
OL3450L-2, OL3451L-2, OL3453L-2

Series

Preliminary

2mW Coaxial DFB Laser Diode Modules

1. DESCRIPTION

The OL3450L-2, OL3451L-2, OL3453L-2 series consist of an MQW-DFB laser diode, a monitor PD, a single-stage optical isolator, a single-mode fiber and a coaxial package.

These modules are coaxial DFB Laser Diode Modules for 2.5Gbit/s transmission with high power at high temperature.

2. FEATURES

- Fiber output power: $P_f=2.0\text{mW}$
- Wide operating temperature range: $T_c=0$ to $+70^\circ\text{C}$
- Side mode suppression: 32dB
- Multi-quantum-well (MQW) DFB structure
- Internal monitor PD for power control
- Built-in single-stage optical isolator
- Coaxial Package
- No TEC required

3. APPLICATION

- OC-48, STM-16

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4.OPTICAL AND ELECTRICAL CHARACTERISTICS

(Tc = 0 to +70°C, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Fiber Output Power	Pf	CW	2.0			mW
Fiber Output Power (Average)	P _{AVG}	Modulated	1.0			mW
Threshold Current	I _{th}	Tc=+25°C,CW,BOL		7	15	mA
		Tc=+70°C,CW,BOL		25	40	
		Tc=+70°C,CW,EOL			1.5*I _{th} -BOL	
Operation Current	I _{op}	Pf=2.0mW,CW		70	110	mA
Slope efficiency	η	Pf=2.0mW, CW,Tc=+25°C	0.05	0.064		W/A
Modulation Current	I _{mod}	Pf=2.0mW,CW,Tc=+25°C		30	40	mA
Peak Wavelength	λ _p	Pf= 2.0mW,CW	1260		1360	nm
Spectral Width	Δλ	Pf= 2.0mW,CW,-20dB		0.2	0.5	nm
Side-mode suppression ratio	SMSR	Pf=2.0mW,CW	32	40		dB
Rise/Fall times	Tr/Tf	P _{AVG} =1.0mW,20-80% ExR*=9dB		0.09	0.15	ns
Relative Intensity Noise	RIN	Pf=2.0mW,CW		-140	-130	dB/Hz
Monitor Current	I _m	Pf= 2.0mW,CW, Tc=+25°C	50	400	2200	μA
Tracking Error**	TRE	Pf=2.0mW,CW	-1	---	+1	dB

*ExR=Extinction ratio

**TRE=10*log{(Pf@0~+70°C)/(Pf@25°C)} at I_m hold(@25°C)
5.ABSOLUTE MAXIMUM RATING

(Tc = +25°C, unless otherwise specified)

Parameter	Symbol	Rating	Unit
Fiber Output Power	Pf	4	mW
LD Reverse Voltage	V _{rl}	2	V
Monitor PD Forward Current	I _{fd}	10	mA
Monitor PD Reverse Current	I _{rd}	3	mA
Monitor PD Reverse Voltage	V _{rd}	30	V
Operating Case Temperature (Tc)	Tc	0 to +70	°C
Storage Temperature	T _{stg}	-40 to +85	°C
Lead Soldering Temperature (10s)	-	260	°C

Drawing No: JOG-01148 Rev.2

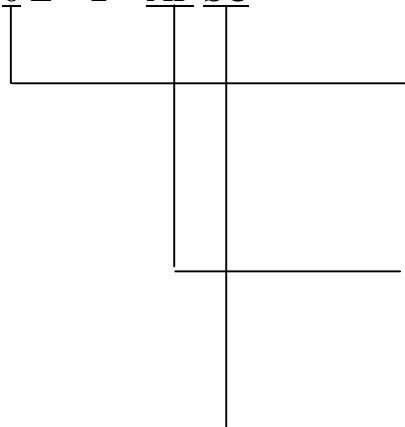
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6.CONNECTOR AND FIBER SPECIFICATIONS

Parameter	Specifications	Unit
Type	SM	---
Mode Field Diameter	9+/-1	μm
Cladding Diameter	125+/-2	μm
Jacket Diameter	900	μm
Length	1(Min)	m
Connector Type	FC/SC/LC/MU/MU-J	---

7.ORDERING INFORMATION

OL345 0 L - 2 - AF SC

**Pin Assignment**

0: C type
 1: A type
 3: B type
 (See P.4)

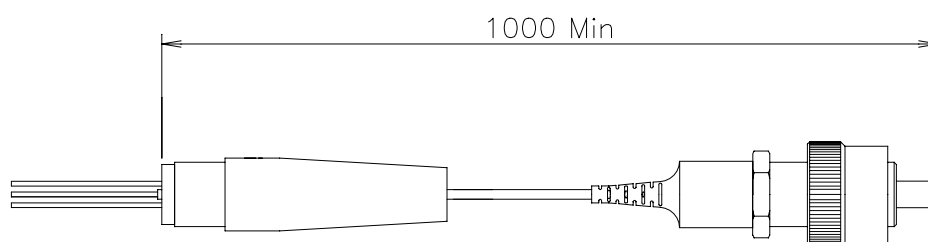
Flange type

AF: Angled Flange
 SF: Straight Flange (default, no suffix)
 NF: No Flange

Connector type

SC: SC Connector
 FC: FC Connector (default, no suffix)
 LC: LC Connector
 MU: MU Connector
 MUJ: MU-J Connector

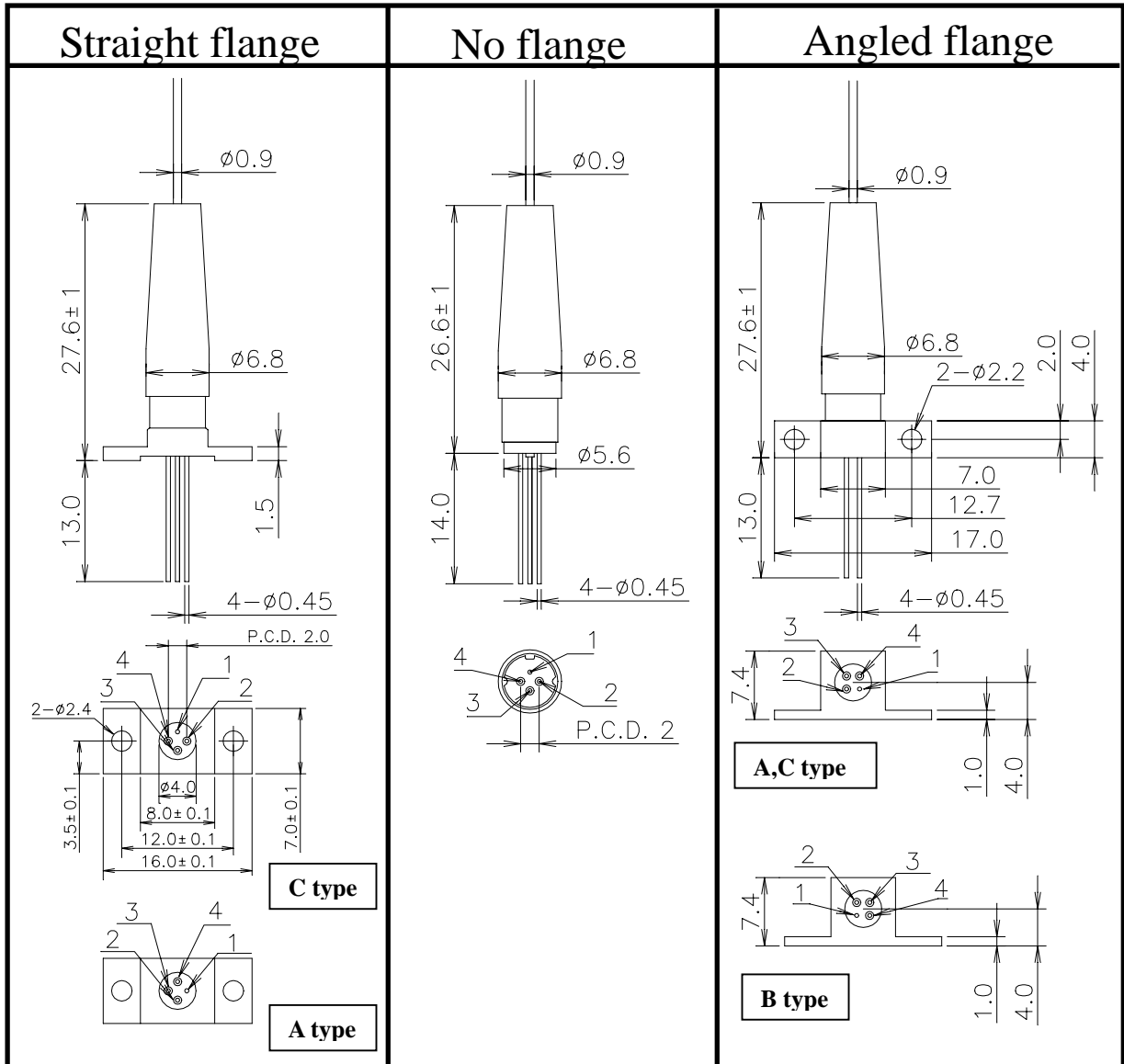
8.OUTLINE DRAWING

Length (mm)

Drawing No: JOG-01148 Rev.2

All dimensions in millimeters

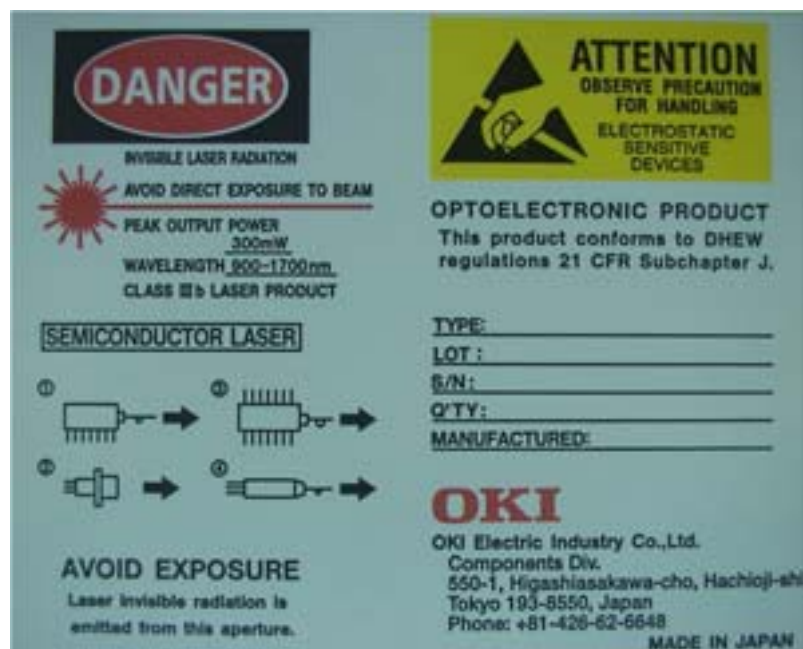
Flange Type



Pin Assignment

OL3450L (C type)	OL3451L (A type)	OL3453L (B type)																																				
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9. SAFETY INFORMATION ON THIS PRODUCT



<p>Warning</p> <p>Laser Beam</p>	<p>A laser beam is emitted from this laser diode during operation. The invisible or visible laser beam, directly or indirectly, may cause injury to the eye or loss of eyesight.</p> <p>Do not look directly into the laser beam.</p> <p>Avoid exposure to the laser beam, any reflected or collimated beam.</p>
<p>Caution</p> <p>GaAs Product</p>	<p>The product contains gallium arsenide, GaAs. GaAs vapor and powder are hazardous to human health if inhaled, ingested or swallowed.</p> <p>Do not destroy or burn the product.</p> <p>Do not crush or chemically dissolve the product.</p> <p>Do not put the product in the mouth.</p> <p>Observe related laws and company regulations when discarding this product. The product should be excluded from general industrial waste or household garbage.</p>
<p>Caution</p> <p>Optical Fiber</p>	<p>A glass-fiber is attached on the product. Handle with care.</p> <p>When the fiber is broken or damaged, handle carefully to avoid injury from the damaged part or fragments.</p>

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