

## 1270 nm ~ 1610 nm DFB LD MODULES

## DL-5300-CXX0 SERIES

## CWDM MQW-DFB LD PIGTAIL

## 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 Single frequency operation with high SMSR
- 2 Build-in InGaAs monitor

## APPLICATION

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

## DESCRIPTION

DL-5300-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.

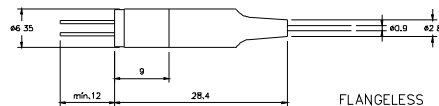
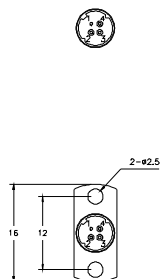
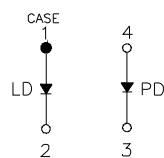
| ELECTRICAL AND OPTICAL CHARACTERISTICS (T <sub>C</sub> =25 °C) |                                                                 |                                                                  |            |      |      |      |
|----------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------|------------|------|------|------|
| 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-532X- CXX0<br>DL-533X- CXX0 | CW, I <sub>F</sub> = I <sub>th</sub> +20mA                       | 1.0<br>2.0 |      | --   | mW   |
| λ c                                                            | 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, 10~ 90% |            |      | 0.3  | ns   |
| 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         |      |      | μ A  |
| 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.

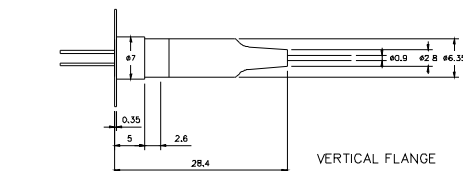
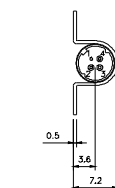
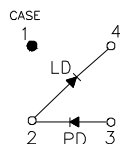
| ABSOLUTE MAXIMUM RATINGS (T <sub>C</sub> =25 °C) |                                  |         |      |
|--------------------------------------------------|----------------------------------|---------|------|
| Symbol                                           | Parameter                        | Ratings | Unit |
| P <sub>o</sub>                                   | Optical Output Power (532X/533X) | 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

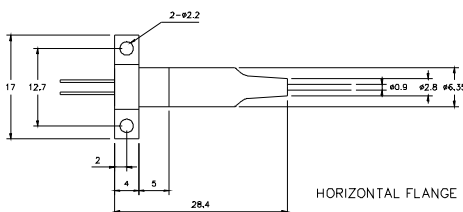
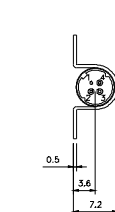
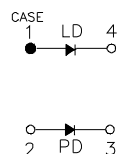
#### Type A



#### Type B



#### Type C



**Note:** Specifications subject to change without notice.

### ORDER INFORMATION

Part No.: D L - 5 3 - 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    |
|------|--------------|
| S    | SC/PC        |
| F    | FC/PC        |
| T    | ST/PC        |
| L    | LC/PC        |
| X    | No connector |
| SA   | SC/APC       |
| FA   | FC/APC       |
| TA   | ST/APC       |
| LA   | LC/APC       |

| Code | Flange     |
|------|------------|
| V    | Vertical   |
| H    | Horizontal |
| X    | No Flange  |