

### 3.3V CMOS Low-Jitter 155.52 MHz GPON XO

# SXGPON155



7.0 x 5.0mm Ceramic SMD

## ASSP XO™ for Networking



### Product Features

- Very low phase jitter - 0.5ps RMS
- Thicker crystal for improved reliability
- Low output current - 20mA max.
- Industrial Temperature Range
- Pb-free & RoHS compliant

### Product Description

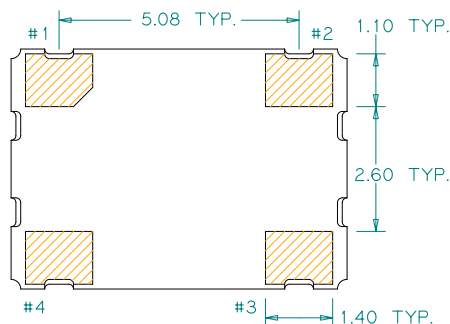
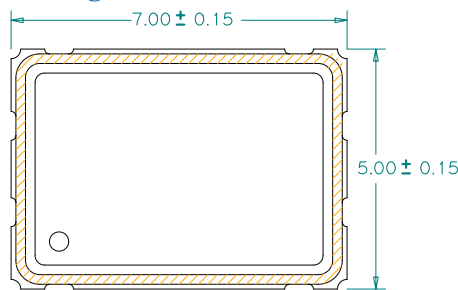
This is an enhanced high-frequency 3.3V, 155.52MHz crystal clock oscillator with superb jitter and low operating current for Gigabit Passive Optical Network (GPON) applications.

The output clock signal, generated internally with a patented oscillator design, is compatible with LVCMOS logic levels.

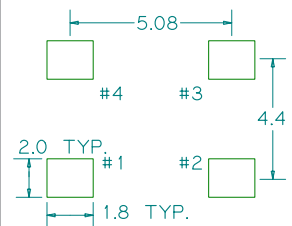
### Applications

- GPON Optical Network Unit (ONU)
- GPON Optical Line Termination (OLT)
- GPON Gateway

### Package:



### 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:

**SXGPON155**

### Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency		155.52		MHz	
Supply Voltage	2.97	3.3	3.63	V	
Supply Current, Output Enabled			20	mA	
Supply Current, Output Disabled			10	mA	Output Hi-Z
Frequency Stability			±50	ppm	See Note 1 below
Operating Temperature Range	-40		+85	°C	Industrial
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			2	ns	Measured 20/80% of waveform
Jitter, Phase RMS (1-σ)		0.25	0.5	ps	12kHz to 20 MHz frequency band
Jitter, pk-pk		30	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	2.2			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.8	V	Output is Hi-Z
Internal Pullup Resistance	50			kΩ	
Output Disable Delay			100	ns	
Output Enable Delay			1	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/timing/oscillators/SXGPON155/>

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

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

For typical phase noise go to: [http://www.pericom.com/pdf/sre/pn\\_SXGPON155.pdf](http://www.pericom.com/pdf/sre/pn_SXGPON155.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)