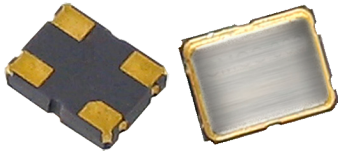


**0.9V~1.5V CMOS XO**

**LX321**



3.2 x 2.5mm Ceramic SMD

**Product Features**

- Industrial temperature range
- Low phase jitter: < 1ps RMS max.
- Supports frequency range: 1.25~50MHz
- Supports voltage range: 0.9~1.5V
- Low power consumption
- Pb-free & RoHS compliant

**Product Description**

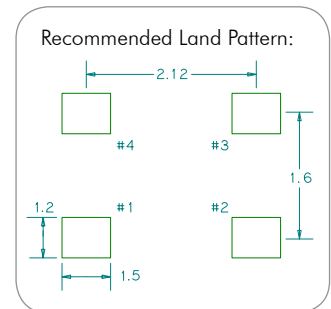
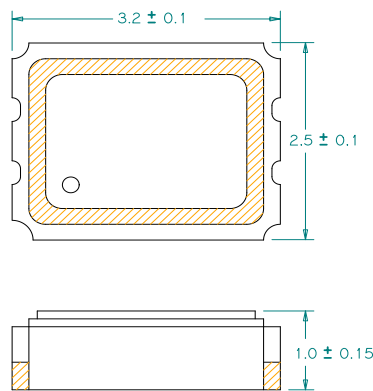
The LX321 XO series is a high performance CMOS crystal oscillator family with very low jitter performance.

It supports 0.9V/1.0V/1.2V/1.5V voltages and consumes very low operating current. It is designed to meet the clock source specifications for communication systems, industrial applications and other high performance equipment.

**Applications**

- Networking and communication systems
- Industrial and outdoor systems
- Storage and server systems
- Hand-held devices
- Professional video equipments
- Test and measurement equipments

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



**Pin Functions:**

Pin	Function
1	OE
2	Ground
3	Output
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:**

**LX 321** V I FFFF.FFFFFFFF

<p><b>Voltage:</b></p> <p>4 = +1.5V</p> <p>5 = +1.2V</p> <p>6 = +1.0V</p> <p>7 = +0.9V</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</p> <p>MHz, "4 digits/decimal/6 digits" format</p>
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													

**Electrical Performance**

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency	1.25		50	MHz	
Supply Voltage	1.425	1.5	1.575	V	See ordering options
	1.14	1.2	1.26		
	0.95	1.0	1.05		
	0.855	0.9	0.945		
Supply Current, Output Enabled			4	mA	
Supply Current, Output Disabled only			100	uA	
Frequency Stability			±50	ppm	See ordering options
Operating Temperature Range	-40		+85	°C	See ordering options
Output Logic 0, V <sub>OL</sub>			0.2 V <sub>DD</sub>	V	
Output Logic 1, V <sub>OH</sub>	0.8 V <sub>DD</sub>			V	
Output Load			15	pF	
Duty Cycle	45		55	%	Measured 50% V <sub>DD</sub>
Rise and Fall Time			4	ns	Measured 20/80% of waveform
Jitter, Accumulated, RMS (1-σ)			6	ps	20,000 adjacent periods
Jitter, Phase, RMS	< 40MHz		1	ps	12kHz to 5 MHz frequency band
	>=40MHz		1		12kHz to 20 MHz frequency band
Jitter, pk-pk			50	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 <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
Output Disable Delay			50	us	
Output Enable Delay			2	ms	
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/cxo/?part=LX321>

**For test circuit go to:** [http://www.pericom.com/pdf/sre/tc\\_cmos2.pdf](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>

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