

## 1310 nm DFB LASER DIODES

## DL-3100S SERIES

### 2.5 Gb/s MQW-DFB LASER DIODES

#### 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 Operation up to 2.5 Gb/s
- 2 Build-in InGaAs Monitor
- 2 Flat Window Cap Package (DL-310XS)
- 2 Aspherical Lens Cap Package (DL-312XS)
- 2 2 mm Ball Lens Cap Package (DL-314XS)

#### APPLICATION

OC-3, OC-12, OC-48 and Gigabit Ethernet Optical communication system

#### DESCRIPTION

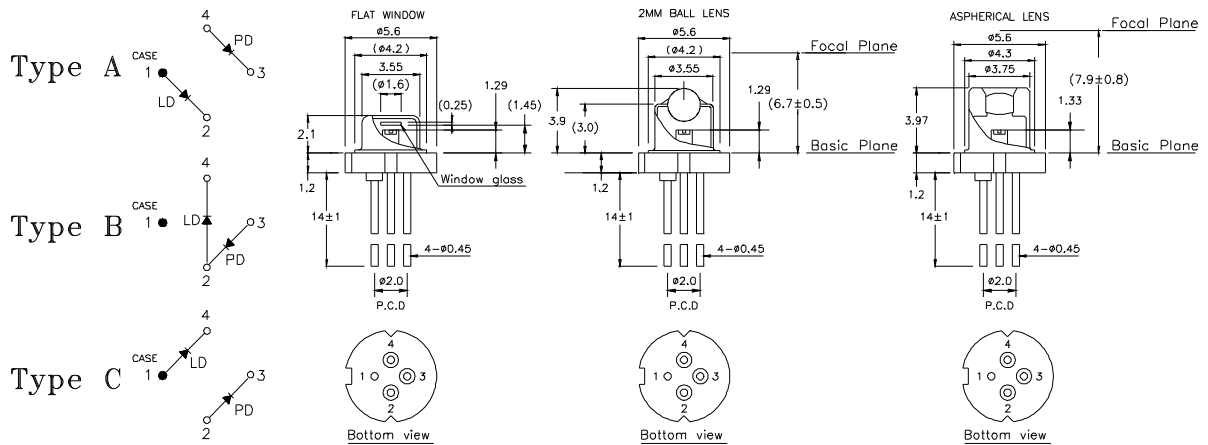
DL-3100S series are MQW-DFB laser diodes that provide a durable, single frequency oscillation with emission wavelength of 1310 nm. DL-3100S series are hermetically sealed devices with the build-in photodiode for output monitoring.

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-310XS DL-312XS DL-314XS	CW, I <sub>th</sub> +20mA	0.25 0.20 0.20	0.36 0.32 0.25		mW/mA
λ <sub>c</sub>	Center Wavelength	CW, I <sub>th</sub> +20mA	1290	1310	1330	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%			150	ps
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-312XS DL-314XS	CW, I <sub>th</sub> +20mA, SM fiber	1.5 0.8			mW

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ABSOLUTE MAXIMUM RATINGS (T <sub>C</sub> =25 °C)			
Symbol	Parameter	Ratings	Unit
P <sub>o</sub>	Optical Output Power	7	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 - 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

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**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](mailto:sales@optoway.com.tw) <http://www.optoway.com.tw> 10/1/2003 V2.0