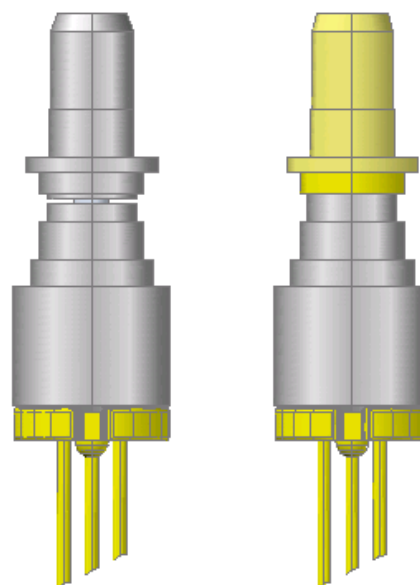


10Gbps 1310nm DFB TOSA

Description

LD3D82 series Coaxial Laser use InGaAsP/InP MQW chip. The DFB integrated with an InGaAs monitor PD, it can be used with appropriate feedback control circuitry to set optimal power level for each DFB laser, As the current changed above the threshold, the optical power will change accordingly.

They are widely used in LTE system. The laser diode is mounted into a coaxial package with LC receptacle.



Features

- 1310 nm transmitter with uncooled DFB-LD
- Low noise, low distortion, Low threshold current
- Coaxial Package with FPC
- operating temperature range: -5°C to 85°C

Application

- 10G Fiber Channel
- SDH/SONET Transceivers up to 10Gbps
- Other 10Gbps data transmission system

Absolute Maximum Ratings^[1]

Parameter	Symbol	Min	Max	Units	Notes
Reverse Voltage(LD)	V_{RL}	---	2	V	
Forward Current(LD)	I_{FL}	---	120	mA	
Reverse Voltage(MPD)	V_{RMP}	---	15	V	
Forward Current(MPD)	I_{FMP}	---	2	mA	
Operating Temperature ^[1]	T_C	-5	+85	□	Case temperature
Storage Temperature	T_{STG}	-40	+85	□	Ambient temperature
Relative Humidity	RH	---	80	%	
Lead Soldering Temperature/Time	T_S	---	260/10	□/S	

Note 1: Beyond the scope of absolute maximum ratings can cause permanent damage to the device. If it has been a long time to use the device in the absolute maximum ratings may affect device reliability.

LD3D82 series TOSA

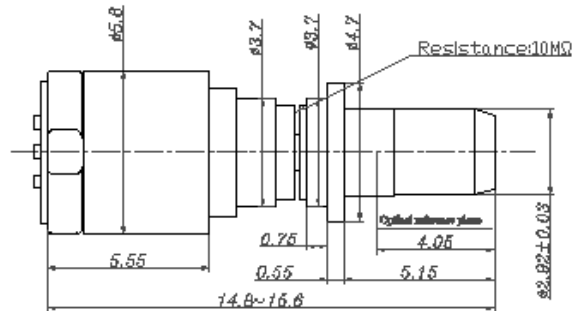
Electric and Optical Characteristics

(All measurements are at Case temperature of $25 \pm 3^\circ\text{C}$, $V_R=12\text{V}@1310 \pm 10\text{nm}$ unless stated otherwise.)

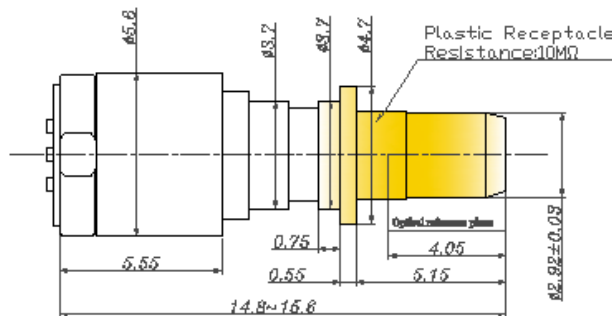
Parameter	Symbol	Min	Typical	Max	Units	Notes
Fiber Output Power	P_o	0.3	---	0.8	mW	CW, $I_f=I_{th}+20\text{mA}$
Slope Efficiency	η	0.015	---	0.04	W/A	CW
Center Wavelength	λ	1290	1310	1330	nm	CW, $I_f=I_{th}+20\text{mA}$
Spectral Width(-20dB)	$\Delta\lambda$	---	0.2	1	nm	CW, $I_f=I_{th}+20\text{mA}$
Side-Mode Suppression Ratio	SMSR	30	---	---	dB	CW, $I_f=I_{th}+20\text{mA}$
Modulation Bandwidth	BW	8.0	11.0	---	GHz	-3dB, with FPC
Tracking Error	TE	-1.5	---	1.5	dB	I_M hold@ $P_o=0.5\text{mW}, 25^\circ\text{C}$ CW, $T_c = -5 \sim +85^\circ\text{C}$
Threshold Current	I_{th}	---	8	15	mA	CW
Operating Voltage	V_F	---	1.2	1.7	V	CW
Monitor Current	I_M	100	---	1000	μA	CW, $I_f=I_{th}+20\text{mA}, V_{RMP}=1\text{V}$
Monitor Dark Current	I_D	---	---	100	nA	CW, $V_{RMP}=5\text{V}$
Photodiode Capacitance	C	---	---	10	pF	$V_{RMP}=5\text{V}, f=1\text{MHz}$
Input Impedance	Z_{in}	---	8	---	ohm	
Rise time	T_r	---	---	50	Ps	Unfilter 20%~80% , ER=6
Fall time	T_f	---	---	50	Ps	Unfilter 20%~80% , ER=6
Relative Intensity Noise	RIN	---	---	-130	dB/Hz	CW

Outline Dimensions

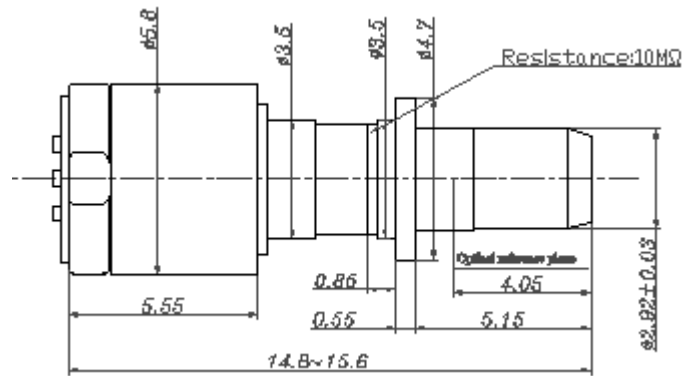
All dimensions are $\pm 0.1\text{mm}$ unless otherwise specified (Unit: mm). For detail information please contact LinkPhotonic.



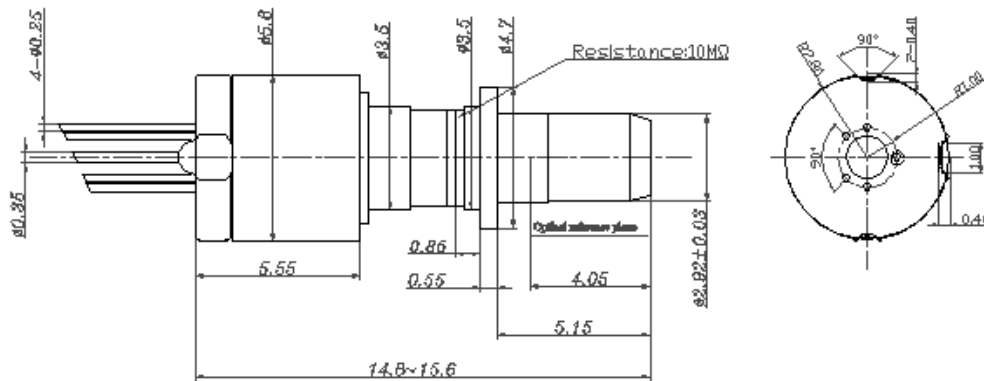
Type1 4pin with air insulation



Type2 4pin with plastic insulation

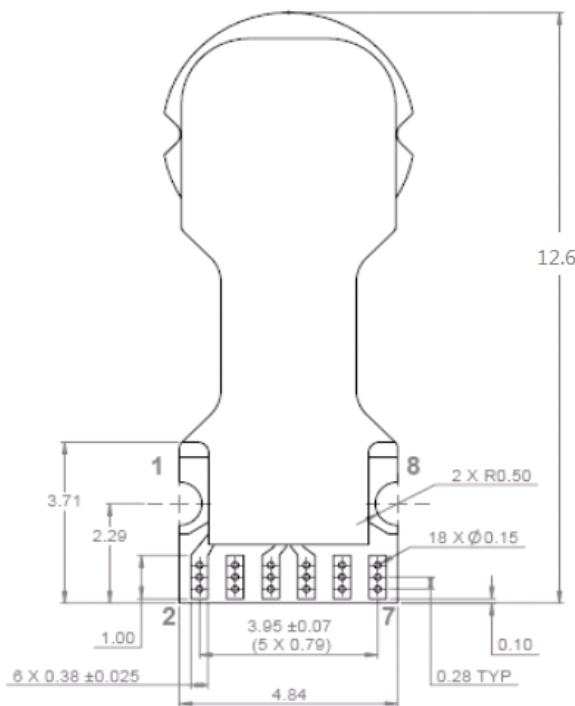


Type3 4pin with ceramic insulation



Type4 5pin with ceramic insulation

Outline of FPC and 4pin Pad Descriptions



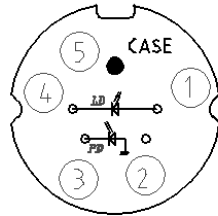
PIN #	DESCRIPTION
1	GROUND
2	PD CATHODE
3	GROUND
4	LD CATHODE
5	LD ANODE
6	GROUND
7	NO CONNECT
8	GROUND

Pin Assignment

Outline of 5pin Descriptions

If you need mount the FPC into the device, need to customize the FPC.

*Pin Connection
Bottom View*



<i>Pin Number</i>	<i>Pin Assignment</i>
1	<i>Ld Anode</i>
2	<i>No connection</i>
3	<i>MPd Cathode</i>
4	<i>Ld Cathode</i>
5	<i>Case/MPd Anode</i>

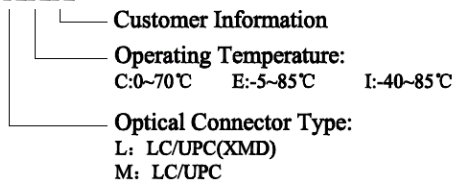
Precautions

Semiconductor chips are sensitive to electro-static damage. The module shall be packed with antistatic material for transportation. The working station and operators shall be grounded. Switching transients can cause electrical overstress (EOS) damage to the chips. EOS be may resulted from improper ESD handling, improper power sequencing, a faulty power supply or an intermittent connection.

- a. Operators should always use antistatic bands and clothing, electric conductive shoes, and other safety appliances while at work are highly recommended.
- b. Humidity in working environment should be controlled equal or above 40 percent RH.
- c. It is recommended that grounding mats be placed on the surfaces of assembly line workbench and the surrounding floor in working area, etc.
- d. When mounting this product in other parts or materials which can be electrically charged (printed wiring boards, plastic products, etc.), pay close attention to the static electricity in those parts.ESD may damage the product.

Ordering Information

LD3D82 - xxx



Statement

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