

**3.3V CMOS Low-Jitter 2.048 MHz VoIP XO**

**FNGEPO002**



7.0 x 5.0mm Ceramic SMD

**ASSP XO™ for Networking**



**Product Features**

- Very low Pk to Pk jitter - 50ps Max
- Low output current - 15mA Max
- Low power standby mode
- RoHS Compliant

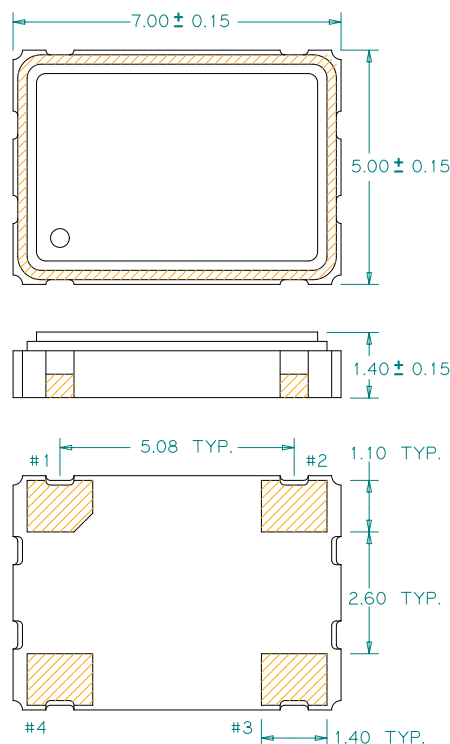
**Product Description**

This is an enhanced 3.3V, 2.048MHz crystal clock oscillator with superb jitter and low operating current for reference clock applications in VoIP Gateway applications.

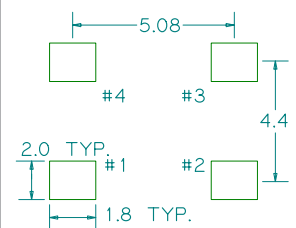
**Applications**

- PON VoIP Gateway

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



Recommended Land Pattern:



**Pin Functions:**

Pin	Function
1	OE Function
2	Ground
3	Clock Output
4	V <sub>DD</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:**

**FNGEPO002**

### Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency		2.048		MHz	
Supply Voltage V <sub>DD</sub>	2.97	3.3	3.63	V	
Supply Current, Output Enabled			15	mA	
Supply Current, Output Disabled			10	μA	
Frequency Stability			±50	ppm	See Note 1 below
Operating Temperature Range	-20		+70	°C	
Output Logic 0, V <sub>OL</sub>			10% V <sub>DD</sub>	V	
Output Logic 1, V <sub>OH</sub>	90% V <sub>DD</sub>			V	
Output Load			15	pF	
Duty Cycle	45		55	%	Measured 50% V <sub>DD</sub>
Rise and Fall Time			7	ns	Measured 20/80% of waveform
Jitter, pk-pk			50	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>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
Internal Pullup Resistance	30			kΩ	
Output Disable Delay			50	ns	
Output Enable Delay			2	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/assp-xo/?part=FNGEPO002>

For test circuit go to: [http://www.pericom.com/pdf/sre/tc\\_hcm05.pdf](http://www.pericom.com/pdf/sre/tc_hcm05.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)