GDLR-3xxxx

1310nm MQW-DFB Laser Diode Receptacle Module

Features

- Coaxial Package
- InGaAsP/InP MQW-DFB laser Diode
- Date rate up to 2.5Gbps
- Low threshold, high slope efficiency and high output power LD
- Maximum Soldering Temperature/Time: 260℃/10s
- Operating Case temperature: -40℃ to +85℃
- RoHS6 Compliant Products Available

Applications

- Optical Digital Transmission System
- Test Equipments

General

GDLR-3xxxx Series are 1310nm InGaAsP/InP MQW-DFB laser diode modules designed for fiber communication systems. These modules are transmitter optical sub-assembly with low threshold current and high performance at high temperature, which are ideally suitable for long reach applications.
A laser diode is mounted into a coaxial package integrated with a singe-mode fiber-stub, an isolator and an InGaAs monitor PD.

Ordering information (Standard version *Note1)

Part No.	Package series	Pin Type	Isolator	Connector	Data rate
GDLR-3105A2	A	LD-Pin-2	N=None	FC-A	1.25Gbps
GDLR-3110B2G	B	LD-Pin-2	Single Stage	FC-B	1.25Gbps
GDLR-3220C1G	C	LD-Pin-1	Single Stage	FC-C	2.5Gbps
GDLR-3110D1G	D	LD-Pin-1	Single Stage	FC-D	1.25Gbps
GDLR-3120E2G	E	LD-Pin-2	Single Stage	ST	1.25Gbps
GDLR-3210F2	F	LD-Pin-2	N=None	SC	2.5Gbps
GDLR-3220F1G	F	LD-Pin-1	Single Stage	SC	2.5Gbps

*Note1: For more ordering information, please refer the nomenclature and contact EPOTOLINK sales.

Absolute maximum ratings *Note2

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+85	℃
Operating case temperature	Top	-40~+85	℃
Forward current (LD)	IFD	150	mA
Reverse voltage (LD)	VrL	2	V
Reverse voltage (PD)	VrP	20	V
Reverse current (PD)	IrP	2	mA
Soldering temperature (<10s)	Stemp	260	℃

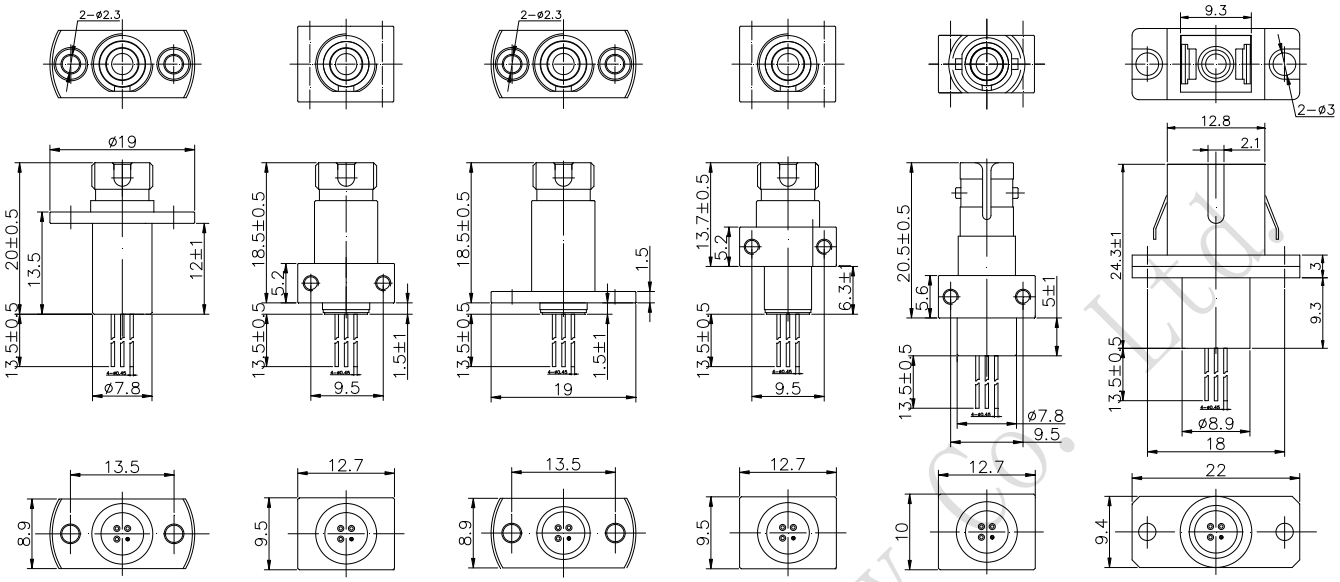
*Note2: Exceeding any one of these values may destroy the device permanently.

Electrical and optical characteristics *Note3

(SMF, Tc=+25°C, unless otherwise noted.)

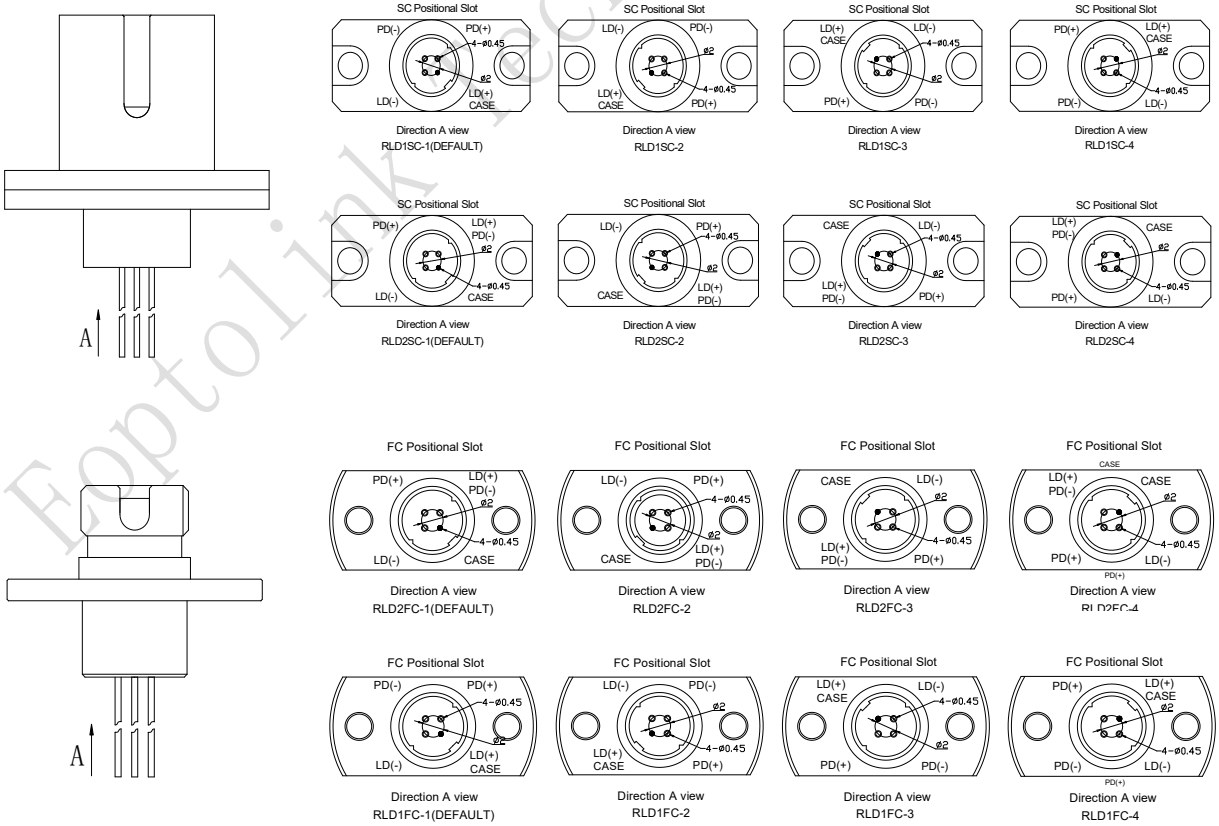
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Threshold current	Ith	CW	—	8	15	mA
Fiber coupling power	Pf	CW, If=Ith+20mA	0.2	—	3	mW
Operating voltage	Vf	CW, Tc=-40~+85℃	—	1.2	1.6	V
Slope efficiency	Se	CW, Average(Ith to Ith+20mA)	0.01		0.15	mW/mA
Center wavelength	λc	CW	1290	1310	1330	nm
		CW, Tc=-40~+85°C	1265	—	1355	
Side mode suppression ratio	SMSR	CW, Tc=-40~+85°C	35	40	—	dB
Tracking error	TE	Im hold(@Pf=0.16mW(25°C)) CW, Tc=-40~+85°C	-1.5	—	1.5	dB
Monitor current	Im	CW, VrP=5V, Tc=-40~+85°C	100	500	900	uA
Monitor dark current	Id	VrP=5V	—	—	10	nA
Monitor capacitance	C	VrP=5V, f=1MHz	—	10	20	pF
Connector repeatability	—		-1	—	1	dB
Optical Isolation	—	Single Stage	30	—	—	dB

Package dimension



A= FC-A B= FC-B C= FC-C D= FC-D E= ST-1 F= SC

The direction of fix card



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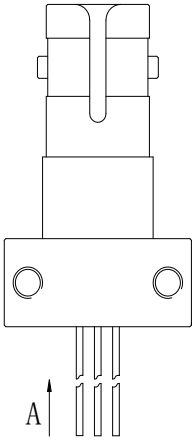
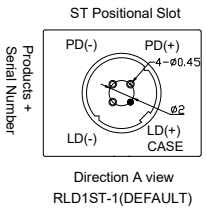
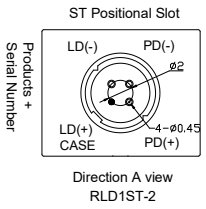
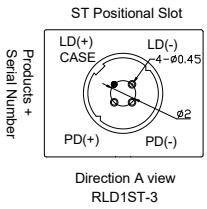




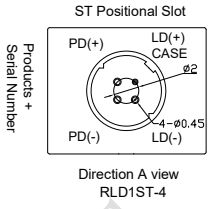
Direction A view
RLD1ST-1(DEFAULT)



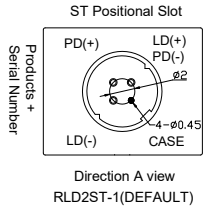
Direction A view
RLD1ST-2



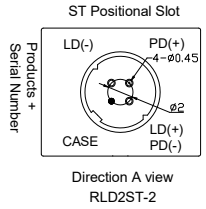
Direction A view
RLD1ST-3



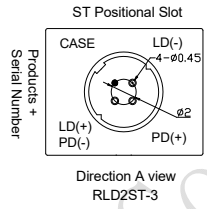
Direction A view
RLD1ST-4



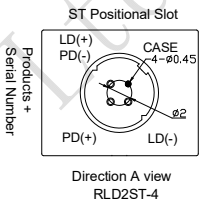
Direction A view
RLD2ST-1(DEFAULT)



Direction A view
RLD2ST-2



Direction A view
RLD2ST-3



Direction A view
RLD2ST-4

Nomenclature of assembly direction *Note3

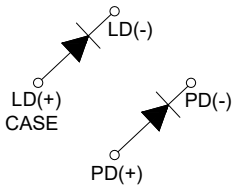
Code: R LD X X - X

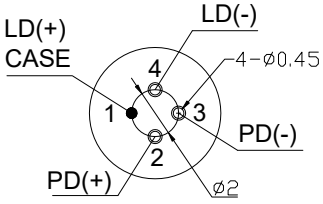
- **Receptacle**
- Laser Diode
- 1=Type-1, 2=Type-2
- FC = Package FC, SC = Package SC, ST = Package ST
- Assembly Direction

*Note3: Please designate the code of assembly direction.

Pin Assignment

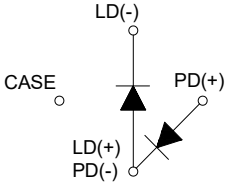
TYPE: 1

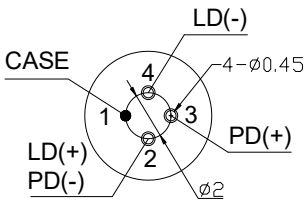




LD-pin-1 / TYPE: C

TYPE: 2





LD-pin-2 / TYPE: B

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Nomenclature

G D L R — ☐ ☐ ☐ ☐ ☐ ☐ ☐

A B C D E F G

Order	Parameter	Detailed Description					
A	**Center Wavelength**	3=1310					
B	**Data rate**	1=1.25Gbps			2=2.5Gbps		
C	**Power**	05=0.2-0.99mW		10=1-1.99 mW		20=2-2.99 mW	
D	**Package series**	A=FC-A	B=FC-B	C=FC-C	D=FC-D	E=ST	F=SC
E	**Pin Type**	C=LD-pin-1			B=LD-pin-2		
F	**Isolator**	Blank=None			G= Single Stage		
G	**Fiber Type**	Blank=SM			M=MM		

Precaution

(1) The modules should be handled in the same manner as ordinary semiconductor devices to prevent the electro-static damages. For safe keeping and carrying, the modules should be packaged with ESD proof material. To assemble the modules on PCB, the workbench, the soldering iron and the human body should be grounded.

(2) Please pay special attention to the atmosphere condition because the dew on the module may cause some electrical damages.

(3) Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.

Obtaining Document

You can visit our website:

http://www.eoptolink.com

Or contact Eoptolink Technology Inc., Ltd. listed at the end of the documentation to get the latest documentation.

Revision History

Verision	Initiated	Reviewed	Approved	Revision history	Release date
Vb-1	Yinchun.Zhao	James.liu	Vincent.yu	Initial version	2020-03-10
Vb-2	Yinchun.Zhao	James.liu	Vincent.yu	Version update	2021-5-13

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