



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
- RoHs compliant
- Operation Temperature: -10~85°C

Ordering Information

Part Number	TX	RX	Connector	Note
BDA-2757-PI3X-DFX-ZX	1270 nm	1577 nm	SC/APC	

Key Components List

Component	Vendor	P/N
LD	Litecore	BDE2721A2E
APD	XSJ	XSJ-10-APD5-40ZS
TIA	Semtech	GN7069

Specifications

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Storage temperature	T _{stg}	-40~+85	°C
Operating case temperature	T _{op}	-10~+85	°C
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}	15	V
Soldering temperature (10 sec.)	S _{temp}	260	°C

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

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Threshold current	I_{th}	CW	-	-	15	mA
		CW, T=85°C			45	
Center Wavelength	λ_c	$I_{th} + 20mA$, T=-10°C~+85°C	1260	1270	1280	nm
Fiber output power	P_f	$I_{th} + 20mA$, T=25°C	2.6	-	6.0	mW
		$I_{th} + 20mA$, T=85°C	1.3			
Slope efficiency	Se	CW	0.13	-	0.30	W/A
Operating voltage	V_{op}	$I_{th} + 20mA$	-	1.2	1.7	V
Side mode suppression ratio	SMSR	CW, $I_{th} + 20mA$ T=-10°C~+85°C	30	-	-	dB
Spectral width	$\Delta\lambda$	CW, $I_{th} + 20mA$	-	-	1	nm
Tracking error	$\Delta P_f / P_f$	APC, -10°C~+85°C, $P_f=2.6mW$	-1.5	-	1.5	dB
Monitor current	I_m	$I_{th} + 20mA$	100	-	1200	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	V_{cc}		2.97	3.3	3.63	V
Supply Current	I_{cc}		-	-	45	mA
APD Breakdown Voltage	V_{br}	$I_d = 10\mu A$	25	-	50	V
Operating Wavelength	λ		1575	1577	1580	nm
Sensitivity	S	Note 1(T=25°C) T=-10°C~+85°C	-	-	-29.5 -28	dBm
Saturation Power	P_{sat}	Note 1	-7	-	-	dBm
Crosstalk	X_{opt}	$\lambda = 1270nm$	-	-	-40	dB
Optical isolation	ISO	$\lambda = 1260nm \sim 1560nm$ & $\lambda = 1595nm \sim 1675nm$	30	-	-	dB
Optical Return Loss	ORL	1577nm	-	-	-20	dB

Note1: $\lambda=1577nm$, $V_{apd}=V_{br}-3V$, Extinction Ratio=9dB, 9.953Gbps, PRBS 2³¹-1, BER=1×10⁻³

Package Outline Drawing

Unit : mm

