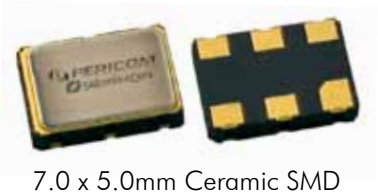
PERICOM
SaRonix-eCera

ASSP VCXO

Application Specific Voltage Controlled Crystal Oscillator 7.0 x 5.0mm

3.3V PECL 156.25MHz Ethernet VCXO

PRETHE156



7.0 x 5.0mm Ceramic SMD

ASSP VCXO™ for Ethernet

Product Features

- Very low Pk to Pk jitter - 40ps Max
- Low supply current - 70mA Max
- Low power standby mode
- RoHS Compliant

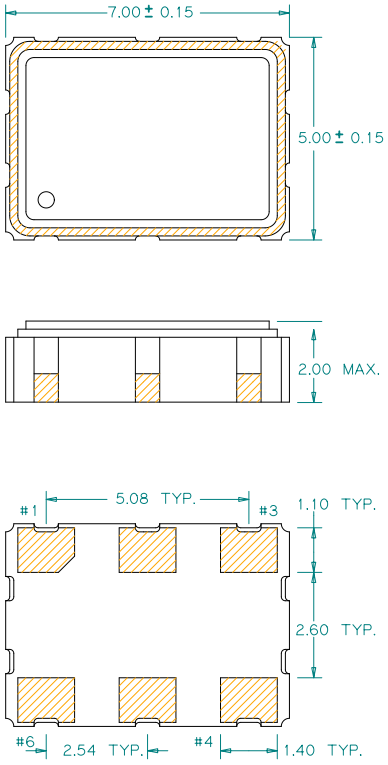
Product Description

This is an enhanced 3.3V, 156.25MHz with superb jitter and low operating current for providing clock references in ethernet applications.

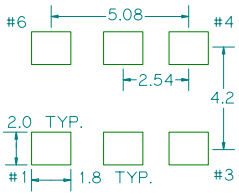
Applications

- Ethernet

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



Recommended Land Pattern:



Pin Functions:

Pin	Function
1	Control Voltage
2	Enable/Disable
3	Ground
4	Output
5	$\overline{\text{Output}}$
6	V_{CC}

*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:

PRETHE156

PERICOM SaRonix-eCera

ASSP VCXO

Application Specific Voltage Controlled Crystal Oscillator 7.0 x 5.0mm

Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency		156.250		MHz	
Supply Voltage V_{CC}	3.135	3.3	3.465	V	
Supply Current, Output Enabled			70	mA	
Frequency Stability			±42	ppm	See Note 1 below
Operating Temperature Range	-40		+85	°C	
Output Logic 0, V_{OL}			V_{CC} - 1.62	V	
Output Logic 1, V_{OH}	V_{CC} - 1.025			V	
Output Load		50		ohms	From outputs V_{CC} - $2V_{DC}$
Duty Cycle	45		55	%	Measured 50% V_{CC}
Rise and Fall Time			0.8	ns	Measured 20/80% of waveform
Jitter, Phase RMS(1-σ)			1	ps	12kHz~20MHz Frequency Band
Jitter, Peak to Peak (Pk-Pk)			40	ps	100.000 Random Periods
Phase Noise		-50		dBc/Hz	at 10Hz offset
Phase Noise		-85		dBc/Hz	at 100Hz offset
Phase Noise		-115		dBc/Hz	at 1kHz offset
Phase Noise		-130		dBc/Hz	at 10kHz offset
Phase Noise		-140		dBc/Hz	at 100kHz offset

Notes:
1. Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (5 year at +40°C average effective ambient temperature), shock and vibration.
2. For specifications other than those listed, please contact sales.

Voltage Control Function

Parameter	Min.	Typ.	Max.	Units	Notes
Absolute Pull Range (APR)	±50			ppm	See 1 below
Control Voltage Range	0.3		3.0	V	As rated
Center Control Voltage		1.65		V	For RMT Nominal Frequency
Monotonic Linearity			10	%	Positive Transfer Slope
Input Impedance	130			kΩ	Control Voltage Pin

1. APR is relative to the nominal output frequency; APR is inclusive of frequency deviation due to stability.

Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (pin 2), Output Enable			V_{OH}	V	or open
Input Voltage (pin 2), Output Disable (low power standby)	V_{OL}			V	Output is Hi-Z

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=PRETHE156

For test circuit go to: http://www.pericom.com/pdf/sre/tc_vc_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.pd

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Diodes Incorporated:

PI2SSD3212NCE FQ2500016 NX7032C0200.000000 PXA000010 FN2500246 FN1000064 NX7031E0125.000000 FN2500149 FN5000138 FN5000145 FX0800015 FN5000121 FNA000065 PXC500007 JT2553P0016.369000 FP0800018