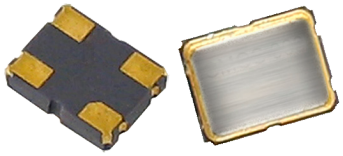
1.8V/2.5V/3.3V CMOS XO

HX201



2.0 x 1.6mm Ceramic SMD

Product Features

- Support high temperature up to 125°C
- Low phase jitter - < 1ps RMS max.
- Wide frequency range - 1.75 ~ 60MHz
- AEC-Q200 (Grade 1)compliant
- Pb-free & RoHS compliant

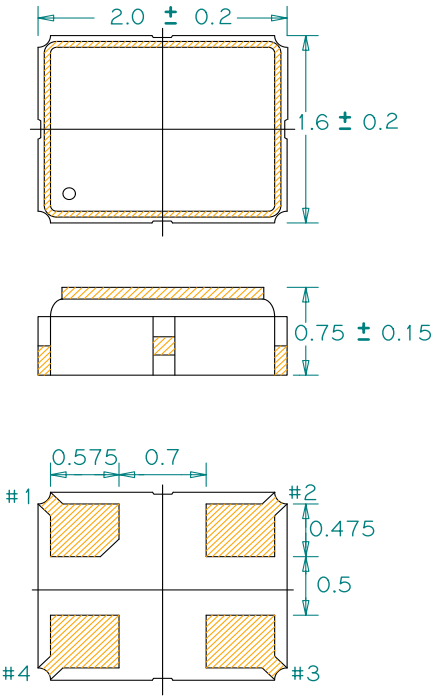
Product Description

The HX201 XO series is a high performance CMOS crystal oscillator family that supports high temperature with very low jitter performance. It supports various options including wider frequency range, 1.8V/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.

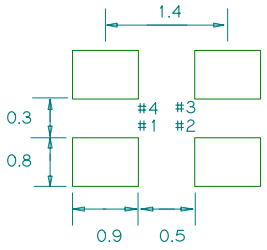
Applications

- 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
2	Ground
3	Output
4	V_{DD}

*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 201 V I FFFF.FFFFFF

Voltage:
1=+3.3V
2=+2.5V
3=+1.8V

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

Electrical Performance

Parameter		Min.	Typ.	Max.	Units	Notes
Output Frequency		1.75		60	MHz	
Supply Voltage		3.135	3.3	3.465	V	See ordering options
		2.375	2.5	2.625		
		1.71	1.8	1.89		
Supply Current, Output Enabled				20	mA	
Supply Current, Output Disabled only				100	uA	
Frequency Stability				±50	ppm	See ordering options
Operating Temperature Range		-40		+125	°C	See ordering options
Output Logic 0, V_{OL}				0.1 V_{DD}	V	
Output Logic 1, V_{OH}		0.9 V_{DD}			V	
Output Load				15	pF	
Duty Cycle		45		55	%	Measured 50% V_{DD}
Rise and Fall Time				8	ns	Measured 20/80% 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		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_{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			10	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=HX201

For test circuit go to: 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

For tape and reel information go to: http://www.pericom.com/pdf/sre/tr_2016_xo.pdf