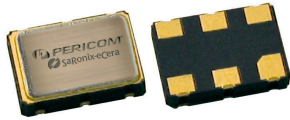


## CMOS XO

## WL321



3.2 x 2.5mm Ceramic SMD

### Product Features

- Tight temperature stability:  $> \pm 5$ ppm
- Low Current: less than 7mA max.
- Extended temperature support up to 105°C
- CMOS output level
- Excellent Phase Noise
- Pb-free and RoHS compliant

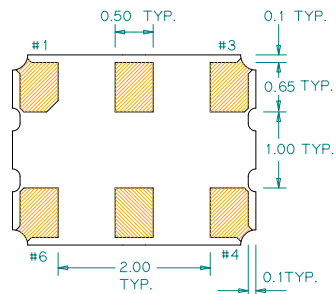
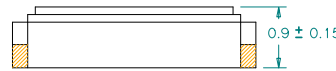
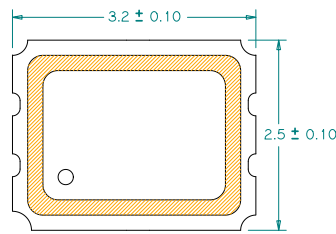
### Product Description

The WL321 XO series is a high precision CMOS crystal oscillator family with a tight temperature stability over the temperature range. It supports 1.8V~3.3V power supply and consumes very low operating current. It supports various popular frequencies and temperature ranges. Its is designed to meet growing demand for very tight temperature stability with standard XO properties. It provides a great option for applications that need tight stability.

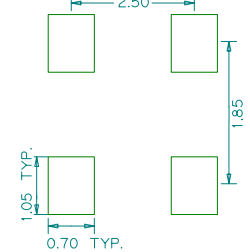
### Applications

- Networking & Infrastructure systems
- GPS & Navigation systems
- Wireless Communications
- Mobile & Base station
- Metering
- Industrial & Outdoor systems
- Test & measurement

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



### Recommended Land Pattern:



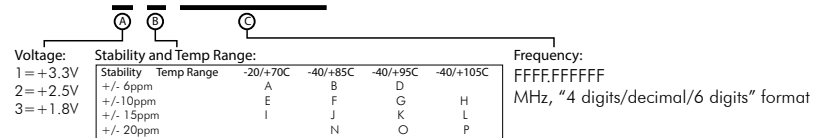
### Pin Functions:

Pin	Function
1	OE*
2	NC
3	GND
4	Output
5	NC
6	V <sub>DD</sub>

\*Note: If Pin#1 not needs being controlled for Enable/Disable conditions, please let it open or connect to V<sub>DD</sub>.

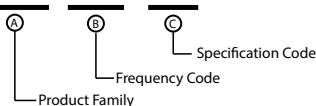
### Part Ordering Information Category 1:

WL321 V I FFFF.FFFFFFF



### Part Ordering Information Category 2:

WL 31 XXX YYY



\*Not for all frequencies in the frequency range. Please contact sales for details.

## Electrical Performance

Parameter	Conditions	Min.	Typ.	Max.	Units	Notes
Output Frequency		8		52	MHz	Category 1
		5		250	MHz	Category 2
Supply Voltage (+/-5%)	8~52MHz	1.8		3.3	V	
	5~250MHz	2.5		3.3	V	2.5V or 3.3V only
Supply Current	10~29.9999MHz			3	mA	Category 1
	30~39.9999MHz			5	mA	
	40~52MHz			7	mA	
	5~250MHz			60	mA	Category 2
Frequency Stability	8~52MHz			±20	ppm	See ordering options
	5~250MHz	±15		±20	ppm	See ordering options
Operating Temperature Range	8~52MHz	-40		+105	°C	
	5~250MHz	-40		+85	°C	
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				5	ns	Measured 20% to 80% of waveform
Jitter, Accumulated, RMS (1-σ)				4	ps	20,000 adjacent periods
Jitter, Phase, RMS	<40MHz			1	ps	12kHz to 5 MHz frequency band
	>=40MHz			1	ps	12kHz to 20 MHz frequency band
Jitter, pk-pk				40	ps	100,000 random periods
Start up Time	8~52MHz			2	ms	
	5~250MHz			10	ms	

## Notes:

- Stability includes all combinations of operating temperature, load changes(10%), rated input (supply) voltage changes (5%), 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.
- Not all combinations of Operating Temperature Range, Frequency Stability and Output Frequency are available.

## 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			200	ns	
Output Enable Delay			200	ns	

## 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=WL321>

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

For soldering reflow profile and reliability test ratings go to: <http://www.pericom.com/pdf/sre/reflow2.pdf>

For tape and reel information go to: [http://www.pericom.com/pdf/sre/tr\\_3225\\_xo.pdf](http://www.pericom.com/pdf/sre/tr_3225_xo.pdf)