

1310 nm DFB LASER DIODES MQW-DFB LASER DIODES

DL-3100 SERIES

FEATURES

- 2 Uncooled Laser Diode with Al-free 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 Up to 2.5 Gb/s Operation
- 2 Build-in InGaAs Monitor
- 2 Flat Window Cap Package (DL-310XX)
- 2 Aspherical Lens Cap Package (DL-312XX)
- 2 2 mm Ball Lens Cap Package (DL-314XX)

APPLICATION

Optical communication system

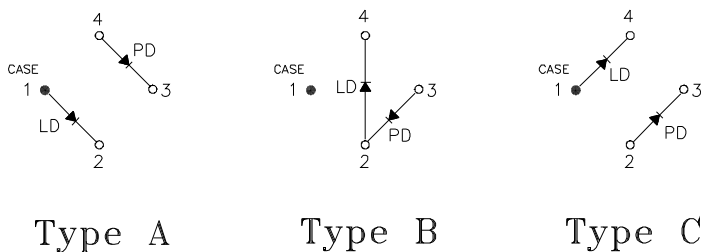
DESCRIPTION

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 (Tc=25°C, Pop=5mW, unless otherwise specified)						
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{th}	Threshold Current	CW		10	15	mA
V _{OP}	Operating Voltage	CW, Pop=5mW		1.2	1.5	V
η	Slope Efficiency Part No:DL-310XX DL-312XX DL-314XX	CW, Pop=5mW	0.25 0.20 0.20	0.36 0.32 0.25		mW/mA
λ _c	Center Wavelength	CW, Pop=5mW	1290	1310	1330	nm
SMSR	Side Mode Suppression Ratio	CW, Pop=5mW	30	35		dB
θ	Beam Divergence (Parallel)	CW, Flat Window		25		deg.
θ _⊥	Beam Divergence (Perpendicular)	CW, Flat Window		35		deg.
t _r , t _f	Rise And Fall Times Part No:DL-31XX DL-31XXS	I _F =I _{th} , 20~ 80%, Pop=5mW			226 150	Ps
I _m	PD Monitor Current	CW, V _{RD} =1V, Pop=5mW	50		1500	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-312XX DL-314XX	CW, SM fiber, Pop=5mW	1.5 0.5			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

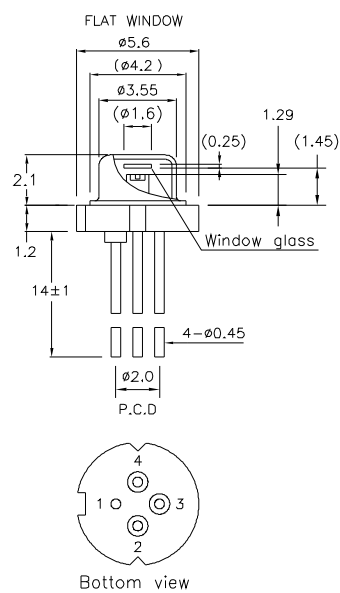
MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



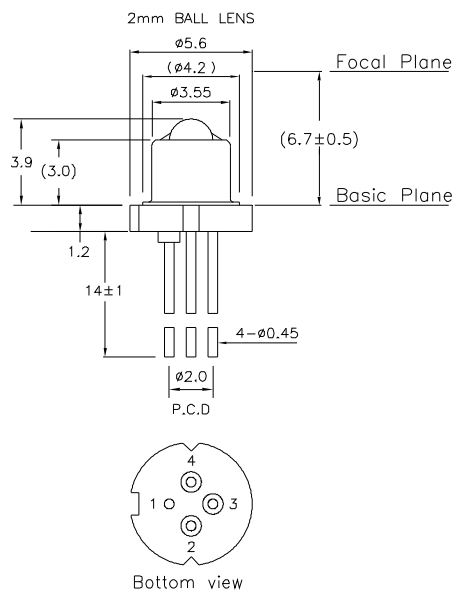
Type A

Type B

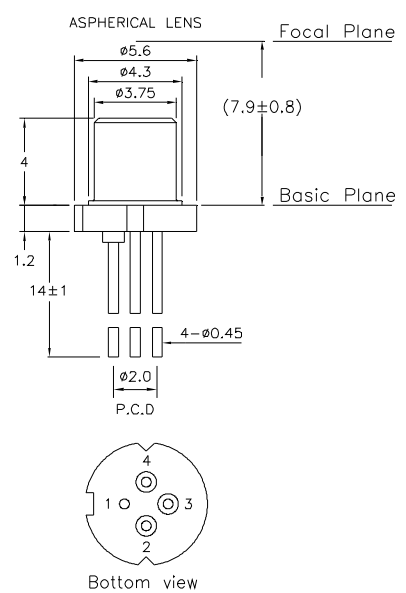
Type C



DL-310XX



DL-314XX



DL-312XX

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

Revision History

Version	Subject	Release Date
1.0	Initial datasheet	2003/10/1
2.0	Combine 1.25G and 2.5G characteristics in one data sheet	2007/12/1