

## 1550 nm DFB LASER DIODES

## DL-5100 SERIES

### MQW-DFB LASER DIODES

#### FEATURES

- 2 1550 nm 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-510X)
- 2 Aspherical Lens Cap Package (DL-512X)
- 2 2 mm Ball Lens Cap Package (DL-514X)

#### APPLICATION

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

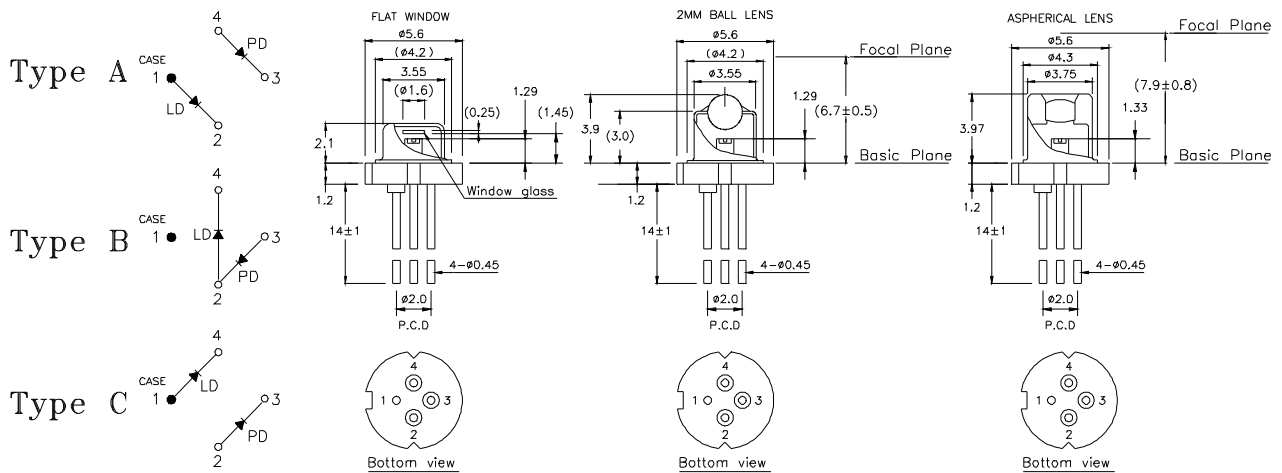
#### DESCRIPTION

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

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	15	mA
V <sub>OP</sub>	Operating Voltage	CW, I <sub>th</sub> +20mA		1.2	1.5	V
η	Slope Efficiency Part No:DL-510X DL-512X DL-514X	CW, I <sub>th</sub> +20mA	0.20 0.18 0.15	0.25 0.22 0.22		mW/mA
λ <sub>c</sub>	Center Wavelength	CW, I <sub>th</sub> +20mA	1530	1550	1570	nm
SMSR	Side Mode Suppression Ratio	CW, I <sub>th</sub> +20mA	30	35		dB
θ <sub>∥</sub>	Beam Divergence (Parallel)	CW, I <sub>th</sub> +20mA		25		deg.
θ <sub>⊥</sub>	Beam Divergence (Perpendicular)	CW, I <sub>th</sub> +20mA		35		deg.
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%			0.226	ns
I <sub>m</sub>	PD Monitor Current	CW, I <sub>th</sub> +20mA, V <sub>RD</sub> =1V	100			μA
I <sub>D</sub>	PD Dark Current	V <sub>RD</sub> =5V			0.1	μA
C <sub>t</sub>	PD Capacitance	V <sub>RD</sub> =5V, f=1MHz		10	15	pF
P <sub>f</sub>	Fiber Coupled Power Part No:DL-512X DL-514X	CW, I <sub>th</sub> +20mA, SM fiber	1.5 0.6			mW

ABSOLUTE MAXIMUM RATINGS (T <sub>C</sub> =25 °C)			
Symbol	Parameter	Ratings	Unit
P <sub>o</sub>	Optical Output Power	6	mW
V <sub>RL</sub>	LD Reverse Voltage	2	V
V <sub>RD</sub>	PD Reverse Voltage	15	V
I <sub>FD</sub>	PD Forward Current	2	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



Note: Specifications subject to change without notice.

## ORDER INFORMATION

Part No.: D L - 5 1

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

Code	Speed
Blank	1.25 Gbps
S	2.5 Gbps

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