

1550 nm DFB LASER DIODES

DL-5100 SERIES

MQW-DFB LASER DIODES

FEATURES

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

APPLICATION

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 (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-510XX DL-512XX DL-514XX	CW, Pop=5mW	0.20 0.18 0.15	0.25 0.22 0.22		mW/mA
λ _c	Center Wavelength	CW, Pop=5mW	1530	1550	1570	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-51XX DL-51XXS	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-512XX DL-514XX	CW, SM fiber, Pop=5mW	1.5 0.5			mW

OPTOWAY TECHNOLOGY INC.

No.38, Kuang Fu S. Road, Hu Kou, Hsin Chu Industrial Park, Hsin Chu, Taiwan 303

Tel: 886-3-5979798

Fax:886-3-5979737

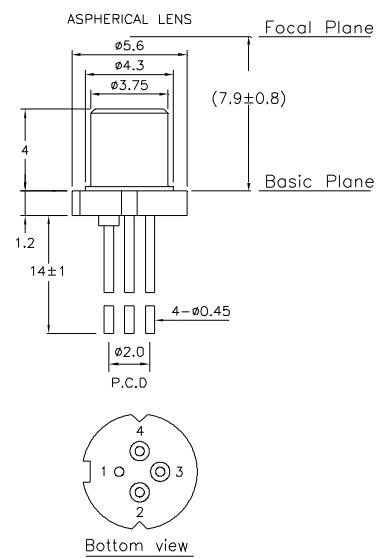
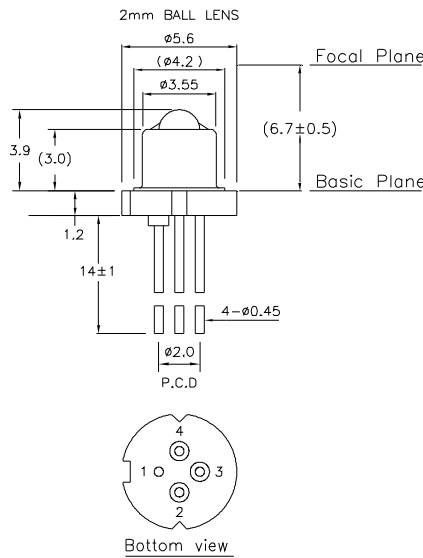
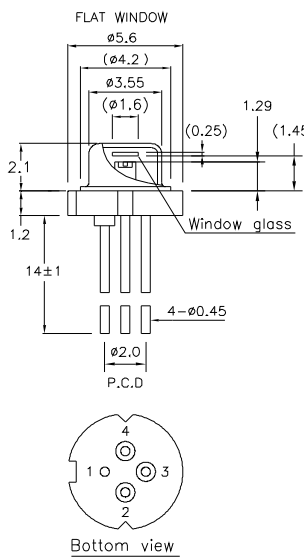
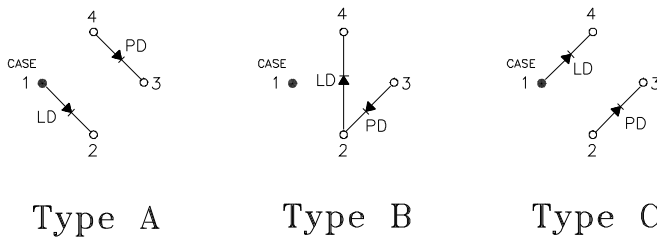
e-mail: sales@optoway.com.tw

[http:// www.optoway.com.tw](http://www.optoway.com.tw)

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ABSOLUTE MAXIMUM RATINGS (T _c =25 °C)			
Symbol	Parameter	Ratings	Unit
P _o	Optical Output Power	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	0~70	°C
T _{stg}	Storage Temperature	-40 ~ +85	°C

MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



Note: Specifications subject to change without notice.

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 Tel: 886-3-5979798 Fax: 886-3-5979737
 e-mail: sales@optoway.com.tw http:// www.optoway.com.tw 12/1/2007 V2.0

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

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

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