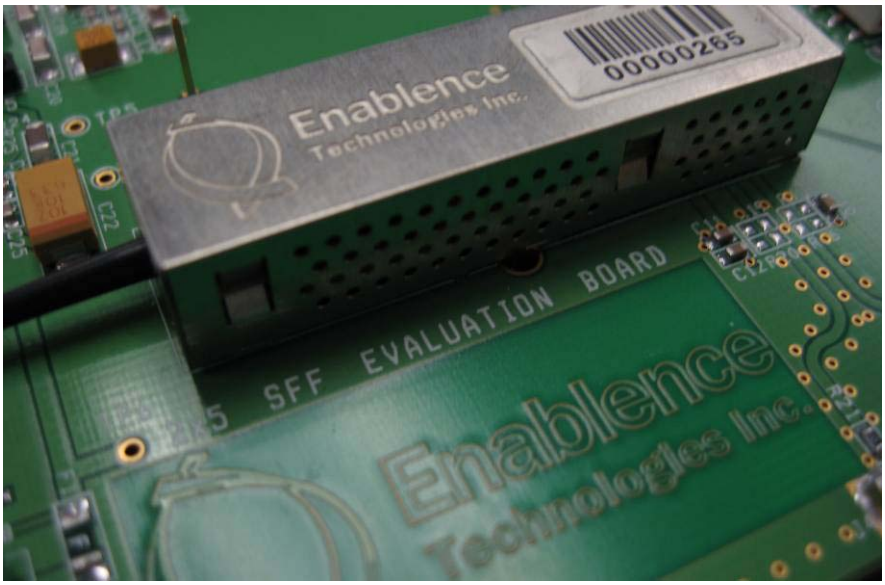
Enablence
Optical Components & Subsystems

Preliminary Data Sheet (Subject to Change)

GE-PON PX20 Diplexer Transceiver

FEATURES

- 2 port bi-directional diplexer transceiver (1310nm Tx, 1490nm Rx)
- PLC-based integration for low cost and high performance
- Burst mode transmitter (1.244 Gb/s)
- Continuous mode receiver (1.244 Gb/s)
- Compliant with IEEE 802.3ah GE-PON
- Available in both commercial and industrial temperature ranges (0 to 70°C, or -40 to 85°C)

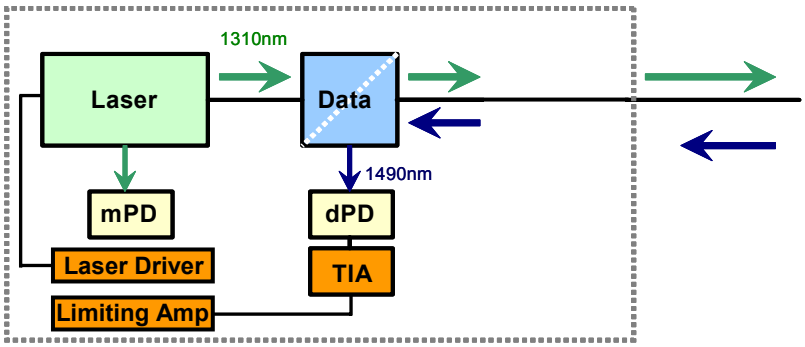


DESCRIPTION

The GE-PON Diplexer Transceiver combines a unique PLC filter platform with integrated photodetectors and a high performance laser diode. The passive integration and high-volume manufacturing processes result in a low cost, small form factor product. The PX20 module is optimized for links up to 20 km.

The fully integrated PLC-based Transceiver includes an upstream 1310 nm DFB laser with power monitor, and a downstream 1490 nm digital receiver with on-board TIA. The transceiver is available in a pigtailed SFF package.

The Transceiver is available for GE-PON applications operating at 1.25 Gb/s Rx, and 1.25 Gb/s burst mode Tx. GE-PON Diplexer OSA products are also available.



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Absolute Maximum Ratings

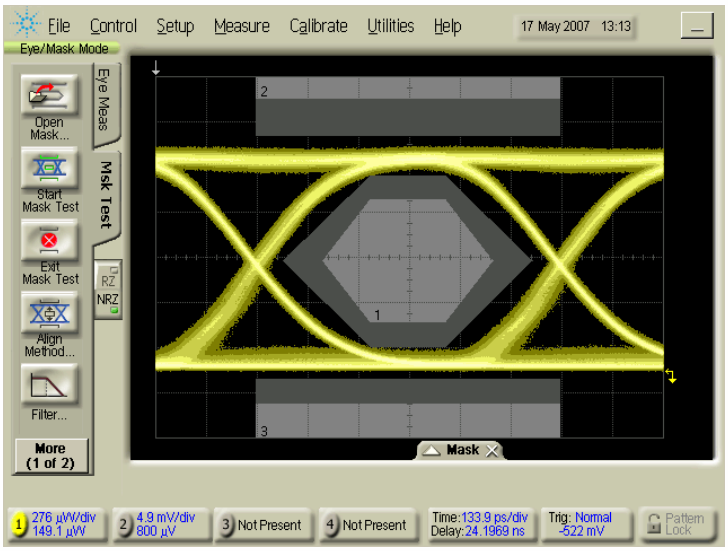
Parameter	Symbol	Min	Max	Unit
Maximum Supply Voltage	V_{CC}	0	5	V
Storage Temperature	T_{STC}	-40	85	°C
Operating Temperature (Commercial)	T_{OPC}	0	70	°C
Operating Temperature (Industrial)	T_{OPC}	-40	85	°C
Fiber Pull Strength		10		N
Lead Soldering Temperature	T_s		260/10	°C/s

Digital Section: Electrical and Optical Characteristics

Parameter		Condition	Specifications			Unit
			Min	Typ	Max	
Bit rate (up/down)				1244		Mb/s
Supply Voltage			3.14	3.3	3.46	V
Tx	Operation Wavelength	-40°C - 85°C	1290	1310	1330	nm
	Spectral width	CW			1	nm
	Average Output Power		-1		4	dBm
	Extinction Ratio		8		14	dB
	Tracking Error			±1	±1.5	dB
	Output Eye	Compliant with IEEE 802.3ah Tx eye mask				
Rx	Operation Wavelength		1480	1490	1500	nm
	Optical Sensitivity [1)]	BER@10^{-10}			-26.5	dBm
	Optical Overload	Average Power			-8	dBm

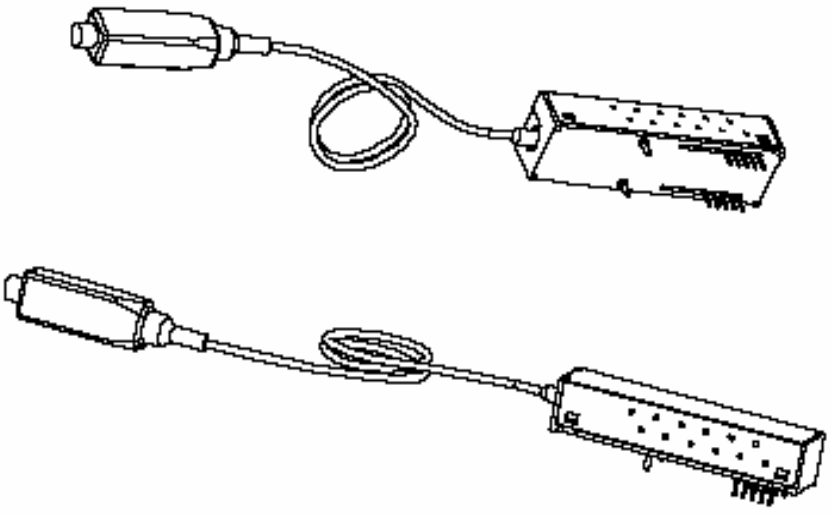
1) Sensitivity is measured at 1244 Mb/s PRBS 2^{23}-1, NRZ

Transmitter Eye Diagram: 1.25 Gb/s



(Shows 10k waveforms with 50% mask margin)

Mechanical Outline (SFF Package – 2x5 pins)



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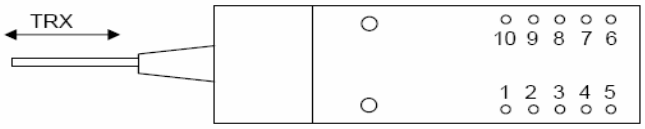
Package Pinout (SFF Package – 2x5 pins)



TOP VIEW

Pin#	Pin Name	Symbol	Description
1	Rx Ground	Veer	Connects to the receiver internal ground plane
2	Rx Power Supply	Vccr	Connects to the receiver internal power supply (3.3V)
3	Rx Signal Detect	SD	LVTTL Output. Asserted for Rx signal present Deasserted for Rx Signal Absent
4	Rx Data Out Inverted	RD-	LVPECL Output : Received Data Inverted
5	Rx Data Out Non-inverted	RD+	LVPECL Output : Received Data Non-inverted
6	Tx Power Supply	Vcct	Connects to the transmitter internal power supply (3.3V)
7	Tx Ground	Veet	Connects to the transmitter internal ground plane
8	Tx Burst Enable	TX_BRST	LVTTL Input: Transmitter Data Burst Enable
9	Tx Data In Non-inverted	TD+	LVPECL Input : Transmit Data Non-inverted
10	Tx Data In Inverted	TD-	LVPECL Input : Transmit Data Inverted

About Enablence

Enablence Technologies Inc., (TSX-V: ENA) a publicly traded company, designs, manufactures and sells optical components, subsystems and systems to a global customer base. With corporate headquarters in Ottawa, Ontario, Canada, the company now owns Albis Optoelectronics, Wave7 Optics and ANDevices. The company, through its FTTx Networks Division provides its TRIDENT 7™ Universal Optical Line Terminals (OLTs), Optical Network Terminals (ONTs), and the TRIDENT 7™ Element Management System. Its Optical Components & Subsystems Division provides FTTx access products such as integrated Triplexers, Diplexers for BPON, GPON and GePON standards and splitters. AWG Chips/Modules, Optical Channel Monitors, VMUX, TODC and Photodetectors are offered for the metro and the long haul markets. Many of the company's component products apply its proprietary Planar Lightwave Circuit (PLC) technology to multiple components into a single optical chip to address the global rollout of Fiber-to-the-Home (FTTH).