

**1310 nm LASER DIODE MODULES**  
UNCOOLED MQW-FP LD WITH PIGTAIL

**FL-3300 SERIES**

**FEATURES**

- ◇ 1310 nm typical emission wavelength
- ◇ High reliability, long operation life
- ◇ High temperature operation without active cooling
- ◇ Build-in InGaAs monitor

**APPLICATION**

Trunk Line, FitL

**DESCRIPTION**

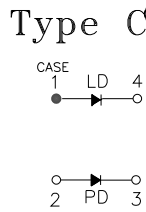
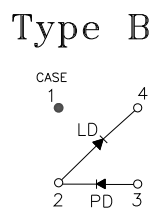
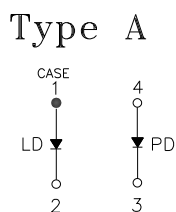
FL-3300 series are designed for coupling a single mode optical fiber with 1310 nm MQW-FP uncooled laser diode. FL-3300 series are the best kits as light sources for telecom and datacom applications.

<b>ELECTRICAL AND OPTICAL CHARACTERISTICS (T<sub>C</sub>=25 °C)</b>						
<b>Symbol</b>	<b>Parameter</b>	<b>Test Conditions</b>	<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>	<b>Unit</b>
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> +20mA		1.2	1.5	V
P <sub>f</sub>	Optical Output Power Part No:FL-330XX FL-331XX FL-332XX FL-333XX FL-334XX	CW, I <sub>F</sub> = I <sub>th</sub> +20mA	0.2 0.5 1.0 2.0 3.0		0.5 1.0 2.0 3.0 -	mW
λ <sub>c</sub>	Center Wavelength	CW, I <sub>th</sub> +20mA	1290	1310	1330	nm
Δ λ	Spectral Width	CW, I <sub>th</sub> +20mA , RMS (σ)		1	3	nm
t <sub>r</sub> , t <sub>f</sub>	Rise And Fall Times Part No:FL-33XX FL-33XXS	I <sub>F</sub> =I <sub>th</sub> , I <sub>th</sub> +20mA , 20~ 80%			226 150	ps
Δ P <sub>f</sub> / P <sub>f</sub>	Tracking Error	APC, -40~+85 °C	-1.0		1.0	dB
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

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ABSOLUTE MAXIMUM RATINGS (T <sub>c</sub> =25 °C)			
Symbol	Parameter	Ratings	Unit
P <sub>o</sub>	Optical Output Power (330XX/331XX/332XX/333XX/334XX)	0.5/1.0/1.5/3/4	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	-40~+85	°C
T <sub>stg</sub>	Storage Temperature	-40~+85	°C

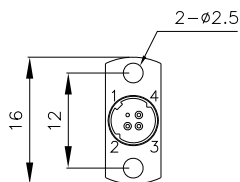
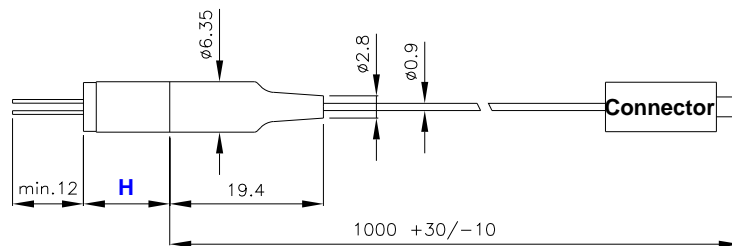
## MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



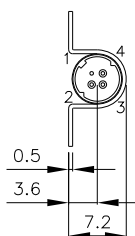
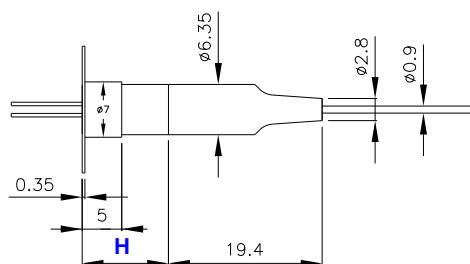
P/N	H
FL-330XX-XXX	7.6
FL-331XX-XXX	
FL-332XX-XXX	
FL-333XX-XXX	9
FL-334XX-XXX	10.9



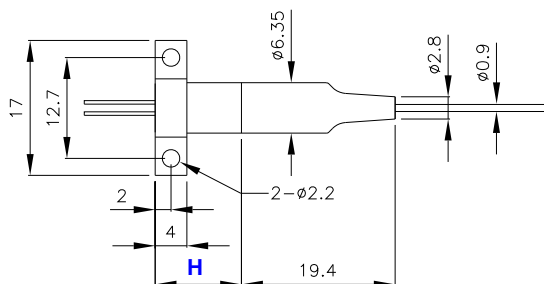
**Flangeless**



**Vertical Flange**



**Horizontal Flange**



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

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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

http:// www.optoway.com.tw

4/15/2009 V3.0

ORDER INFORMATION

Part No.: F L - 3 3    -

Code	Pout (mW)
0	0.2
1	0.5
2	1

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

Code	Flange
V	Vertical
H	Horizontal
X	No Flange

Code	Speed
Blank	1.25 Gbps
S	2.5 Gbps

Code	Isolator
Blank	No
S	Single-Stage

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

Part No.: F L - 3 3    -    S

Code	Pout (mW)
3	2
4	3

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

Code	Flange
V	Vertical
H	Horizontal
X	No Flange

Code	Speed
Blank	1.25 Gbps
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Revision History

Version	Subject	Release Date
1.0	Initial datasheet	2002/2/18
2.0	1. Combine 1.25G and 2.5G characteristics in one data sheet 2. Add 3mW products	2007/12/1
3.0	Revise mechanical drawing and order information	2009/4/15