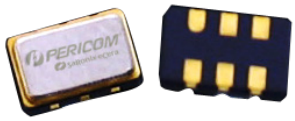
High Temperature LVPECL Crystal Oscillator 5.0 x 3.2mm

2.5V/3.3V LVPECL XO

HX502



5.0 x 3.2mm Ceramic SMD

Product Features

- Support high temperature up to 125°C
- Low phase jitter - < 1ps RMS max.
- Wide frequency range - 25 ~ 161MHz
- AEC-Q200 (Grade 1) compliant
- Pb-free & RoHS compliant

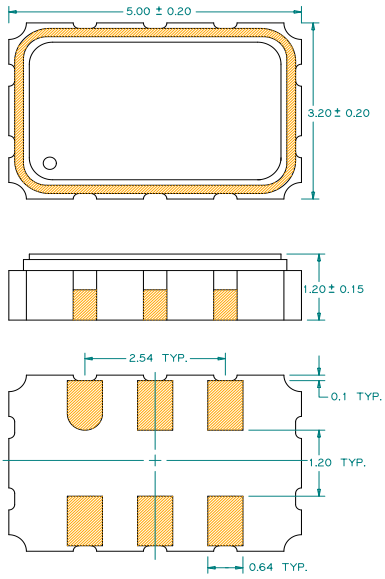
Product Description

The HX502 XO series is a high performance LVPECL crystal oscillator family that supports high temperature with very low jitter performance. It supports various options including wider frequency range, 2.5V/3.3V voltage, and various stabilities over wide temperature range. It is designed to meet the clock source specifications for communication systems, Industrial applications and other high performance equipment.

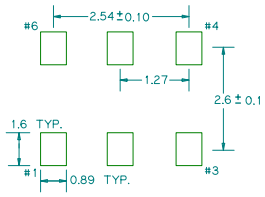
Applications

- Networking and communication systems
- Industrial and outdoor systems
- Storage and server systems
- Automotive devices
- Fanless systems in harsh environment
- Profession video equipments
- Test and measurement equipments

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



Recommended Land Pattern:



Pin Functions:

Pin	Function
1	OE Function
2	N/C
3	Ground
4	Q
5	$\overline{Q}$
6	V_{CC}

*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:

HX 502 V I FFFF.FFFFFF

Ⓐ Voltage:
1=+3.3V
2=+2.5V

Ⓑ Stability and Temp Range:

Stability	Temp Range
A = +/-25 ppm	-40/+90°C
B = +/-30 ppm	-40/+100°C
C = +/-30 ppm	-40/+105°C
D = +/-50 ppm	-40/+90°C
E = +/-50 ppm	-40/+100°C
F = +/-50 ppm	-40/+105°C
G = +/-70 ppm	-40/+125°C
H = +/-100 ppm	-40/+125°C

Ⓒ Frequency:
FFFF.FFFFFF
MHz, "4 digits/decimal/6 digits" format

PERICOM SaRonix-eCera

High Temperature LVPECL Crystal Oscillator 5.0 x 3.2mm

Electrical Performance

Parameter		Min.	Typ.	Max.	Units	Notes
Output Frequency		25		161	MHz	
Supply Voltage		3.135	3.3	3.465	V	See ordering options
		2.375	2.5	2.625		
Supply Current, Output Enabled				80	mA	
Supply Current, Output Disabled only				30	uA	
Frequency Stability		±25		±100	ppm	See ordering options
Operating Temperature Range		-40		+125	°C	See ordering options
Output Logic 0, V_{OL}				V_{CC} -1.620	V	
Output Logic 1, V_{OH}		V_{CC} -1.025			V	
Output Load		50Ω to V_{CC} -2V output termination				
Duty Cycle		45		55	%	Measured 50% V_{CC}
Rise and Fall Time				850	ps	Measured 20/80% of waveform
Jitter, Accumulated, RMS (1-σ)				4	ps	20.000 adjacent periods
Jitter, Phase, RMS	< 40MHz		0.5	1	ps	12kHz to 5 MHz frequency band
	>=40MHz		0.5	1		12kHz to 20 MHz frequency band
Jitter, pk-pk				40	ps	100,000 random periods

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_{CC}			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.3 V_{CC}	V	Output is Hi-Z
Output Disable Delay			200	ns	
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=HX502

For test circuit go to: http://www.pericom.com/pdf/sre/tc_pecl.pdf

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

For tape and reel information go to: http://www.pericom.com/pdf/sre/tr_5032_xo.pdf