

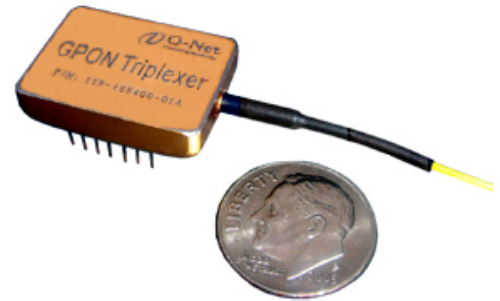
PON OPTICAL BLOCK

Features

- Integrated optics for Tx/Rx1(/Rx2) operation at 1310/1490(/1550)nm
- FSAN G.984.2/ FSAN G.985.4 or IEEE802.3ah specifications compliant
- Telcordia GR-468-CORE and ROHS compliant
- Hermetically sealed chips
- Up to 1.25Gbps 1310nm FP/DFB laser diode emitter
- Up to 2.5Gbps 1490nm PIN/APD digital receiver
- High linearity 1550nm analog receiver
- High output power, compact package

Applications

- PON ONT system
- FTTx network



Specifications (Example: GPON Triplexer with DFB laser & APD FSAN G.985.4 compliant)

Transmitter Characteristics

Parameter	Specification	Unit
Center Wavelength (CW)	1310	nm
Operating Wavelength Range	±20	nm
Data Transmitter Speed	1.25	Gbps
Optical Output Power (CW, If=Ith+20mA)	0.5~5 (Typ 3)	dBm
Side Mode Suppression Ratio (CW, If=Ith+20mA)	Min 30	dB
Spectral Width (CW, If=Ith+20mA)	Typ 0.32	nm
Threshold Current (at 25°C, CW)	Max 30 (Typ 10)	mA
MPD Current (VrP=5V, If=Ith+20mA)	0.1~1.5	mA
Tracking Error (over -40°C~+85°C)	-1.5~+1.5	dB

Digital Receiver Characteristics

Parameter	Specification	Unit
Center Wavelength (CW)	1490	nm
Operating Wavelength Range	±10	nm
Data Receiver Speed	2.5	Gbps
Sensitivity (BER 10 ⁻¹⁰)	Max -28 (Typ -30)	dBm
Capacitance (C)	Max 0.5 (Typ 0.4)	pF
Breakdown Voltage (V _b)	40~60 (Typ 50)	V

Analog Receiver Characteristics (Only for Triplexer)

Parameter		Specification	Unit
Center Wavelength (CW)		1555	nm
Operating Wavelength Range		±5	nm
Dark Current	Max	10	nA
Bandwidth (3dB)	Typ	2000	MHz
Responsivity	Min	0.85 (Typ 0.95)	A/W
IMD2	Min	-70	dBc
IMD3	Min	-80	dBc

Optical Characteristics

Parameter		Specification	Unit
Isolation, 1550 Video to 1490 Rx (only for Triplexer)	Min	40	dB
Isolation, 1490 data to 1550 Rx (only for Triplexer)	Min	40	dB
Isolation, 1550 Video to 1310 Tx (only for Triplexer)	Min	40	dB
Isolation, 1490 data to 1310 Tx	Min	40	dB
Crosstalk, 1310 Tx to 1550 Rx (only for Triplexer)	Max	-47	dB
Crosstalk, 1310 Tx to 1490 Rx	Max	-47	dB
Digital Rx 1480-1500nm band pass filter Isolation ¹	$\lambda < 1450$ and $\lambda > 1530$	20	dB
	$\lambda < 1441$ and $\lambda > 1539$	35	dB
VRx 1550-1560 nm Band pass filter isolation ¹ (only for Triplexer)	$\lambda < 1530$ and $\lambda > 1574$	30	dB
Optical Return Loss @1490nm	Max	-20	dB
Optical Return Loss @1550nm (only for Triplexer)	Max	-30	dB

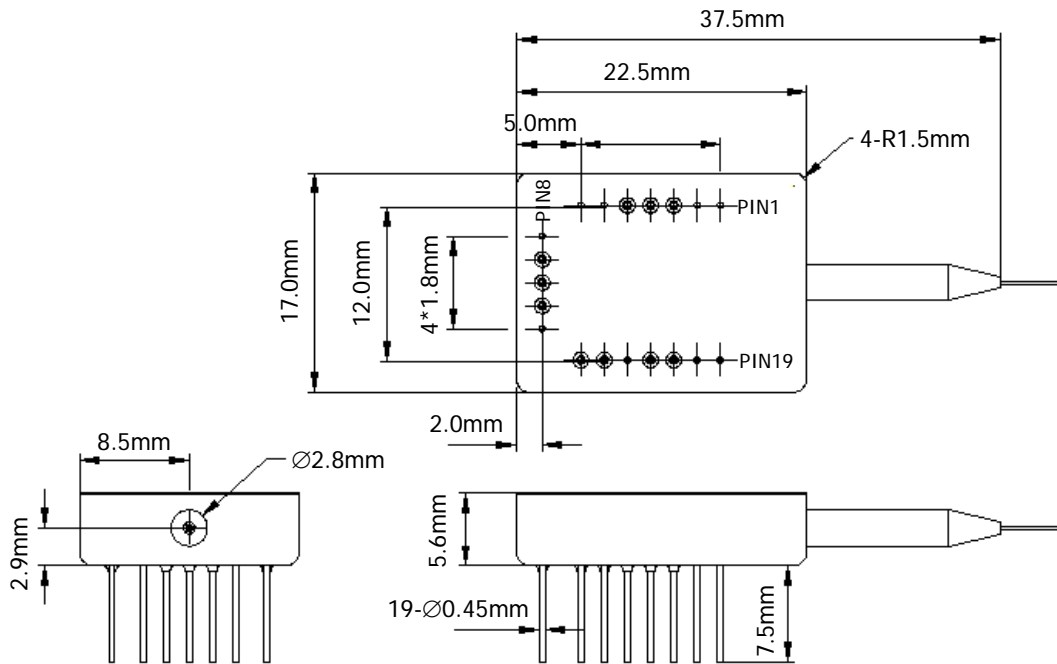
Note:

1. Only for FSAN G985.4 compliant component.

PIN Definition

PIN No.	Function	PIN No.	Function
1	NC	11	LD (-)
2	NC	12	NC
3	1550 (+) (only for Triplexer)	13	Vcc
4	1550 (-) (only for Triplexer)	14	1490 (+)
5	GND	15	GND
6	NC	16	1490 (-)
7	NC	17	V _{APD} (APD digital receiver)
8	NC		MON (PIN digital receiver)
9	MPD (+)	18	NC
10	LD (+) MPD (-)	19	NC

Dimension



Other Specifications

Parameter	Specification	Unit
Fiber Pigtail Type	SMF-28 or equivalent, 900µm or 250µm	
Package Dimension (L*W*H)	22.5*17*5.6	mm

Order Information

The above specifications represent the typical performance of O-Net Triplexer. Please contact our technical representatives to discuss your specific requirements.