

High Precision Crystal Oscillator 2.5 x 2.0mm

CMOS XO





2.5 x 2.0mm Ceramic SMD

Product Features

- Tight temperature stability: >+/-5ppm
- 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 WL251 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 polular 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 applictions that need tight stability.

Applications

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

A product Line of

Diodes Incorporated

• Test & Measurement



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



0.53 ,TYP

#2

TYP

1.35

 \bigcirc

#4



Pin Functions:

-	
Pin	Function
1	OE
2	Ground
3	Output
4	V _{DD}

Part Ordering Information Category 1:



0.68 TYP.

0.64 TYP.

|_<u>↓</u> #3

Part Ordering Information Category 2:



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

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PERICOM[•] All specifications are subject to change without notice. WL251 Rev A 06/20/16

CMOS XO SaRonix-eCera[™]

High Precision Crystal Oscillator 2.5 x 2.0 mm

WL251

Electrical Performance

Parameter	Conditions	Min.	Тур.	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 _{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				5	ns	Measured 20% to 80% of waveform	
Jitter, Accumulated, RMS (1-o)				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:

1. 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.

2. For specifications other than those listed, please contact sales.

Not all combinations of Operating Temperature Range, Frequency Stabilty and Output Frequency are available. 3.

Output Enable / Disable Function

Parameter	Min.	Тур.	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
Output Disable Delay			200	ns	
Output Enable Delay			200	ns	

Absolute Maximum Ratings

Parameter	Min.	Тур.	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=WL251

For test circuit go to: 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 2520 xo.pdf

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