

Features :

- ✓ Laser welded package
- ✓ Single fiber SC/UPC pigtail type
- ✓ Integrated G984.5 compliant WDM Filter
- ✓ High output power uncooled DFB Laser Diode
- ✓ High sensitive PIN-Super TIA
- ✓ ROHS Compliant Products Available

Applications :

- Telecommunication
- Data Communication
- GPON ONU ITU-T G984.5
- FTTH Bi-directional play

Standard :

- Compliant with Telcordia GR-468 reliability test criterion
- Compliant with RoHS6 standard
- Compliant with GR-326 connector qualification standard

—The main photoelectric and environmental indicators of products :

1. Absolute Maximum Ratings (25°C)

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature		-40	85	°C
Operating Case Temperature	Top	-5	75	°C
LD Reverse Voltage	V _{RL}	---	2	V
Photodiode Reverse Voltage (MPD)	V _{RD}	---	15	V
Photodiode Forward Current(MPD)	I _{FD}	---	10	mA
LD Forward Current	I _{FL}	---	150	mA
TIA Operating voltage	V _{CC}	-0.4	4	V
Hand Lead Soldering (Temperature)/(Time)	---	---	260/10	°C/Sec
Pigtail Fiber contact Temperature	---	85	---	°C
Fiber Bending Radius	---	30	---	mm

2. Transmitter Optical And Electrical Characteristics (25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Threshold Current	I _{th}	3	---	15	mA	CW, T _c =25°C
		---	---	45		CW, T _c =-5~75°C,
Output Optical Power	P _f	1.4	---	3.2	mW	CW, I _{op} =I _{th} +20mA T _c =25°C
		1.0	---	---		CW, I _{op} =I _{th} +20mA T _c =-5°C~75°C
Slope Efficiency	SE	0.07	---	0.16	mW/m A	CW, I _{op} =I _{th} +20mA T _c =25°C
		0.05	---	---		CW, I _{op} =I _{th} +20mA T _c =-5°C~75°C
Center Wavelength	λ _p	1290	1310	1330	nm	I _{op} =I _{th} +20mA, T _c =-5°C~75°C
Operating Voltage	V _f	---	1.2	1.5	V	CW, I _{op} =I _{th} +20mA
Spectrum Width (-20dB)	Δλ	---	---	1.0	nm	P _{op} =I _{th} +20mA, T _c =-5°C~75°C

Side Mode Suppression Ratio	SMSR	30	---	---	dB	CW, Pop=lth+20mA, Tc=-5°C~75°C
Rise Time/Fall Time	Tr/Tf	---	---	260	Ps	PF=1.8mW, Extinction Ratio > 10dB, 20%-80%, without filter
Monitor Current	Im	100	---	1000	uA	CW,PF=1.8mW, VRMPD=1.5V, Tc=25C,
Kink Current	I _{kink}	50	---	---	mA	CW, Kink<15%
Monitor Dark Current	Id	---	---	100	nA	Vrd=5V
PD Capacitance	C	---	10	20	pF	Vrd=5V@f=1MHz
Relative Intensity Noise	RIN ₁₂ (OMA)	---	---	-120	dB/Hz	
Tracking Error	TE	-1.5	---	1.5	dB	CW,-5°C /+75°C, ,Montior current hold @ lop = lth + 20 mA

3. Receiver Optical and Electrical Characteristics (25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Operating Wavelength	λ	1480	1490	1500	nm	Tc=-5°C to 75°C
Supply Voltage	Vcc	3.0	3.3	3.6	V	Tc=-5°C to 75°C
TIA Supply Current	Icc	28	32	36	mA	Vcc=3.3V
Sensitivity	Sen.	---	---	-29	dBm	λ =1490nm , NRZ , 2.5Gbps RL=50 Ω , PRBS=2 ²³ -1, ER \geq 10dB,BER \leq 10 ⁻¹⁰ , CW
Overload Power	Pol	-7	---	---	dBm	λ =1490nm ,PRBS=2 ²³ -1, ER=10dB,BER \leq 10 ⁻¹⁰ , @2.5Gbps,
Linearity	L η	---	---	0.75		Pin =Sensitivity~OL
Dark current of Monitor	I _D	---	---	50	nA	Tc=-5; Tc=25°C
		---	---	200	nA	Tc=75°C

Accuracy of Monitor	AccMON	---	---	20	%	Tc=-5~75°C
Upper -3dB Bandwidth	BW	1350	---	---	MHz	CW
Optical Isolation From External Source	ISO1	25	---	---	dB	$\lambda=1260\sim 1360\text{nm}$
						$\lambda=1441\sim 1450\text{nm}$
						$\lambda=1530\sim 1539\text{nm}$
	ISO2	35	---	---	dB	$\lambda=1400\sim 1440\text{nm}$
						$\lambda=1540\sim 1625\text{nm}$
Optical Return Loss	ORL		---	-20	dB	$\lambda=1490\text{nm}$
Optical Crosstalk From Internal Laser	Xopt			-40	dB	1310nm/1490nm

4、ESD $\pm 500\text{V}$ (HBM)

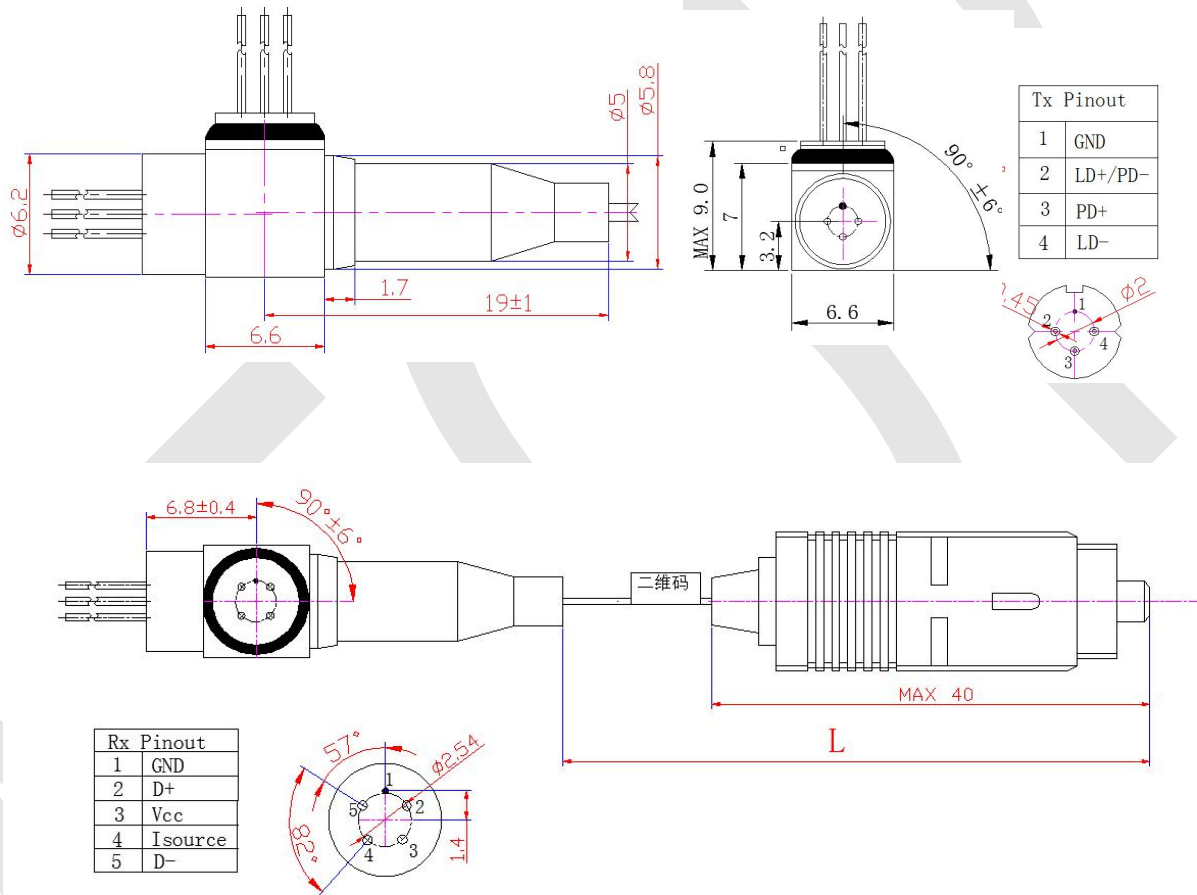
5. RX GND Pin and BOSA BASE satisfies the requirement of insulation

≡ : The mechanical parameters

Parameters	Unit	Conditions	Min.	Max.
The main mechanical size	mm	Reference structure diagram		
The shear strength	N	vertical	300	---
LD drawing force	N	horizontal	300	---
PD drawing force	N	vertical	150	
Holder pull out force	N	horizontal	350	---

≡ . Product structure drawing

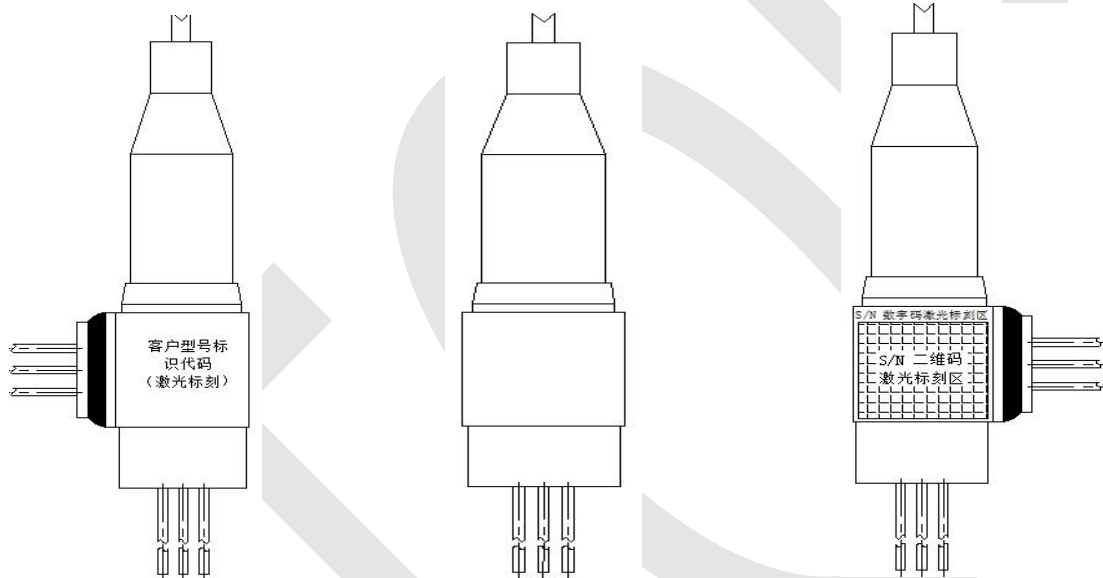
Note : The product BASE adopts MIM structure . The laser welding is used at the TX. Adhesive is used at the RX.



四 . Pigtail Specifications

Parameters	Symbol	Min.	Typ.	Max	Unit	Note
Mode Field Diameter		8	9	10	um	
Gladding Diameter		123	125	127	um	
Optical Connector Insertion loss	IL	---	---	0.4	dB	SC/UPC
Fiber Bending Radius		30	---	---	mm	
Fiber Diameter		0.8	0.9	1.0	mm	
Fiber Length	L	210	---	250	mm	
Tension Force on pigtail fiber		5	---	---	N	
Connector repeatability		-0.5	---	+0.5	dB	Different plug orientation, same fiber, 10 times plug, CW
Connector repeatability		-0.5	---	+0.5	dB	Same plug orientation, 3 fiber, 10 times plug, CW
Connector repeatability		-0.3	---	+0.3	dB	Same plug orientation, same fiber, 10 times plug, CW
Connector color		---	---	---	---	Blue
Color of connector tail-cuff		---	---	---	---	Blue
Fiber color		---	---	---	---	White
Color of coupler tail-cuff		---	---	---	---	Black

五 . Marking



Note : Customer type identification code is customizable,If there is no demand, it is empty.

More information :

Tel: +86-755-86674946

FAX: +86-755-86296723

Email: sales@atoptechnology.com

Web: www.atoptechnology.com