



10G XGS-PON ONU BOSA with pigtail

Features:

- High-stability 9.95328Gbps1270nm DFB laser
- Low threshold current
- High reliability
- High sensitive 9.95328Gbps APD-TIA
- -20°C to 85°C operating temperature
- RoHS compliant

Applications:

- XGS-PON ONU FTTx application.

Specifications:

Absolute Maximum Ratings (Tc=25°C, unless otherwise noted)

Parameter	Symbol	Min	Max.	Unit
LD Reverse Voltage	$V_{r(LD)}$	--	2	V
LD Forward Current	$I_{f(LD)}$	--	120	mA
MPD Forward Current	$I_{f(MPD)}$	--	2	mA
MPD Reverse Voltage	$V_{r(MPD)}$	--	15	V
TIA Supply Voltage	V_r	-0.4	4	V
APD Reverse Voltage	$V_{r(APD)}$	--	V_{br}	V
Operating Temperature	T_{op}	-20	85	°C
Storage Temperature	T_{stg}	-20	85	°C
Lead Solder Temperature	--	--	260	°C
Lead Soldering Time	--	--	10	s
Storage Relative Humidity	--	--	85	%
Electric static discharge(HBM)	--	--	200	V

Transmitter Optical& Electrical Characteristics(Tc=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Data rate	DR	-20~85°C	9.95328			Gb/s
Threshold Current	I _{th}	Tc=25°C	--	8	15	mA
		Tc=85°C	--	--	45	
Forward Voltage	V _f	I _{op} =I _{th} +20mA	--	1.2	1.7	V
Monitor Current(MPD)	I _m	I _{op} =I _{th} +20mA	100	--	1500	uA
Dark Current(MPD)	I _d	V _r =5V	--	--	100	nA



Optical Output Power	Po	CW, I _{op} =I _{th} +20mA, 25°C	2.5	--	5	mW
		CW, I _{op} =I _{th} +20mA, -20~85°C	1.2	--	6	
Slope efficiency	SE	CW, I _{op} =I _{th} +20mA, 25°C	0.120	--	0.250	mW/mA
		CW, I _{op} =I _{th} +20mA, -20~85°C	0.080	--	0.300	
Central Wavelength	λ _c	25°C, I _{op} =I _{th} +20mA	1260	1270	1280	nm
Spectral Width , -20dB	Δλ	I _{op} =I _{th} +20mA, T=- 20~85°C	--	0.3	1	nm
Side-mode suppression Ratio	SMSR	25°C, I _{op} =I _{th} +20mA	30	40	--	dB
Tracking Error	TE	I _{op} =I _{th} +20mA, -20°C~85°C	-1.5	--	+1.5	dB
Optical Return Loss	ORL	@1270nm	--	--	-12	dB

Receiver Optical& Electrical Characteristics(Tc=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Data rate	DR	-20~85°C	9.95328			Gb/s
Operating Voltage	V _{cc}	--	2.97	3.3	3.63	V
Supply current	I _{cc}	V _{cc} =3.3V, No loads	--	--	70	mA
Operating Wavelength	λ _c	--	1575	1577	1580	nm
Responsivity	R	25°C, 1577nm, M=1	0.6	--	--	A/W
Sensitivity	Sen	9.95328Gbps, PRBS31, 1577nm, ER>8.2dB, BER=1E-3, NRZ	--	--	-29.5	dBm
		9.95328Gbps, PRBS31, 1577nm, ER>8.2dB, BER=1E-12, NRZ	--	--	-24	dBm
Overload	OL	1577nm, ER>8.2dB, BER=1E-12, NRZ	-7	--	--	dBm
APD Dark Current	I _d	V _{op} =V _{br} -2	--	--	100	nA
Breakdown Voltage	V _{br}	I _{op} =10uA	20	--	49	V
Optical Return Loss	ORL	@1577nm	--	--	-20	dB
APD Operating Voltage	V _{apd}		--	V _{br} -2	V _{br} -1	V
Optical Crosstalk	Xtalk	1270nm Internal Laser	--	--	-40	dB
Optical isolation from external source at RX	ISO1	λ=1260~1560nm	30	--	--	dB



Optical isolation from external source at RX	ISO2	$\lambda=1595\sim 1660\text{nm}$	30	--	--	dB
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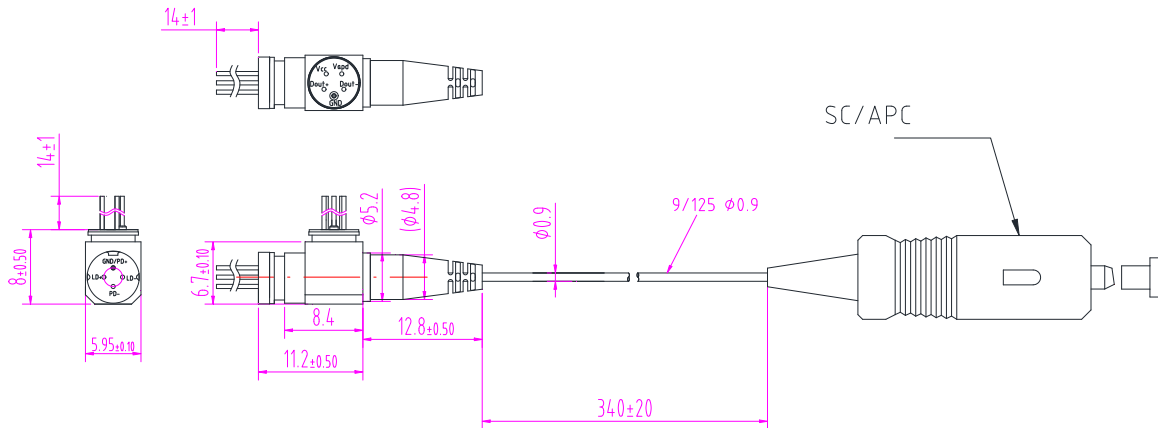
Package

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Fiber Mode Field Diameter	--	Single mode fiber	8	9	10	um
Pigtail Length	L	From XY welding plane to the end of connector	320	340	360	mm
Pigtail end-face	--	The angle of the pigtail end-face inside the BOSA metal housing	8.8 or 6			degree
Fiber Bend Radius	--	Single mode fiber	30	--	--	mm

Key Materials:

Materials	Part Number	Supplier
LD chip	CLD-DDD0E(小发散角)	云岭
	YJC-D1270-10-E-M1	源杰
APD chip	OS-APD1040B	光森
TIA	GNA4301	明夷

Outline Diagram and Pin Assignment (Unit:mm)





Order Information:

BOSA 10G XGS-PON 1270DFB-1577APT — 0.34m — SC/APC

<u>Fiber Length</u> 340±20mm	<u>Connector Type</u> SC/APC
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