

## 1270 nm ~ 1610 nm DFB LD MODULES 2.5 Gbps CWDM MQW-DFB LD RECEPTACLE

## DL-5500S-CXX0 Series

### FEATURES

- 2 18-wavelength CWDM: from 1270 nm to 1610 nm, each Step 20 nm
- 2 High reliability, long operation life
- 2 0 °C ~+70 °C operation
- 2 Up to 2.5 Gbps Operation
- 2 Single frequency operation with high SMSR
- 2 Build-in InGaAs monitor

### APPLICATION

OC-3, OC-12, OC-48, and Gigabit Ethernet Optical communication system

### DESCRIPTION

DL-5500S-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.

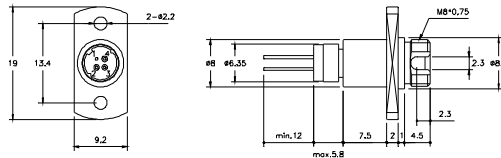
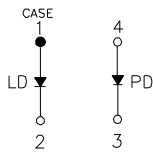
| ELECTRICAL AND OPTICAL CHARACTERISTICS (T <sub>C</sub> =25 °C) |   |  |            |        |        |      |
|--|---|--|------------|--------|--------|------|
| Symbol   | Parameter   | Test Conditions  | Min.       | Typ.   | Max.   | Unit |
| I <sub>th</sub>  | Threshold Current   | CW   |            | 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<br>Part No: DL-552XS- CXX0<br>DL-553XS- CXX0 | CW, I <sub>th</sub> +20mA  | 1.0<br>2.0 | -<br>- | -<br>- | 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   | I <sub>F</sub> =I <sub>th</sub> , I <sub>th</sub> +20mA, 20~ 80% |            |        | 150    | ps   |
| ΔP <sub>f</sub> /P <sub>f</sub>                                | Tracking Error  | APC, 0~+70 °C  | -          | -      | ±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 (552XS/553XS) | 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   |

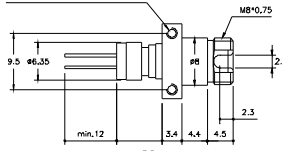
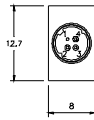
## MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT

### Type A



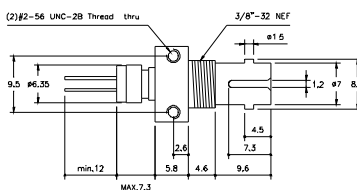
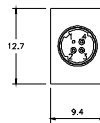
FC Receptacle

(2) #2-56 UNC-2B Thread thru



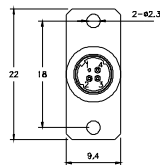
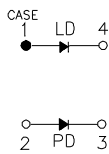
FC Receptacle (Board Mount)

(2) #2-56 UNC-2B Thread thru

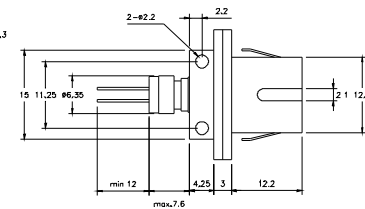
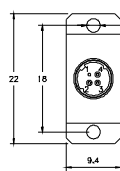


ST Receptacle

### Type B

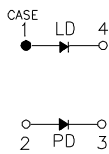


SC Receptacle



SC Receptacle (Board Mount)

### Type C



## ORDER INFORMATION

Part No.: D L - 5 5   - C   0 -

| Code | Power |
|------|-------|
| 2    | 1mW   |
| 3    | 2mW   |

| 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     |
|-------|--------------|
| Blank | No           |
| 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) |