

1550 nm LASER DIODES

FL-5100 SERIES

UNCOOLED MQW-FP LASER DIODES

FEATURES

- 2 1550 nm typical emission wavelength
- 2 High reliability, long operation life
- 2 Build-in InGaAs monitor
- 2 Complies with Bellcore TA-NWT-000983
- 2 Flat Window Cap Package (FL-510X)
- 2 Ball Lens Cap Package (FL-511X)
- 2 Aspherical Lens Cap Package (FL-512X)

APPLICATION

Optical communication system

DESCRIPTION

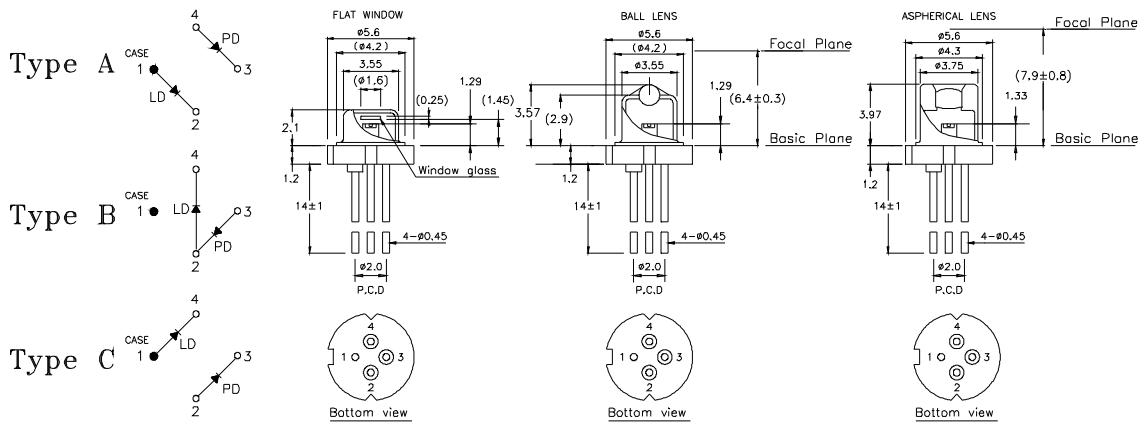
FL-5100 series are MQW-FP laser diodes that provide a durable, single transverse mode oscillation with emission wavelength of 1550 nm. FL-5100 series are hermetically sealed devices with the build-in photodiode for output monitoring.

| ELECTRICAL AND OPTICAL CHARACTERISTICS (T _C =25 °C) | | | | | | |
|--|---|--|---------------------|--------------------|------|-------|
| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
| I _{th} | Threshold Current | CW | | 12 | 15 | mA |
| V _{OP} | Operating Voltage | CW, P _O =5mW | | 1.2 | 1.5 | V |
| η | Slope Efficiency Part No.: FL-510X FL-511X FL-512X | CW, P _O =5mW | 0.2 0.15 0.15 | 0.25 0.2 0.2 | | mW/mA |
| λ _c | Center Wavelength | CW, P _O =5mW | 1520 | 1550 | 1580 | nm |
| Δλ | Spectral Width | CW, P _O =5mW, RMS (σ) | | | 3 | nm |
| θ _∥ | Beam Divergence (Parallel) | CW, P _O =5mW, Flat Window | | 20 | | deg. |
| θ _⊥ | Beam Divergence (Perpendicular) | CW, P _O =5mW, Flat Window | | 35 | | deg. |
| t _r , t _f | Rise And Fall Times | I _F =I _{th} , P _O =5mW, 10~ 90% | | | 0.3 | ns |
| I _m | PD Monitor Current | CW, P _O =5mW, 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.: FL-511X FL-512X | CW, I _{th} +20mA, SM fiber | 0.4 1.5 | 0.6 | | mW |

| ABSOLUTE MAXIMUM RATINGS (T _C =25 °C) | | | |
|--|-----------------------|---------|------|
| Symbol | Parameter | Ratings | Unit |
| P _o | Optical Output Power | 7/6* | 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 | -40~+85 | °C |
| T _{stg} | Storage Temperature | -40~+85 | °C |

Remark: * applied for ball-lens type only

MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



Note: Specifications subject to change without notice.

ORDER INFORMATION

Part No.: F L - 5 1

| Code | Cap Type |
|------|-----------------|
| 0 | Flat Window |
| 1 | Ball Lens |
| 2 | Aspherical Lens |

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

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