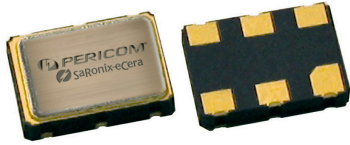


## 2.5V/3.3V LVPECL XO

## HX702



7.0 x 5.0mm 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

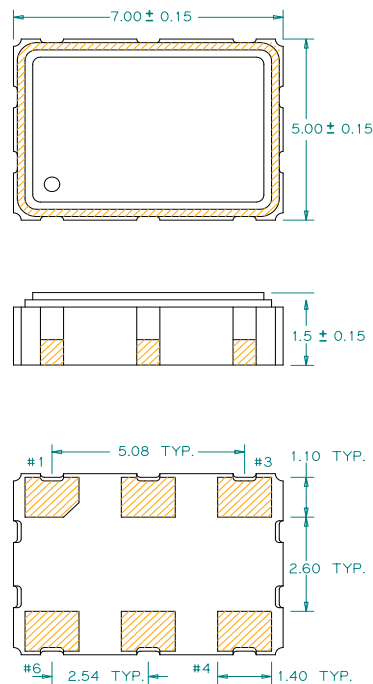
### Product Description

The HX702 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.

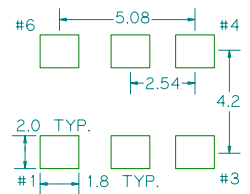
### Applications

- 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:



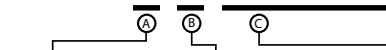
### Pin Functions:

Pin	Function
1	OE Function
2	N/C
3	Ground
4	Q
5	$\bar{Q}$
6	V <sub>CC</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:

HX 702 V I FFFF.FFFFFFFF



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:  
FFFFFF.FFFFFFFF  
MHz, "4 digits/decimal/6 digits" format

### 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 <sub>OL</sub>			V <sub>CC</sub> -1.620	V	
Output Logic 1, V <sub>OH</sub>	V <sub>CC</sub> -1.025			V	
Output Load	50Ω to V <sub>CC</sub> -2V output termination				
Duty Cycle	45		55	%	Measured 50% V <sub>CC</sub>
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:

- 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>CC</sub>			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.3 V <sub>CC</sub>	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=HX702>

For test circuit go to: [http://www.pericom.com/pdf/sre/tc\\_pecl.pdf](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\\_7050\\_xo.pdf](http://www.pericom.com/pdf/sre/tr_7050_xo.pdf)