

# 2.5V/3.3V CMOS XO

**NX701** 



7.0 x 5.0mm Ceramic SMD

### **Product Features**

- ullet Very low phase jitter < 1ps RMS max.
- Wide frequency range  $5\sim 250 \text{MHz}$
- Thicker crystal for improved reliability
- Low supply current 60mA max.
- Industrial Temperature Range
- Pb-free & RoHS compliant
- Fast lead time

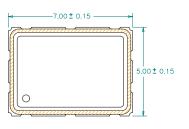
## **Product Description**

The NX701 XO series is a high performance CMOS crystal oscillator family with very low jitter performance. It supports various options including wider frequency range, 2.5V/3.3V voltage, and various stabilities. It is designed to meet the clock source specifications for communication systems, and other high performance equipment.

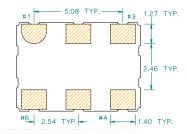
## **Applications**

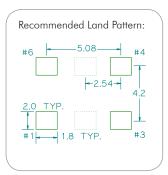
- Networking systems
- Servers and storage systems
- Profession video equipments
- Test and measurement
- FPGA/ASIC clock generation

#### Package: (Scale: none, Dimensions are in mm)









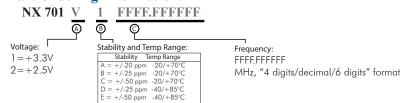
\*Note: pads 2 and 5 are optional (shown as dotted lines). XO's are designed to fit on industry standard, 4 pad layouts.

### **Pin Functions:**

Pin	Function
1	OE Function
2	N/C
3	Ground
4	Output
5	N/C
6	$V_{\mathrm{DD}}$

<sup>\*</sup>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:**



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www.pericom.com



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## Ultra Low Jitter PLL Crystal Oscillator 7.0 x 5.0mm

#### **Electrical Performance**

Parameter		Min.	Тур.	Max.	Units	Notes	
Output Frequency		5		250	MHz		
Supply Voltage		3.135	3.3	3.465	V	C	
		2.375	2.5	2.625	V	See ordering options	
Supply Current, Ou	tput Enabled			60	mA		
Supply Current, Ou	tput Disabled only			40	mA		
Frequency Stability				±50	ppm	See ordering options	
Operating Temperat	ture Range	-40		+85	°C	See ordering options	
Output Logic 0, VO	L			0.4	V		
Output Logic 1, VO	Н	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				3	ns	Measured 20/80% of waveform	
Jitter, Accumulated	, RMS (1-σ)			6	ps	20.000 adjacent periods	
	< 40MHz		0.4	1	ps	12kHz to 5 MHz frequency band	
Jitter, Phase, RMS	40 to 250MHz		0.4	1	ps	12kHz to 20 MHz frequency band	
	125MHz, 156.25MHz		0.4	0.6	ps	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.
- Phase jitter typical value is depending on output frequencies.
- For specifications other than those listed, please contact sales.

## **Output Enable / Disable Function**

Parameter	Min.	Тур.	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			100	ns	
Output Enable Delay			100	ns	
Start up Time			10	ms	

## **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/hiflex-xo/?part=NX701

For test circuit go to: http://www.pericom.com/pdf/sre/tc 6pcmos.pdf

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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



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