



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

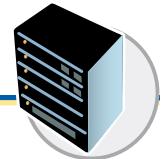
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3.3V PECL Low Jitter 159.375MHz 10GbE XO
PD10GE159


5.0 x 3.2mm Ceramic SMD

ASSP XO™ for Networking

Product Features

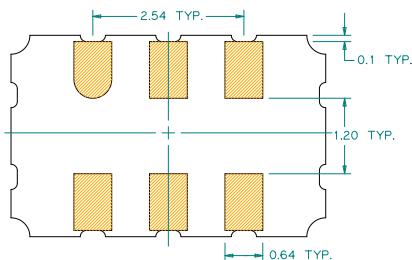
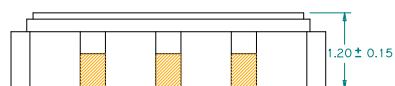
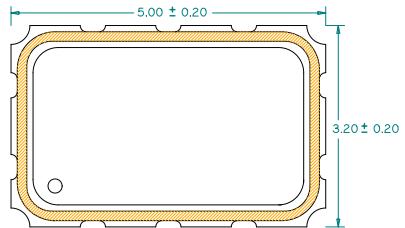
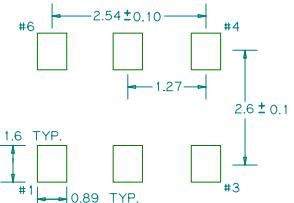
- Very low phase jitter
- Thicker crystal for improved reliability
- Pb-free & RoHS compliant
- Industrial temperature range

Product Description

The PD Series 3.3V, 159.375MHz crystal clock oscillator achieves superb jitter for 10GbE applications. The output clock signal, generated internally with a custom oscillator design, is compatible with LVPECL logic levels. The device, available on tape and reel, is contained in a 5.0 x 3.2mm surface-mount ceramic package.

Applications

- 10 Gigabit Ethernet Network Interface Card (NIC)
- 10 Gigabit Ethernet Switch/Router
- 10 Gigabit Ethernet PHY Module
- Serial Attached iSCSI

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

Recommended Land Pattern:

Pin Functions:

Pin	Function
1	OE Function
2	N/C
3	VEE
4	OUT
5	$\overline{\text{OUT}}$
6	VCC

*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:
PD10GE159

Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency		159.375		MHz	
Supply Voltage	2.97	3.30	3.63	V	
Supply Current, Output Enabled			80	mA	
Supply Current, Output Disabled			30	µA	
Frequency Stability			±50	ppm	See Note 1 below
Operating Temperature Range	-20		+70	°C	
Output Logic 0, VOL			V _{CC} - 1.620	V	
Output Logic 1, VOH	V _{CC} - 1.025			V	
Output Load	50Ω to V _{CC} - 2V				output requires termination
Duty Cycle	45		55	%	Measured 50% waveform
Rise and Fall Time			1.0	ns	Measured 10/90% of waveform
Jitter, Phase RMS (1-σ)			1.0	ps	12 kHz 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 (5 year at 40°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 _{CC}			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.3* V _{CC}	V	Outputs disabled to Hi-Z
Output Disable Delay			200	ns	
Output Enable Delay			2	ms	
Internal Pull Up Resistance		50		kΩ	

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=PD10GE159>

For test circuit go to: http://www.pericom.com/pdf/sre/tc_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_5032_xo.pdf