pin	Function
1	OE
2	GND
3	Q
4	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:**

WX 501 V I FFFF.FFFFFFFF

<p><b>Voltage:</b></p> <p>1 = +3.3V 2 = +2.5V</p>	<p><b>Stability and Temp Range:</b></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><b>Frequency:</b></p> <p>FFFF.FFFFFFFF MHz, "4 digits/decimal/6 digits" format</p>
Stability	Temp Range													
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### Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency	50		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			70	mA	
Supply Current, Output Disabled			50	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			1.5	ns	Measured 20/80% of waveform
Jitter, Phase RMS (1- $\sigma$ )			1	ps	12kHz to 20 MHz frequency band
Jitter, pk-pk			30	ps	100,000 random periods

#### Notes:

- 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.
- 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	$0.7 V_{DD}$			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			$0.3 V_{DD}$	V	Output is Hi-Z
Internal Pullup Resistance		100		k $\Omega$	
Output Disable Delay			80	ns	
Output Enable Delay			80	ns	
Setup 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\\_hcmos.pdf](http://www.pericom.com/pdf/sre/tc_hcmos.pdf)

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

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