

155Mbps Transmitter Optical Sub Assembly (TOSA)

REV. A/03/2003

1310nm FP Laser TOSA (Transmitter Optical Sub Assembly)



Features

- **Data Rate** : up to 622Mbps
- **1310nm Wavelength InGaAsP/InP MQW-FP Laser diode (LD)**
- **Uncooled operation without TEC**
- **Low threshold current**
- **Monitor-PD for automatic power control circuit**
- **Low noise and high linearity 4 pin TO-56 package**
- **Operating case temperature: -40 °C to +85 °C**
- **Package in TOSA Receptacle type for LC/SC connector**

Applications

- Optical communication system, Tele/Data Communication, 10/100Base Fast Ethernet, ATM/SONET

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Storage Temperature	T_{stg}	-40°C ~ +100°C	°C
Operating Case Temperature	T_{op}	-40°C ~ +85°C	°C
Peak optical output power	P_O	3	mW
Forward Current (LD)	I_{FLD}	150	mA
Reverse Voltage (LD)	V_{RLD}	2	V
Forward Current (PD)	I_{FPD}	2	mA
Reverse Voltage (PD)	V_{RPD}	15	V
Soldering Temperature	S_{temp}	260	°C
Supply Voltage	V_{CC}	5.5	V

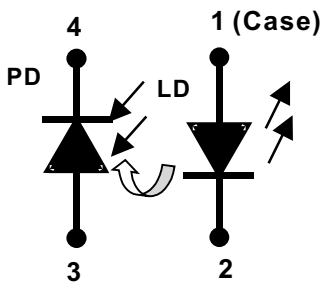
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Specifications

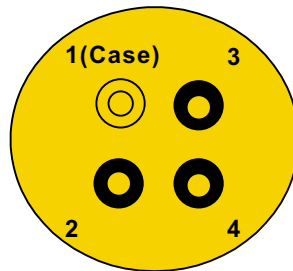
Optical/Electrical Characteristics(CW @ T=25°C)

Parameter	Symbol	Min.	Values Typ.	Max.	Test Condition	Unit
Output Power	P_o	0.2		1.0	CW, @26mA	mW
Slop Efficiency	Se	0.0125			CW, ($I_{th}+20mA$)	mW/mA
Operating Voltage	V_{op}		1.2	1.6	$P_o=0.8mW$	V
Central Wavelength	λ_c	1280	1310	1340	CW, $P_o=0.8mW$	nm
Spectral Width	$\Delta\lambda$		1	2	CW, $P_o=0.8mW$	nm
Threshold Current	I_{th}		5	15	CW	mA
Rise time/Fall Time	t_R, t_F			0.7	$I_b=I_{th}, 20\sim80\%$	ns
Monitor Current	I_m	0.1			$P_o=0.8mW, V_{RPD}=1V$	mA
Monitor dark Current	I_d		10	100	$V_{RPD}=10V$	nA
Monitor capacitance	C		10	20	$V_{RPD}=10V, 1MHz$	pF

Pin Number/Description



1) Pin Number



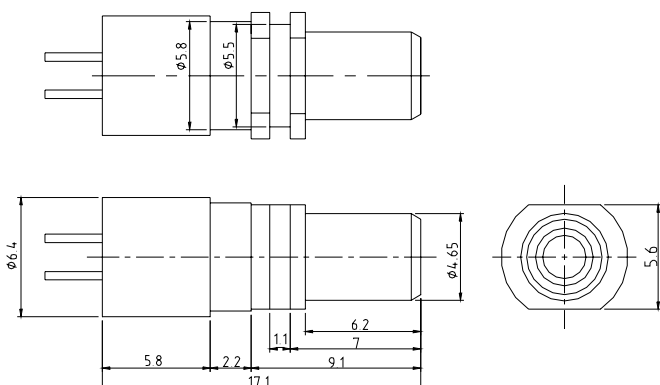
2) Bottom view

- 1. LD Anode (Case)
- 2. LD Cathode
- 3. M-PD Anode
- 4. M-PD Cathode

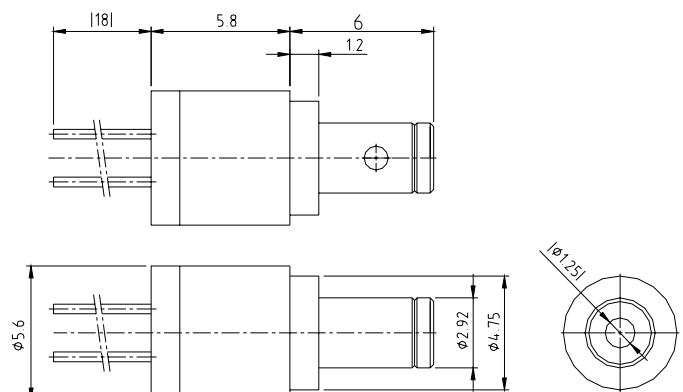
3) Description

Receptacle Dimension in mm

1) SC TOSA Receptacle Dimension



2) LC TOSA Receptacle Dimension



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Ordering Information

19110-0001-2-I: SC, up to 622Mbps 1310nm, Short Haul

19103-0001-2-I: SC, up to 622Mbps 1310nm, Long Haul

19103-0009-1 : LC, up to 622Mbps 1310nm, Short Haul