PICadvanced

XG-PON ONU BOSA with SC-APC Pigtail

PA-XGPON-ONU-BOSA-IT-250

Revision 1

Revision History

Revision #	Description	Date
1	Initial release	November 2018

Features

- Single fiber bi-directional data links with asymmetric data rate.
    - DFB 1270 nm laser diode as 2.5 Gb/s transmitter.
    - APD 1577 nm with amplifier TIA as 9.95Gb/s receiver.
- Single mode fiber package with Pigtail SC/APC connector.
- Compliant with ITU-G.987.2
- Excellent Reliability
- Operation Temperature: -40℃ ~ 85℃

Product Applications

- XG-PON ONU

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Reverse Voltage (LD)	V_{RL}	-	2	V
Forward Current (LD)	I_{FL}	-	120	mA
Reverse Voltage (MPD)	V_{RPD}	-	15	V
APD Supply Voltage	V_{PD}	-	V_{BR}	V
Forward Current (MPD)	I_{MPD}	-	2	mA
TIA Supply Voltage	V_{CC}	-0.5	+3.8	V
APD Reverse Current	I_R	-	2	mA
Operating Case Temperature	T_C	-10	+85	ºC
Storage Temperature	T_{STG}	-40	+85	ºC
Lead Soldering Temperature (Maximum 10sec)	T_S	-	260	ºC
Lead Soldering Time			10	S

Transmitter

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Threshold Current	Ith	-	13	15	mA	CW, TC=25ºC
		-	-	45		CW, TC=85ºC
Fiber Output Power	Pf	2	-	5	mW	CW, TC=25ºC, I=Ith+20mA
Slope Efficiency	η	0.1	-	0.25	mW/ mA	Kink free, Tc=25ºC
Operating Voltage	Vop	--	--	1.6	V	CW, Iop=Ith+20mA
Rise/Fall Time	Tr /Tf	-	-	200	ps	CW, Tc=25ºC Iop=Ith+20mA
Center Wavelength	λ	1260	1270	1280	nm	CW, Iop=Ith+20mA
Wavelength/ Temperature	Dλ/DT	-	-	0.1	nm/ºC	--
Spectrum Width (-20dB)	Δλ	-	-	1	nm	CW, Iop=Ith+20mA
Monitor Current	Im	100	--	1500	μA	CW, Pf = 4dBm
Side mode sup. ratio	SMSR	30	--	--	dB	CW, Iop=Ith+20mA
Tracking Error (CW)	TE	-1.5	-	1.5	dB	--

Receiver

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Supply Voltage	V_{CC}	3.0	3.3	3.3	V	T_C=40ºC~85ºC
Supply Current	I_{CC}	-	32	47	mA	T_C=25ºC
Optical Wavelength	λ	1575	1577	1580	nm	
Sensitivity	Sen.	-	-	-29.5	dBm	9.95Gbps, PRBS2^{23}-1 BER=10^{-3}, ER=6dB, λ=1577, Vop=Vbr-2.5V
Saturation Power	Psat	-8	-	-	dBm	--
APD Breakdown	V_{BR}	25	34	40	V	TC=25℃
APD Vbr Temperature Coefficient	-	-	0.03	-	V/ºC	--
Cross talk	Ct	-		-45	dB	1270nm/1577nm
Optical Return Loss	ORL 1270	10	-	-	dB	λ = 1270nm
	ORL 1577	20	-	-		λ = 1577nm
Optical Isolation from External Source	ISO1	35	-	-	dB	λ = 1260~1563nm
	ISO2	35	-	-	dB	λ = 1600~1675nm

Key Materials

Materials	Type	Vendor
LD	127D-02I-VT5AB	Macom
APD	PD831AH28	Mitsubishi
TIA	NT28L52	Semtech

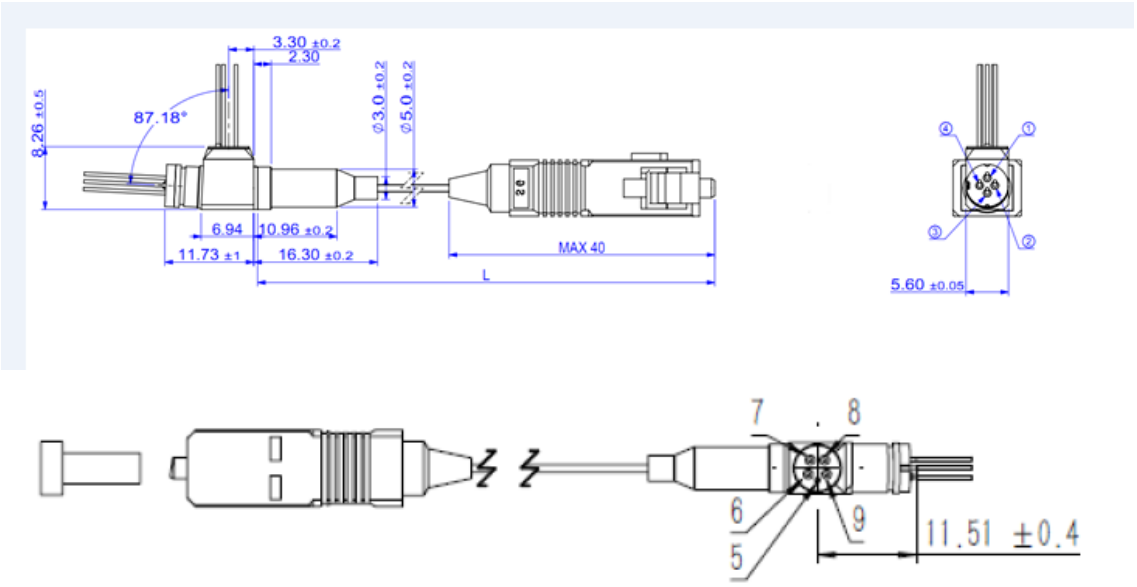
Other information

Parameter name	
Reliability	5 years
Pigtail Connectors	Green SC/APC
Connectors cleanliness requirements	Conform to IPC-8497-1
PIN gold-plated layer thickness	0.1~0.3um

PIN Description

PIN	Description	PIN	Description
1	LD+/PD-	5	GND
2	CASE	6	DOUT+
3	LD-	7	Vcc
4	PD+	8	Vapd
		9	DOUT-

Package Diagram (unit: mm)



Notice

PICadvanced reserves the right to make changes to this product in this specification without notice, in order to improve product performance.

Order information

Please contact PICadvanced for ordering and quotation: global@picadvanced.com