

## 1270 nm ~ 1610 nm DFB LD MODULES 1.25 Gbps CWDM MQW-DFB LD RECEPTACLE

## DL-5500-CXX0 SERIES

### FEATURES

- ✧ 18-wavelength CWDM: from 1270 nm to 1610 nm, each Step 20 nm
- ✧ High reliability, long operation life
- ✧ 0 °C ~+70 °C operation
- ✧ Up to 1.25 / 2.5 Gbps Operation
- ✧ Single frequency operation with high SMSR
- ✧ Build-in InGaAs monitor
- ✧ Build-in single stage isolator

### APPLICATION

OC-3, OC-12, and Gigabit Ethernet Optical communication system

### DESCRIPTION

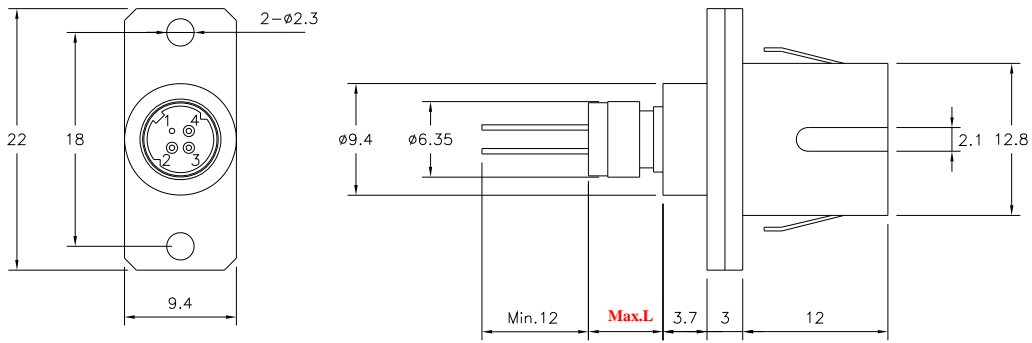
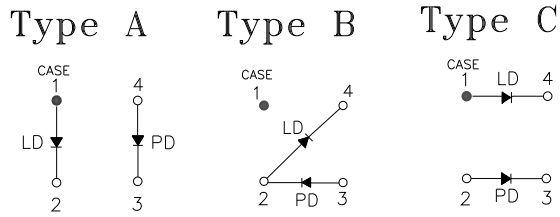
DL-5500-CXX0 series are MQW-DFB laser diodes that provide a durable, single frequency oscillation with emission wavelength from 1270 nm to 1610 nm CWDM, each step 20 nm.

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	20	mA
I <sub>OP</sub>	Operating Current	CW, I <sub>th</sub> +20mA		35	50	mA
V <sub>OP</sub>	Operating Voltage	CW, I <sub>th</sub> +20mA		1.2	1.5	V
P <sub>f</sub>	Optical Output Power Part No: DL-552XX-CXX0 DL-553XX-CXX0 DL-554XX-CXX0	CW, I <sub>th</sub> +20mA	1.0 2.0 3.0		2.0 3.0 -	mW
λ <sub>c</sub>	Center Wavelength	CW, I <sub>th</sub> +20mA	λ -3	λ	λ +2	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-CXX0 DL-55XXS-CXX0	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	50			μA
I <sub>D</sub>	PD Dark Current	V <sub>RD</sub> =5V			10	nA
C <sub>t</sub>	PD Capacitance	V <sub>RD</sub> =5V, f=1MHz		10	15	pF

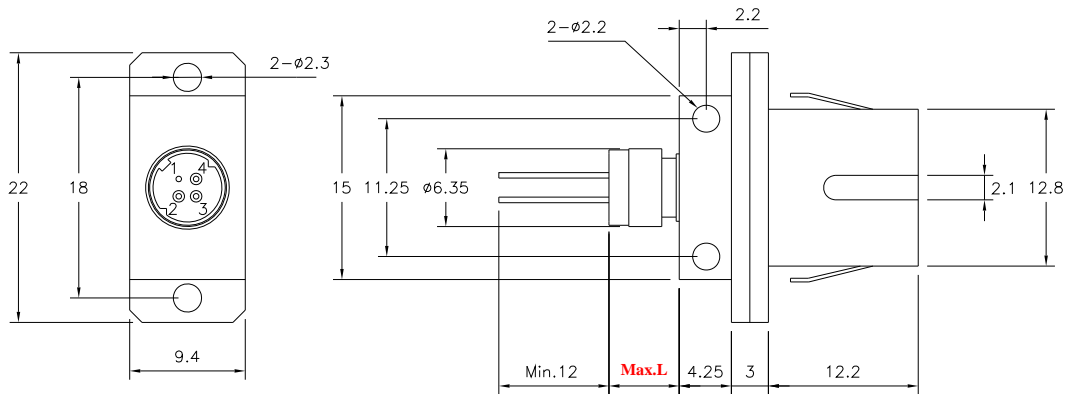
Note: Central CWDM wavelength is from 1270 nm to 1610 nm, each step 20 nm.

ABSOLUTE MAXIMUM RATINGS (T <sub>c</sub> =25 °C)			
Symbol	Parameter	Ratings	Unit
P <sub>o</sub>	Optical Output Power (552XX/553XX/554XX)	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~+70	°C
T <sub>stg</sub>	Storage Temperature	-40~+85	°C

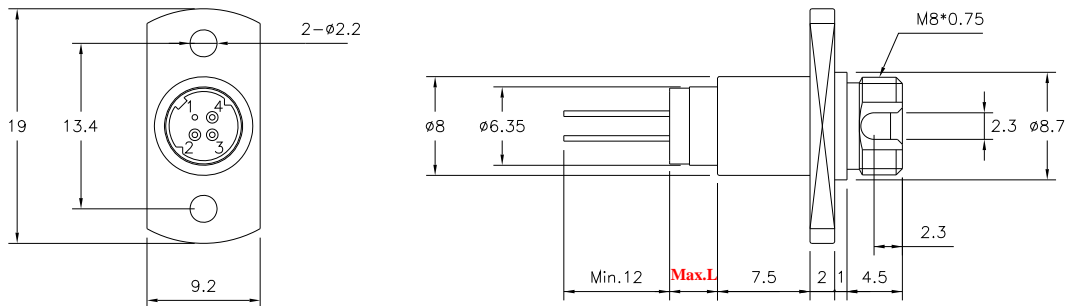
## MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



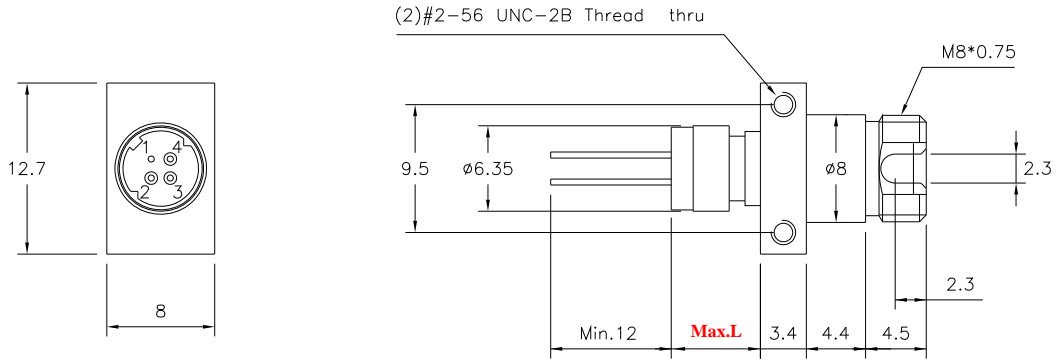
**SC RECEPTACLE  
(DL-55XXX-CXX0-SS)**



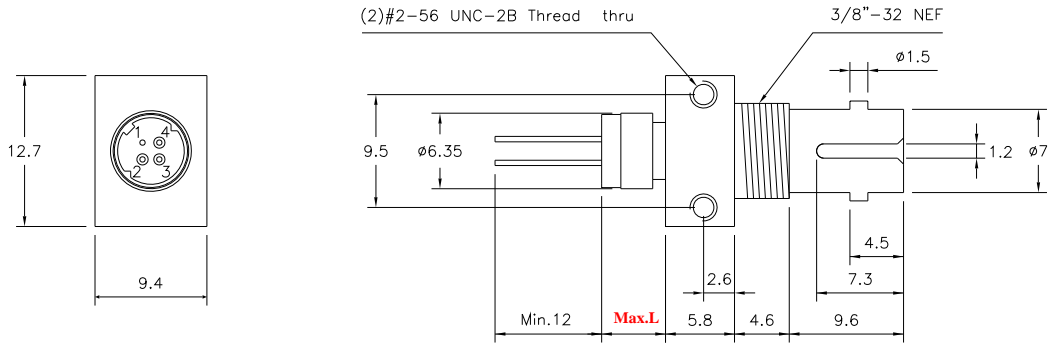
**SC RECEPTACLE (BOARD MOUNT)  
(DL-55XXX-CXX0-SBS)**



**FC RECEPTACLE  
(DL-55XXX-CXX0-FS)**



**FC RECEPTACLE (BOARD MOUNT)**  
**(DL-55XXX-CXX0-FBS)**



**ST RECEPTACLE**  
**(DL-55XXX-CXX0-TS)**

P/N	Max. L Dimension				
	S	SB	F	FB	T
552XX-CXX0-XS	8.6	8.0	6.2	8.9	7.7
553XX-CXX0-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    - C   0 -   S

Code	Pout (mW)
2	1
3	2
4	3

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

Code	Speed
Blank	1.25 Gbps
S	2.5 Gbps

Code	Wavelength
27	1270 nm
29	1290 nm
31	1310 nm
33	1330 nm
35	1350 nm
37	1370 nm
39	1390 nm
41	1410 nm
43	1430 nm
45	1450 nm
47	1470 nm
49	1490 nm
51	1510 nm
53	1530 nm
55	1550 nm
57	1570 nm
59	1590 nm
61	1610 nm

Code	Isolator
S	Single-Stage

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

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Revision History

Version	Subject	Release Date
1.0	Initial datasheet	12/1/2003
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