

1310 nm DFB LASER DIODES
MQW-DFB LASER DIODES

DL-3100 SERIES

FEATURES

- 2 Uncooled Laser Diode with MQW Structure
- 2 High Reliability, Long Operation Life
- 2 5 mW CW Operation at 0 °C ~ +70 °C
- 2 Single Frequency Operation with High SMSR
- 2 Build-in InGaAs Monitor
- 2 Flat Window Cap Package (DL-310X)
- 2 Aspherical Lens Cap Package (DL-312X)
- 2 2 mm Ball Lens Cap Package (DL-314X)

APPLICATION

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

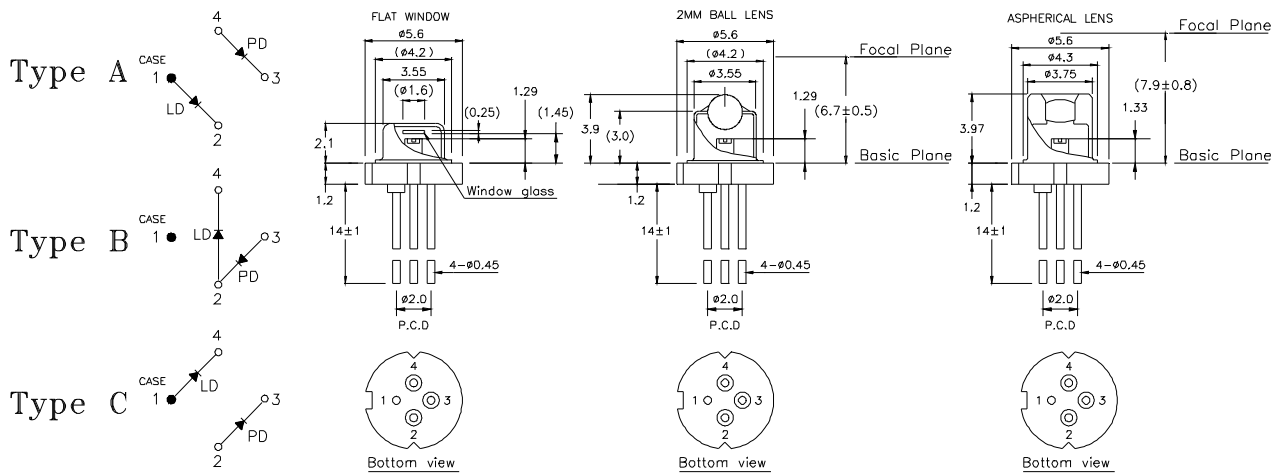
DESCRIPTION

DL-3100 series are MQW-DFB laser diodes that provide a durable, single frequency oscillation with emission wavelength of 1310 nm. DL-3100 series are hermetically sealed devices with the build-in photodiode for output monitoring.

| ELECTRICAL AND OPTICAL CHARACTERISTICS (T_C=25 °C) | | | | | | |
|---|---|--|----------------------|----------------------|-------------|-------------|
| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
| I _{th} | Threshold Current | CW | | 10 | 15 | mA |
| V _{OP} | Operating Voltage | CW, I _{th} +20mA | | 1.2 | 1.5 | V |
| η | Slope Efficiency Part No:DL-310X DL-312X DL-314X | CW, I _{th} +20mA | 0.25 0.20 0.20 | 0.36 0.32 0.25 | | mW/mA |
| λ _c | Center Wavelength | CW, I _{th} +20mA | 1290 | 1310 | 1330 | nm |
| SMSR | Side Mode Suppression Ratio | CW, I _{th} +20mA | 30 | 35 | | dB |
| θ _∥ | Beam Divergence (Parallel) | CW, I _{th} +20mA | | 25 | | deg. |
| θ _⊥ | Beam Divergence (Perpendicular) | CW, I _{th} +20mA | | 35 | | deg. |
| t _r , t _f | Rise And Fall Times | I _F =I _{th} , I _{th} +20mA, 20~ 80% | | | 0.226 | ns |
| I _m | PD Monitor Current | CW, I _{th} +20mA, V _{RD} =1V | 100 | | | μA |
| I _D | PD Dark Current | V _{RD} =5V | | | 0.1 | μA |
| C _t | PD Capacitance | V _{RD} =5V, f=1MHz | | 10 | 15 | pF |
| P _f | Fiber Coupled Power Part No:DL-312X DL-314X | CW, I _{th} +20mA, SM fiber | 1.5 0.8 | | | mW |

| ABSOLUTE MAXIMUM RATINGS (T _C =25 °C) | | | |
|--|-----------------------|-----------|------|
| Symbol | Parameter | Ratings | Unit |
| P _o | Optical Output Power | 7 | mW |
| V _{RL} | LD Reverse Voltage | 2 | V |
| V _{RD} | PD Reverse Voltage | 15 | V |
| I _{FD} | PD Forward Current | 2 | mA |
| T _{opr} | Operating Temperature | 0~70 | °C |
| T _{stg} | Storage Temperature | -40 ~ +85 | °C |

MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



Note: Specifications subject to change without notice.

ORDER INFORMATION

Part No.: **D L - 3 1**

| Code | Cap Type |
|------|-----------------|
| 0 | Flat Window |
| 2 | Aspherical Lens |
| 4 | 2 mm Ball Lens |

| Code | Speed |
|-------|-----------|
| Blank | 1.25 Gbps |
| S | 2.5 Gbps |

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