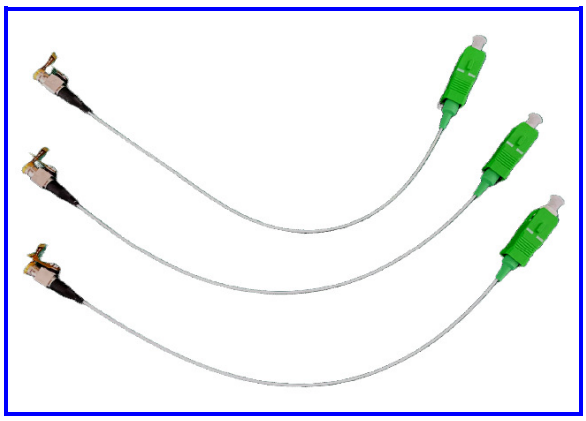
XGSPON-ONU BOSA
TX-1270/RX-1577 10Gbps Bi-direction Pigtail Type Module



Features

- 1270nm InGaAsP MQW-DFB laser diode
- InGaAsP APD with TIA
- Uncooled, hermetically sealed TX and RX
- Built –in free space isolator
- Fiber pigtail type with SC/APC connector

Applications

- XGSPON

Ordering Information

Part Number	TX	RX	Connector	Operating temperature
BDA-2757-PI3C-DFX	1270 nm	1577 nm	SC/APC	0°C ~ +70°C
BDA-2757-PI3I-DFX	1270 nm	1577 nm	SC/APC	-40°C ~ +85°C

Specifications

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Storage temperature	T_{stg}	-40~+85	℃
Laser forward current	I_f	100	mA
Reverse voltage (LD)	V_{RL}	2	V
Forward current (MPD)	I_{FP}	2	mA
Reverse voltage (MPD)	V_{RP}	20	V
Soldering temperature (10 sec.)	S_{temp}	260	℃

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Transmitter Electro-optical Characteristics (T=25℃, unless otherwise specified)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Threshold current	I_{th}	CW	-	-	15	mA
Center Wavelength	λc	I_{th} +20mA	1260	1270	1280	nm
Fiber output power	P_f	CW, I_{th} +20mA	2.2	-	5.0	mW
Slope efficiency	Se	CW	0.11	-	0.25	W/A
Operating voltage	V_{op}	I_{th} +20mA	-	-	1.5	V
Side mode suppression ratio	SMSR	CW, I_{th} +20mA	30	-	-	dB
Spectral width	Δλ	CW, I_{th} +20mA	-	-	1	nm
Tracking error	$\triangle P_f / P_f$	APC , -40℃~+85℃, I_{th} +20mA	-1.5	-	1.5	dB
Monitor current	I_m	I_{th} +20mA	100	-	1500	μA
Monitor dark current	I_d	V_{RP} =5V	-	-	100	nA
Optical Return Loss	ORL	1270nm	-	-	-10	dB

Receiver Electro-optical Characteristics (T=25°C, unless otherwise specified)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Power Supply	Vcc		3.0	3.3	3.6	V
Supply Current	Icc		-	27	38	mA
APD Breakdown Voltage	Vbr	Id = 10uA	32	-	45	V
Operating Wavelength	λ		1575	1577	1580	nm
Responsivity	R	Vapd=Vbr-3.5V	6	-	-	A/W
Sensitivity	S	Note 1	-	-	-30	dBm
Saturation Power	P_{sat}	Note 1	-7	-	-	dBm
Crosstalk	Xopt		-	-	-40	dB
Optical isolation	ISO	λ = 1260nm~1560nm λ = 1595nm~1675nm	30	-	-	dB
Output impedance	Rout		40	50	60	Ω
Optical Return Loss	ORL	1577nm	-	-	-20	dB

Note1: λ=1577nm, Vapd=Vbr-3.5V, Extinction Ratio=9dB, 9.953Gbps, PRBS 2^{31}-1, BER=1×10^{-3}

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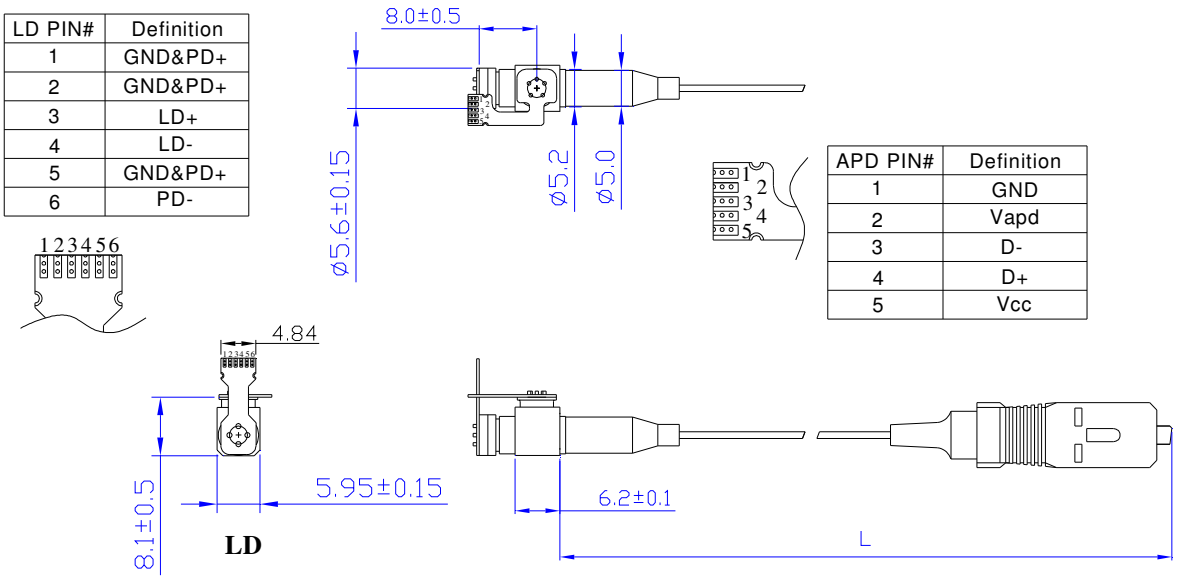
Package Outline Drawing

APD-TIA

LD PIN#	Definition
1	GND&PD+
2	GND&PD+
3	LD+
4	LD-
5	GND&PD+
6	PD-

APD PIN#	Definition
1	GND
2	Vapd
3	D-
4	D+
5	Vcc



Unit : mm

Pigtail length, FPC dimension and pinout can be customized.

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