10G DFB TOSA

TA-11 series LC Receptacle

Description

This TA-11 series 10G DFB TOSA (Optical Sub-Assembly) is a high quality LC transmitter, designed for up to 10Gbps data link transmission. This coaxial TOSA is optically aligned to optimize performance and balance the parameter of optical power.

This LC receptacle TOSA uses a TO-can of 1310nm DFB laser diode and a stainless steel receptacle which guarantee good connection with LC connector.

Applications

- 10G OC-192 SFP+, XFP transceivers
- LTE optical repeater application

Features

- Link data rate up to 10.7 Gbps bit rate
- Transmission distance minimum 20km
- 1310nm InGaAsP/InP MQW DFB uncooled laser diode with InGaAs monitor photodiode (MPD)
- Uniform optical output power with high coupling efficiency
- Optional Flex PCB
- Anti-reflection design with built-in free space isolator
- -40 to +85°C industrial temperature operation range
- Excellent temperature dependent power tracking error
- LC receptacle with single mode fiber stub and split sleeve

Standard

- ITU-T SONET/ SDH OC-192/ STM-64LR1
- IEEE802.3ae communication protocol
- Compliant with Telcordia GR-468 reliability test criterion
- Compliant with RoHS6 standard

地址: 深圳市光明新区甲子塘九洲工业园 1 栋 6 楼 邮编: 518107
Add: 6F, Building No.1, Jiuzhou Industrial Park, Jiazitang Village, Guangming New District, Shenzhen, Guangdong Province, China Zip: 518107
电话(Tel): +86-755-21385386
传真(Fax): +86-755-21389590
网址(Url): http://www.jiuzhouoesz.com/

1. Absolute Maximum Ratings

Item	Unit	Min	Max	Note
Forward Current for LD	mA	--	100	
Reverse Voltage for LD	V	--	2	
Forward Current for MPD	mA	--	10	
Reverse Voltage for MPD	V	--	20	
Operating Temp	°C	-40	85	
Storage Temperature	°C	-40	85	
Storage Relative Humidity	%	--	85	
Soldering Temperature	°C	--	260	(*1)

(*1): For soldering by iron and 10 seconds on leads

2. Transmitter Electro-Optical Characteristics (T_C=25°C, CW)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Threshold Current	Ith	25°C	--	10	15	mA
		85°C	--	24	35	mA
Optical Output Power (*2)	Pf	If=Ith+20mA	0.3	--	0.85	mW
Forward Voltage	Vf	If=Ith+20mA	--	1.4	1.6	V
Peak Wavelength	λc	If=Ith+20mA	1290	1310	1330	nm
Spectrum Width (*3)	Δλ	If=Ith+20mA	--	--	1.0	nm
Side Mode Suppression Ratio	SMSR	If=Ith+20mA	30	--	--	dB
Monitor Current	Im	If=Ith+20mA	100	--	1000	μA
Monitor Dark Current	Id	Vrp=5V	--	--	100	nA
Tracking Error (*4)	TE	Tc = -40~ 85°C,	-1.5	--	1.5	dB

(*2): Launched into 9/125μm SMF, measured with a master plug and an extra receptacle

(*3): σ/more than 20dB-down from the peak mode

(*4): ΔPf =10 x log (Pf(Tc) /Pf(25°C)), Im hold(@Pf=0.5mW, 25°C)

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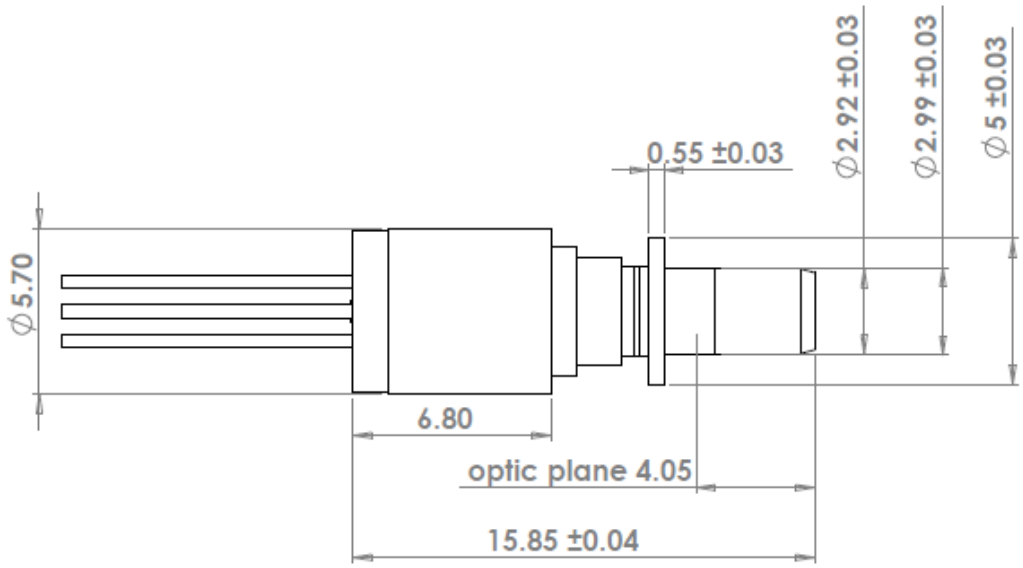
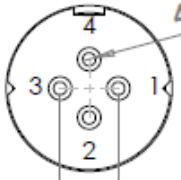
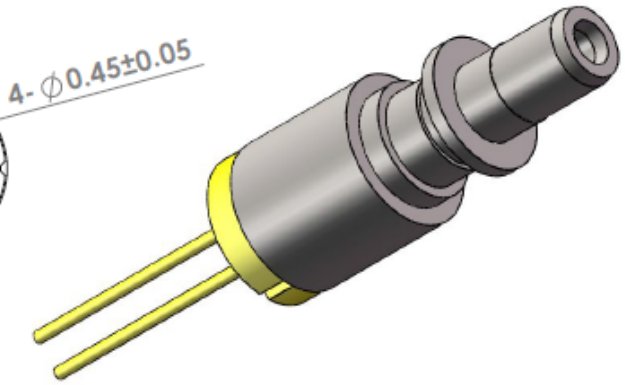
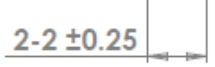
3. Dimension Outline (Unit: mm)



Tx Pinout	
1	LD-
2	PD-
3	LD+
4	PD+（GND）







4. Receptacle Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Connector Repeatability (*5)		-1	--	+1	dB	
Optical Connector Insertion loss		--	--	0.2	dB	LC
Insertion and extraction force		1	--	3	N	

(*5): Same plug orientation, same fiber, 10 times, measured with a master plug and an extra receptacle

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