

## 1270nm-1610nm MQW-DFB Laser Diode Receptacle Module

OSMDMR-XXXXXXXXXX



### Features:

- ◆ Coaxial Package
- ◆ InGaAsP/InP MQW-DFB Laser Diode
- ◆ Data Rate up to 2.5G
- ◆ Low threshold, high slope efficiency and high output power LD
- ◆ Maximum Soldering Temperature/Time: 260°C/10s
- ◆ Operating Case Temperature: -10°C to +85°C
- ◆ RoHS6 Compliant Products Available

### Applications:

- ◆ Optical Digital Transmission System
- ◆ Test Equipments

### General:

OSMDLR-XXXXXXXXXX Series are InGaAsP/InP CWDM 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 single-mode fiber-stub, an isolator and an InGaAs monitor PD.

### Absolute Maximum Ratings: <sup>\*Note1</sup>

Parameter	Symbol	Ratings	Unit
Storage Temperature	Tstg	-40~+85	°C
Operating Case Temperature	Top	-10~+85	°C
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	°C

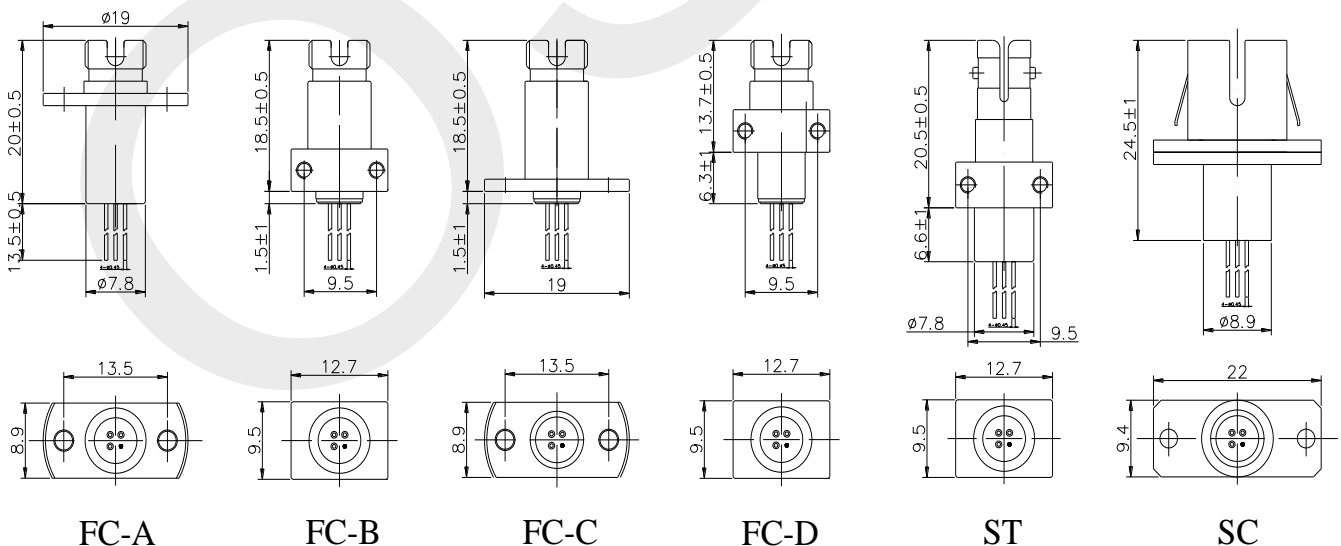
\*Note1: Exceeding any one of these values may destroy the device permanently.

## Electrical and Optical Characteristics:

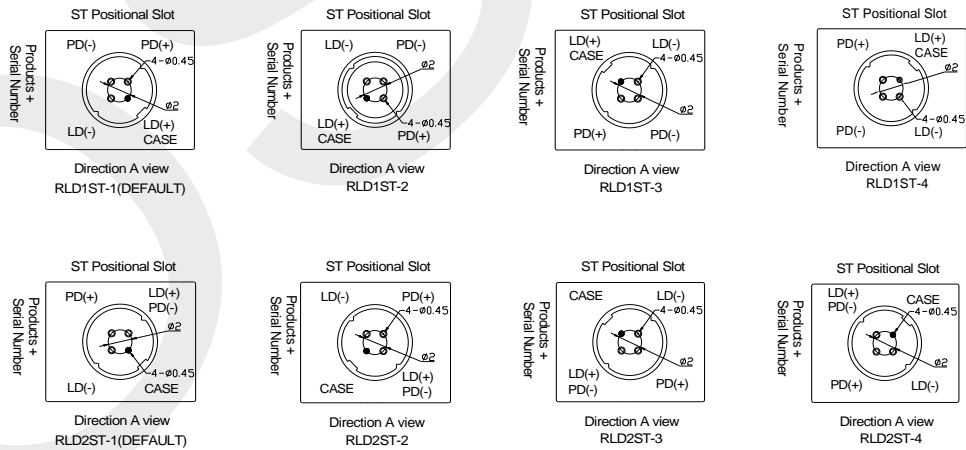
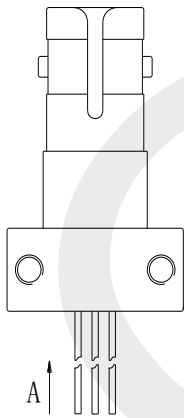
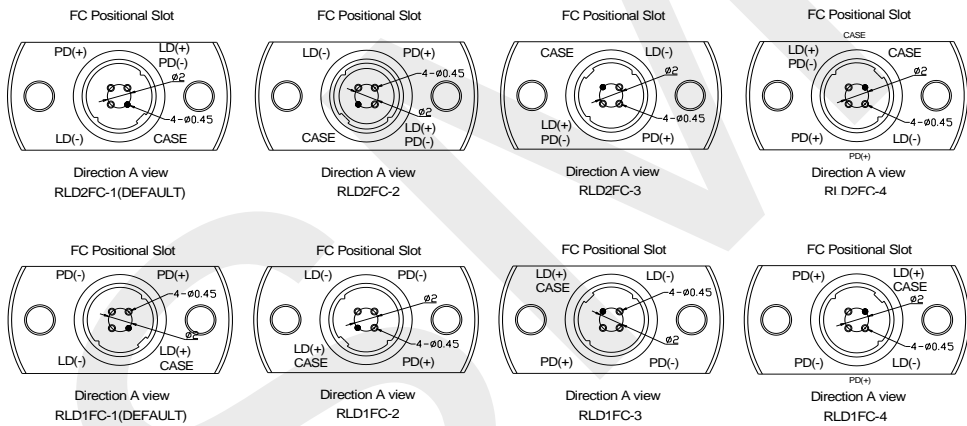
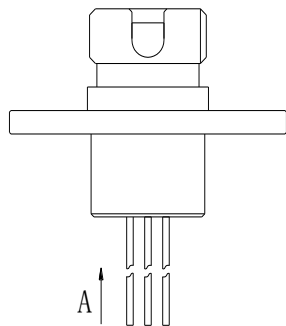
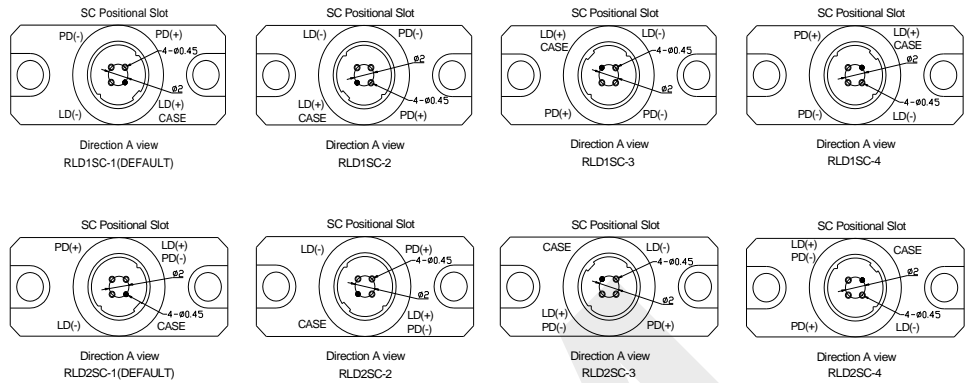
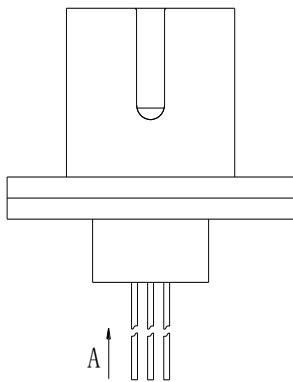
( $P_o=1.5\text{mW}$ , SMF,  $T_c=+25^\circ\text{C}$ , unless otherwise noted.)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current	I <sub>th</sub>	CW	—	8	15	mA
Fiber Coupling Power	P <sub>f</sub>	CW, I <sub>f</sub> =I <sub>th</sub> +20mA	0.5	1.5	2	mW
Operating Voltage	V <sub>f</sub>	CW, T <sub>c</sub> =-10~+85	—	1.2	1.6	V
Slope Efficiency	Se	CW, Average(I <sub>th</sub> to I <sub>th</sub> +20mA)	0.05		0.15	mW/mA
Wavelength	$\lambda_c$	CW	$\lambda_c-3$	$\lambda_c$	$\lambda_c+3$	nm
Side mode suppression ratio	SMSR	CW, T <sub>c</sub> =-40~+85°C	30	—	—	dB
Tracking Error	$\Delta P_f$	I <sub>m</sub> hold(@P <sub>f</sub> =3mW(25°C)),CW	-1	—	1	dB
Relative Intensity Noise	RIN	CW	—	—	-145	dB/Hz
Third order inter-modulation distortion	IMD3	OMI=20%	—	—	-55	dBc
Monitor Current	I <sub>m</sub>	CW, V <sub>rP</sub> =5V, T <sub>c</sub> =-10~+85	80	300	—	uA
Monitor Dark Current	I <sub>d</sub>	V <sub>rP</sub> =5V	—	—	10	nA
Monitor Capacitance	C	V <sub>rP</sub> =5V, f=1MHz	—	—	10	pF
Connector Repeatability	—		-1	—	1	dB
Optical Isolation	—	Single Stage	30			dB
		Dual Stage	40			

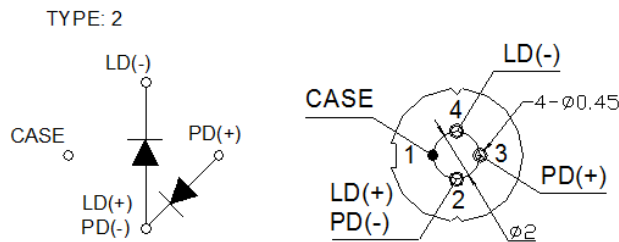
## Package Dimension:



### The Direction of Fix Card:



### Pin Assignment:



LD-pin-2 / TYPE: B

**Nomenclature:**

OSMDMR —

A   B   C   D   E   F   G   H   I

Order	Parameter	Detailed Description						
		A	Wavelength	27=1270	29=1290	31=1310	33=1330	35=1350
39=1390	41=1410			43=1430	45=1450	47=1470	49=1490	
51=1510	53=1530			55=1550	57=1570	59=1590	61=1610	
B	Data Rate	1=1.25G			2=2.5G			
C	Power	10=0.5-1mw		20=1.1-1.5mw		30=1.6-2mw		
D	Package Series	A	B	C	D	E		
E	Connector	A=FC-A		B=FC-B		C=FC-C		D=FC-D
		E=ST				F=SC		
F	Pin Type	Blank =LD-pin-2						
G	Isolator	Blank=None		G= Single Stage		G2=Dual Stage		
H	Fiber Type	Blank=SM			M=MM			
I	Wavelength Spec	Blank=-3 / +3 nm						

**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.

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