

**1650 nm DFB LASER DIODE MODULE**  
UNCOOLED MQW DFB LD WITH PIGTAIL

**DL-5300-1650 Series**

**FEATURES**

- 2 1650 nm Uncooled Laser Diode with MQW Structure
- 2 High Reliability, Long Operation Life
- 2 Single Frequency Operation with High SMSR
- 2 0 to 70°C operation without active cooling
- 2 Build-in InGaAs monitor

**APPLICATION**

Trunk Line, OTDR

**DESCRIPTION**

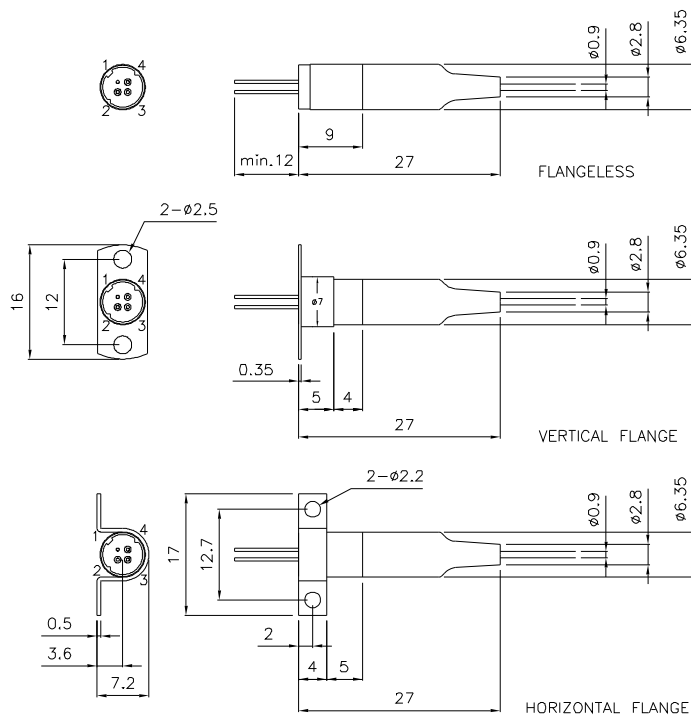
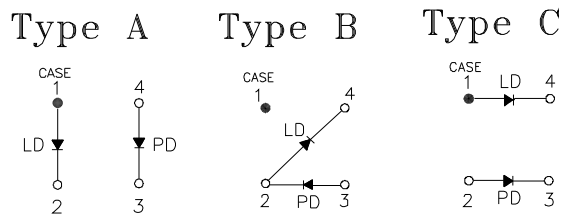
DL-5300-1650 series are designed for coupling a single mode optical fiber with 1650 nm MQW DFB uncooled laser diode. These modules are ideally suitable for long reach and intermediate reach OC-3, OC-12, and Gigabit Ethernet transmission application.

<b>ELECTRICAL AND OPTICAL CHARACTERISTICS (T<sub>C</sub>=25 °C)</b>						
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>F</sub> = I <sub>th</sub> +25mA		1.2	1.5	V
P <sub>f</sub>	Optical Output Power Part No:DL-532XX-1650 DL-533XX-1650	CW, I <sub>F</sub> = I <sub>th</sub> +25mA	1.0 2.0		2.0 3.0	mW
λ <sub>c</sub>	Center Wavelength	CW, P <sub>o</sub> = P <sub>f</sub>	1640	1650	1660	nm
SMSR	Side Mode Suppression Ratio	CW, I <sub>th</sub> +25mA	30	35		dB
t <sub>r</sub> , t <sub>f</sub>	Rise And Fall Times Part No:DL-53XX-1650 DL-53XXS-1650	I <sub>F</sub> =I <sub>th</sub> , I <sub>th</sub> +25mA , 20~ 80%			226 150	ps
ΔP <sub>f</sub> / P <sub>f</sub>	Tracking Error	APC, 0~+70 °C	-1.5		1.5	dB
I <sub>m</sub>	PD Monitor Current	CW, I <sub>th</sub> +25mA, V <sub>RD</sub> =1V	100		1500	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

<b>ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub>=25 °C)</b>			
Symbol	Parameter	Ratings	Unit
P <sub>o</sub>	Optical Output Power (532XX/533XX)	1.5/3	mW
V <sub>RL</sub>	LD Reverse Voltage	2	V
V <sub>RD</sub>	PD Reverse Voltage	10	V
I <sub>FD</sub>	PD Forward Current	1.0	mA
T <sub>opr</sub>	Operating Temperature	0 to 70	°C
T <sub>stg</sub>	Storage Temperature	-40~+85	°C

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## MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



**Note:** Specifications subject to change without notice.

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## ORDER INFORMATION

Part No.: D L - 5 3    - 1 6 5 0 -

Code	Pout (mW)
2	1
3	2

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

Code	Speed
Blank	1.25 Gbps
S	2.5 Gbps

Code	Flange
V	Vertical
H	Horizontal
X	No Flange

Code	Connector
S	SC/PC
F	FC/PC
T	ST/PC
L	LC/PC
X	No connector
SA	SC/APC
FA	FC/APC
TA	ST/APC
LA	LC/APC

Code	Isolator
Blank	No
S	Single-Stage

## Revision History

Version	Subject	Release Date
1.0	Initial datasheet	2004/8/1
2.0	Combine 1.25G and 2.5G characteristics in one data sheet	2007/12/1

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