

**1650 nm DFB LASER DIODE MODULES**  
UNCOOLED MQW DFB LD WITH RECEPTACLE

**DL-5500-1650 Series**

**FEATURES**

- ✧ 1650 nm 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
- ✧ Build-in single stage isolator

**APPLICATION**

Trunk Line, FitL

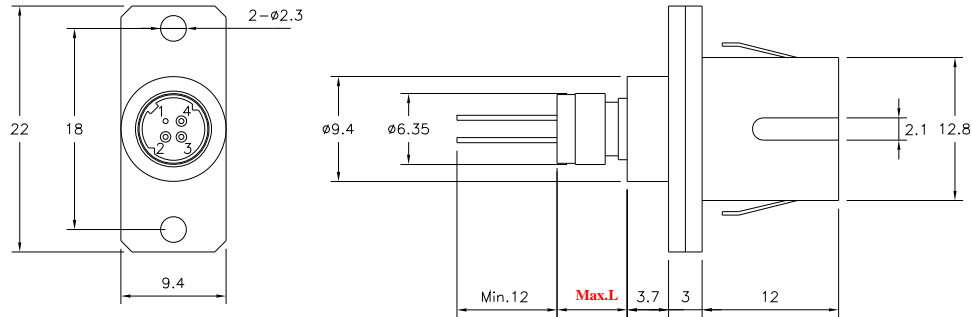
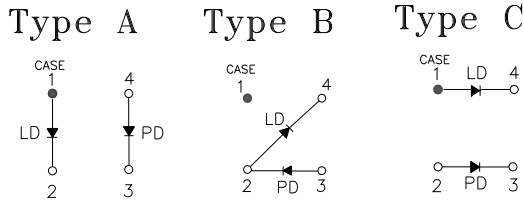
**DESCRIPTION**

DL-5500-1650 series are designed for coupling a single mode optical fiber with 1650 nm MQW DFB uncooled laser diode. DL-5500-1650 series are the best kits as light sources for telecom and datacom applications.

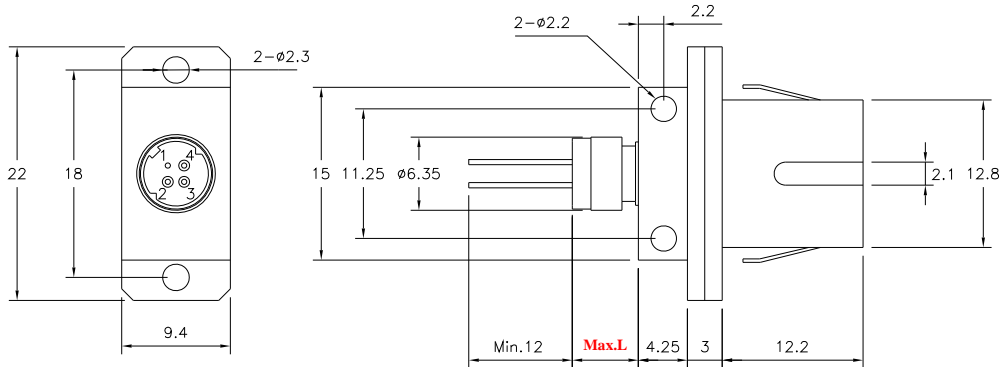
ELECTRICAL AND OPTICAL CHARACTERISTICS (T <sub>C</sub> =25 °C)						
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>th</sub>	Threshold Current	CW		10	15	mA
V <sub>OP</sub>	Operating Voltage	CW, I <sub>F</sub> =I <sub>th</sub> +25mA		1.2	1.5	V
P <sub>f</sub>	Optical Output Power Part No:DL-552XX-1650 DL-553XX -1650	CW, I <sub>F</sub> =I <sub>th</sub> +25mA	1.0 2.0		2.0 3.0	mW
λ <sub>c</sub>	Center Wavelength	CW, I <sub>th</sub> +25mA	1640	1650	1660	nm
SMSR	Side Mode Suppression Ratio	CW, I <sub>th</sub> +25mA	30	35		dB
t <sub>r</sub> , t <sub>f</sub>	Rise And Fall Times Part No:DL-55XX-1650 DL-55XXS-1650	I <sub>F</sub> =I <sub>th</sub> , I <sub>th</sub> +25mA, 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> +25mA, 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

ABSOLUTE MAXIMUM RATINGS (T <sub>C</sub> =25 °C)			
Symbol	Parameter	Ratings	Unit
P <sub>o</sub>	Optical Output Power (552XX/553XX)	1.5/3	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

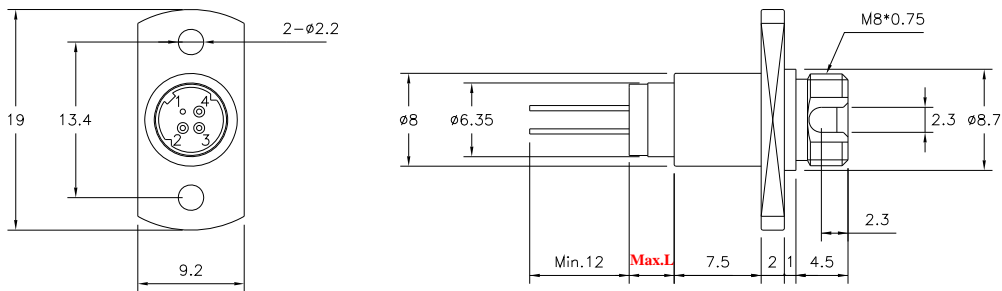
MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



**SC RECEPTACLE  
(DL-55XXX-1650-SS)**



**SC RECEPTACLE (BOARD MOUNT)  
(DL-55XXX-1650-SBS)**



**FC RECEPTACLE  
(DL-55XXX-1650-FS)**

**OPTOWAY TECHNOLOGY INC.**

No.38, Kuang Fu S. Road, Hu Kou, Hsin Chu Industrial Park, Hsin Chu, Taiwan 303

Tel: 886-3-5979798

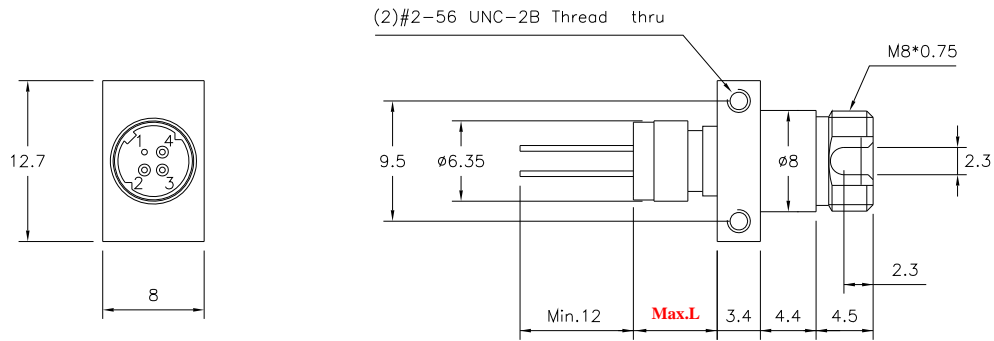
Fax: 886-3-5979737

e-mail: sales@optoway.com.tw

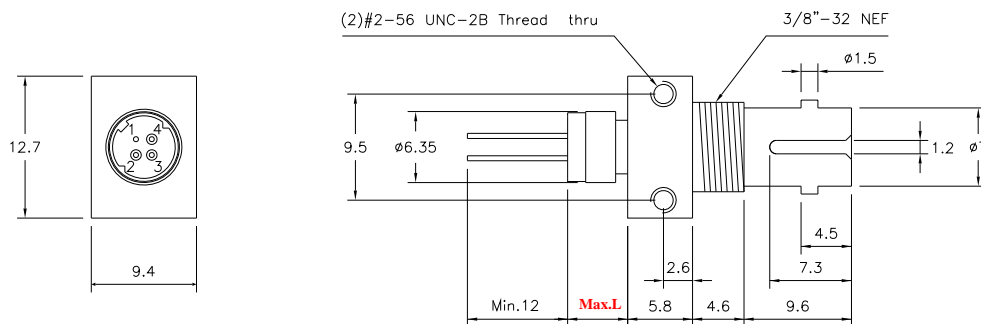
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**FC RECEPTACLE (BOARD MOUNT)**  
**(DL-55XXX-1650-FBS)**



**ST RECEPTACLE**  
**(DL-55XXX-1650-TS)**

P//N	Max. L Dimension				
	S	SB	F	FB	T
552XX-1650-XS	8.6	8.0	6.2	8.9	7.7
553XX-1650-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    - 1 6 5 0 -  S

Code	Pout (mW)
2	1
3	2

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

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

Code	Isolator
S	Single-Stage

Code	Speed
Blank	1.25 Gbps
S	2.5 Gbps

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## Revision History

Version	Subject	Release Date
1.0	Initial datasheet	2004/8/1
2.0	1. Combine 1.25G and 2.5G characteristics in one data sheet 2. Revise FC RECEPTACLE (BOARD MOUNT) thread thru dim.: M2 => UNC-2B 3. Revise drawing	2007/12/1
3.0	Revise mechanical dimension and order information	2009/4/10

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