

**1550 nm DFB LASER DIODE MODULES**  
**UNCOOLED MQW DFB LD WITH RECEPTACLE**

**DL-5500 SERIES**

**FEATURES**

- ✧ Uncooled Laser Diode with MQW Structure
- ✧ High Reliability, Long Operation Life
- ✧ Single Frequency Operation with High SMSR
- ✧ 0 to 70°C operation without active cooling
- ✧ Build-in InGaAs monitor

**APPLICATION**

Trunk Line, FitL

**DESCRIPTION**

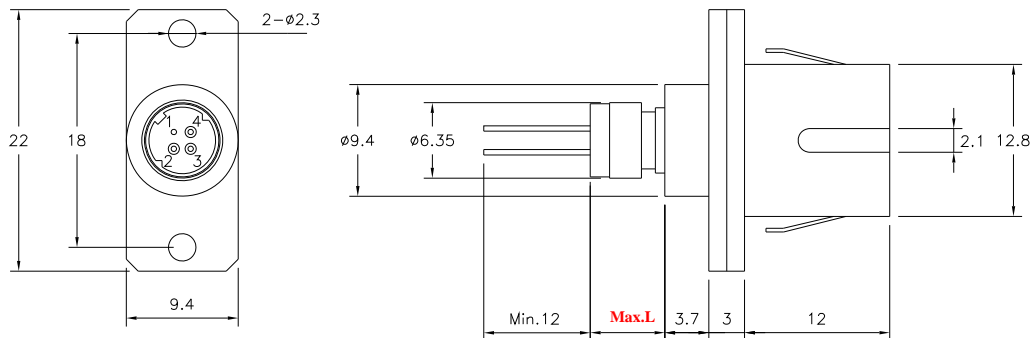
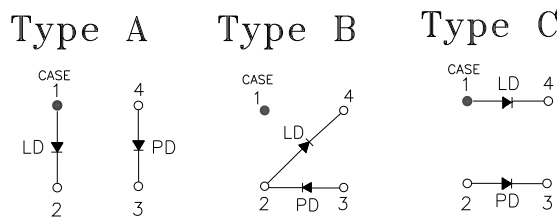
DL-5500 series are designed for coupling a single mode optical fiber with 1550 nm MQW DFB uncooled laser diode. DL-5500 series are the best kits as light sources for telecom and datacom applications.

<b>ELECTRICAL AND OPTICAL CHARACTERISTICS (T<sub>C</sub>=25 °C)</b>						
<b>Symbol</b>	<b>Parameter</b>	<b>Test Conditions</b>	<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>	<b>Unit</b>
I <sub>th</sub>	Threshold Current	CW		10	15	mA
V <sub>OP</sub>	Operating Voltage	CW, I <sub>F</sub> =I <sub>th</sub> +20mA		1.2	1.5	V
P <sub>f</sub>	Optical Output Power Part No:DL-550XX DL-551XX DL-552XX DL-553XX DL-554XX	CW, I <sub>F</sub> =I <sub>th</sub> +20mA	0.2 0.5 1.0 2.0 3.0		0.5 1.0 2.0 3.0 -	mW
λ <sub>c</sub>	Center Wavelength	CW, I <sub>th</sub> +20mA	1530	1550	1570	nm
SMSR	Side Mode Suppression Ratio	CW, I <sub>th</sub> +20mA	30	35		dB
t <sub>r</sub> , t <sub>f</sub>	Rise And Fall Times Part No:DL-55XX DL-55XXS	I <sub>F</sub> =I <sub>th</sub> , I <sub>th</sub> +20mA, 20~80%			226 150	ps
ΔP <sub>f</sub> /P <sub>f</sub>	Tracking Error	APC, 0~+70 °C	-1.5		1.5	dB
I <sub>m</sub>	PD Monitor Current	CW, I <sub>th</sub> +20mA, V <sub>RD</sub> =1V	100			μA
I <sub>D</sub>	PD Dark Current	V <sub>RD</sub> =5V			0.1	μA
C <sub>t</sub>	PD Capacitance	V <sub>RD</sub> =5V, f=1MHz		10	15	pF

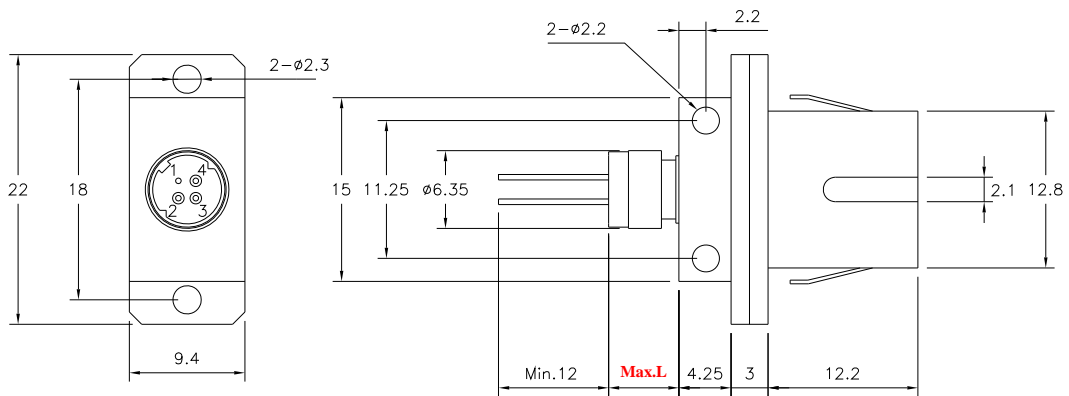
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ABSOLUTE MAXIMUM RATINGS (T <sub>C</sub> =25 °C)			
Symbol	Parameter	Ratings	Unit
P <sub>o</sub>	Optical Output Power (550XX/551XX/552XX/553XX/554XX)	0.5/1.0/1.5/3/4	mW
V <sub>RL</sub>	LD Reverse Voltage	2	V
V <sub>RD</sub>	PD Reverse Voltage	10	V
I <sub>FD</sub>	PD Forward Current	1.0	mA
T <sub>opr</sub>	Operating Temperature	0 to 70	°C
T <sub>stg</sub>	Storage Temperature	-40~+85	°C

## MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT

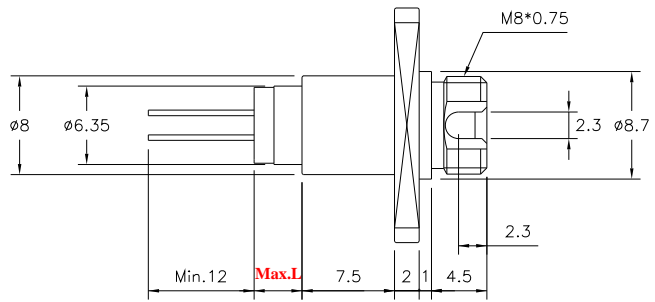
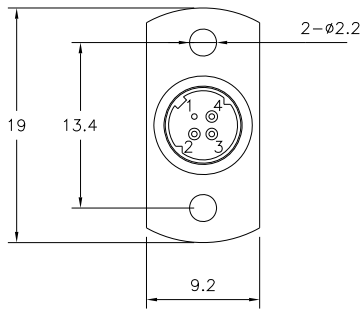


### SC RECEPTACLE (DL-55XXX-SX)

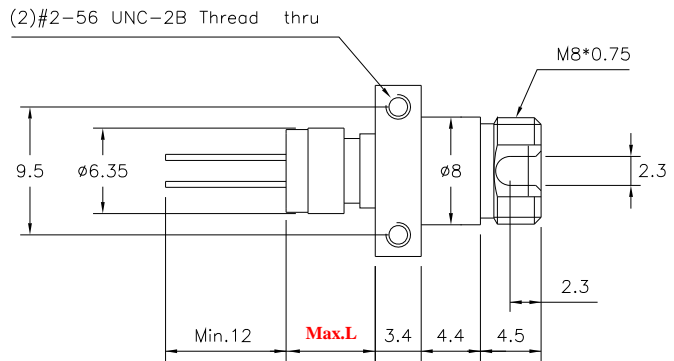
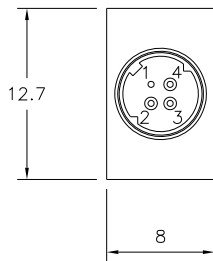


### SC RECEPTACLE (BOARD MOUNT) (DL-55XXX-SBX)

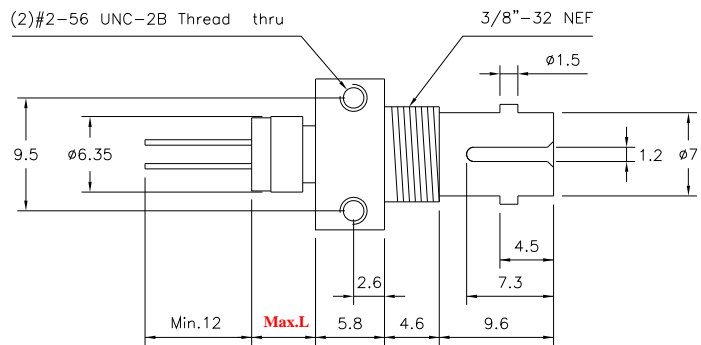
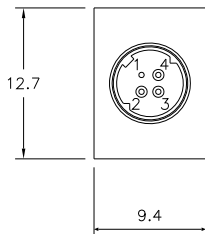
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**FC RECEPTACLE  
(DL-55XXX-FX)**



**FC RECEPTACLE (BOARD MOUNT)  
(DL-55XXX-FBX)**



**ST RECEPTACLE  
(DL-55XXX-TX)**

P//N	Max. L Dimension				
	S	SB	F	FB	T
550XX-X 551XX-X	3.6	3	1.2	3.9	2.7
550XX-XS 551XX-XS	7	6.4	4.6	7.3	6.1
552XX-XS 553XX-XS	8.6	8.0	6.2	8.9	7.7
554XX-XS	10.6	10.0	8.2	10.9	9.7

Note: Specifications subject to change without notice.

ORDER INFORMATION

Part No.: D L - 5 5    -

Code	Pout (mW)
0	0.2
1	0.5

Code	Speed
Blank	1.25 Gbps
S	2.5 Gbps

Code	Isolator
Blank	No
S	Single-Stage

Code	Pin Assignment
0	Type A
5	Type B
8	Type C

Code	Connector Type
S	SC/PC
SB	SC/PC (Board Mount)
F	FC/PC
FB	FC/PC (Board Mount)
T	ST/PC

Part No.: D L - 5 5    -  **S**

Code	Pout (mW)
2	1
3	2
4	3

Code	Speed
Blank	1.25 Gbps
S	2.5 Gbps

Code	Isolator
S	Single-Stage

Code	Pin Assignment
0	Type A
5	Type B
8	Type C

Code	Connector Type
S	SC/PC
SB	SC/PC (Board Mount)
F	FC/PC
FB	FC/PC (Board Mount)
T	ST/PC

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Revision History

Version	Subject	Release Date
1.0	Initial datasheet	5/1/2003
2.0	1. Combine 1.25G and 2.5G characteristics in one data sheet 2. Add 3mW products 3. Revise FC RECEPTACLE (BOARD MOUNT) thread thru dim.: M2 => UNC-2B 4. Revise drawing	12/1/2007
3.0	Revise order information	4/15/2009