

Optical Components

Rev. 3 [10. 2008]

OL5350L-3-A10,OL5351L-3-A10

OL5353L-3-A10

Preliminary

3mWCoaxial DFB Laser Diode Modules

1. DESCRIPTION

The OL5350L-3-A10,OL5351L-3-A10,OL5353L-3-A10 series consist of an MQW-DFB laser diode, a monitor PD, a single-mode fiber and a coaxial package.

2. FEATURES

- High output power: 3.0mW fiber output power under CW
- Wide operating temperature range: Tc=0 to +75°C
- Side-mode suppression: 30dB
- Multi-quantum-well (MQW) DFB structure
- Internal monitor PD for power control
- Coaxial Package
- No TEC required

3. APPLICATION

- WDM supervisory channel in SDH system with optical in-line amplifier

4.OPTICAL AND ELECTRICAL CHARACTERISTICS

(Tc = 0 to +75°C, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Fiber Output Power	Pf	CW	3			mW
Threshold Current	Ith(25)	CW, Tc=25°C	3.5		60	mA
Operation current	Iop	Pf=3mW, CW			110	mA
Forward Voltage	Vf	Pf=3mW, CW			2	V
Peak Wavelength	λ_p	Pf=3mW, CW	1500	1510	1520	nm
Spectral width	$\Delta\lambda$	Pf=3mW, -20dB,CW			1	nm
Side Mode Suppression Ratio	SMSR	Pf=3mW, CW	30			dB
Tracking Error	TRE	Pf=3mW, Im=const., related to 25°C	-1.0		1.0	dB
Rise/Fall Times	Tr/Tf	Ibias = Ith Pf=3mW,10-90%			0.5	ns
Photodiode Dark Current	Id	Vrd=5V			1	μ A
Monitor Current	Im	Pf=3mW,CW, Vrd=5V	100		1000	μ A
PD capacitance	Ct	Vrd=5V,f=1MHz		15		pF

TRE= 10*log{Pf(WCT)/Pf(25°C)}

Drawing No: JOG-01269 Rev.3

5.ABSOLUTE MAXIMUM RATING

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

Parameter	Symbol	Rating	Unit
Fiber Output Power	Pf	3.5	mW
LD Forward Current	Ifl	150	mA
LD Reverse Voltage	Vrl	2	V
Photodiode Forward Current	Ifd	10	mA
Photodiode Reverse Voltage	Vrd	15	V
Operating Temperature(Case)	Tc	0 to 75	°C
Storage Temperature	Tstg	-40 to 85	°C
Soldering(Max.10sec.)	Tsld	260	°C

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	1000 (Min.)	mm

7.ORDERING INFORMATION

OL535 3 L - 3 - A10 - AT LC

Pin Assignment

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

Flange type

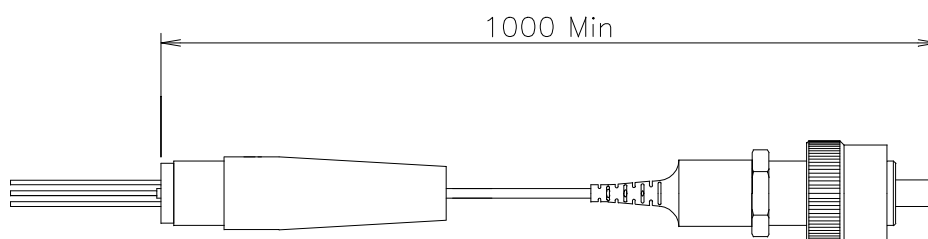
AT: Angled thin Flange
SF: Straight Flange
NF: No Flange

Connector type

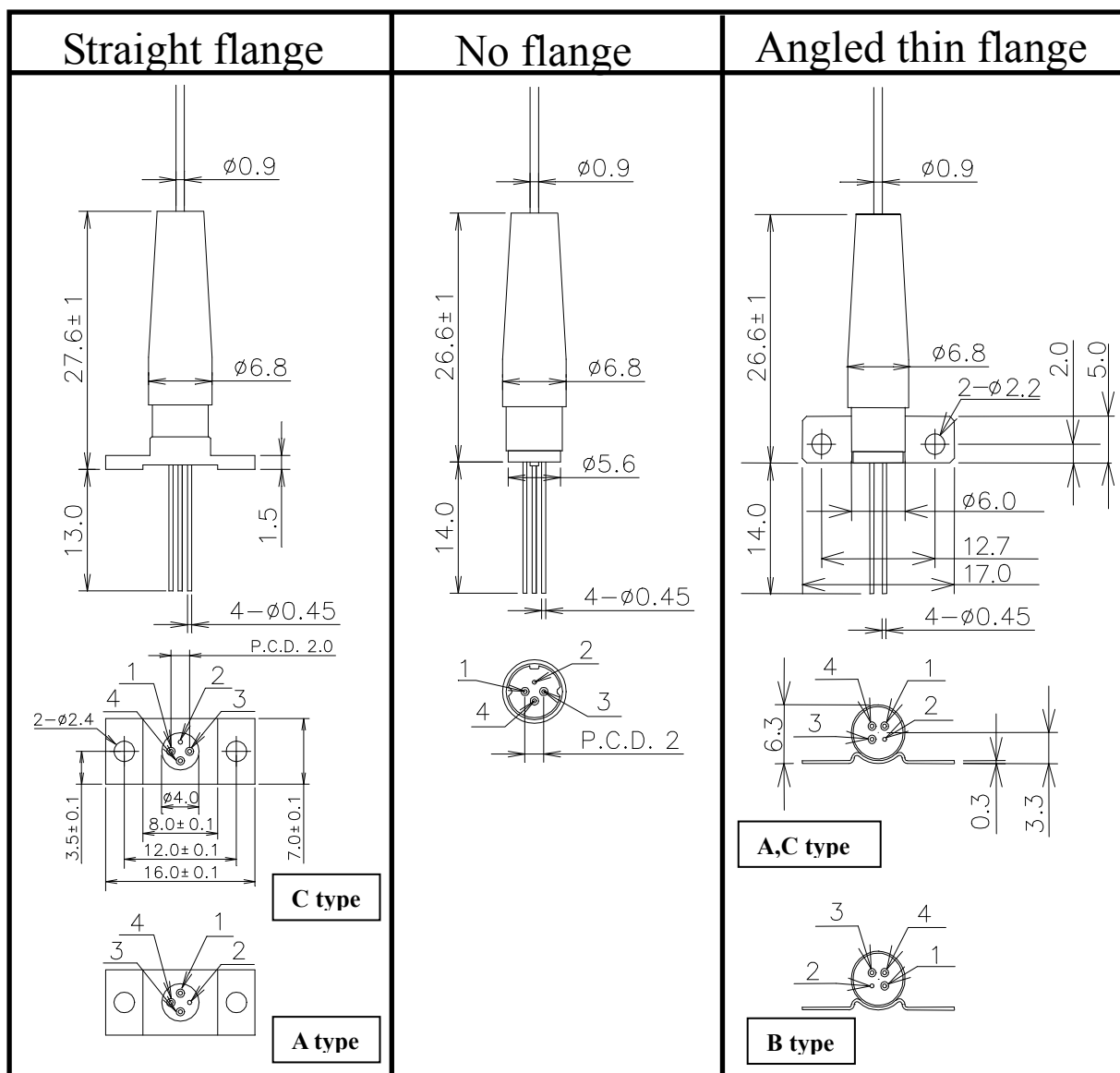
SC: SC Connector
FC: FC Connector
LC: LC Connector
MU: MU Connector
MUJ: MU-J Connector

8.OUTLINE DRAWING

Length (mm)



All dimensions in millimeters

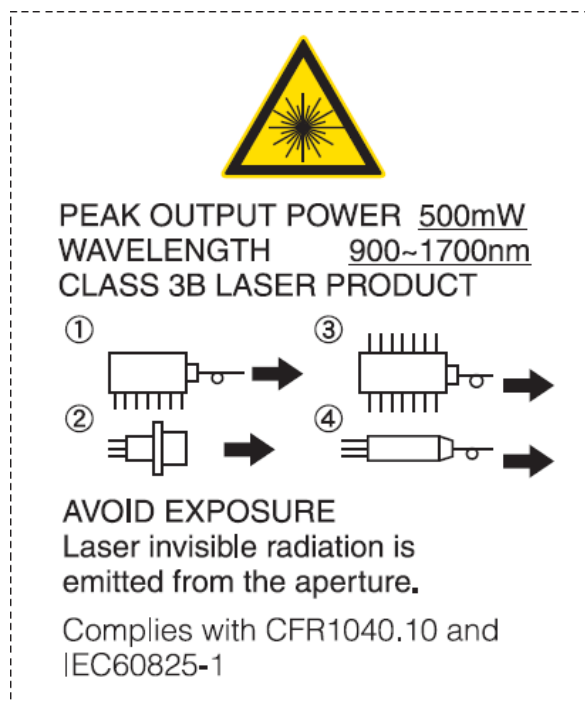


Pin Assignment

OL5350L (C type)	OL5351L (A type)	OL5353L (B type)																																				
<table><tr><th colspan="2">PIN configuration</th></tr><tr><th colspan="2">Assignment</th></tr><tr><td>1</td><td>LD anode PD cathode</td></tr><tr><td>2</td><td>CASE</td></tr><tr><td>3</td><td>LD cathode</td></tr><tr><td>4</td><td>PD anode</td></tr></table>	PIN configuration		Assignment		1	LD anode PD cathode	2	CASE	3	LD cathode	4	PD anode	<table><tr><th colspan="2">PIN configuration</th></tr><tr><th colspan="2">Assignment</th></tr><tr><td>1</td><td>PD anode</td></tr><tr><td>2</td><td>LD anode (CASE)</td></tr><tr><td>3</td><td>LD cathode</td></tr><tr><td>4</td><td>PD cathode</td></tr></table>	PIN configuration		Assignment		1	PD anode	2	LD anode (CASE)	3	LD cathode	4	PD cathode	<table><tr><th colspan="2">PIN configuration</th></tr><tr><th colspan="2">Assignment</th></tr><tr><td>1</td><td>LD cathode</td></tr><tr><td>2</td><td>LD anode (CASE)</td></tr><tr><td>3</td><td>PD anode</td></tr><tr><td>4</td><td>PD cathode</td></tr></table>	PIN configuration		Assignment		1	LD cathode	2	LD anode (CASE)	3	PD anode	4	PD cathode
PIN configuration																																						
Assignment																																						
1	LD anode PD cathode																																					
2	CASE																																					
3	LD cathode																																					
4	PD anode																																					
PIN configuration																																						
Assignment																																						
1	PD anode																																					
2	LD anode (CASE)																																					
3	LD cathode																																					
4	PD cathode																																					
PIN configuration																																						
Assignment																																						
1	LD cathode																																					
2	LD anode (CASE)																																					
3	PD anode																																					
4	PD cathode																																					

Drawing No: JOG-01269 Rev.3

9. SAFETY INFORMATION ON THIS PRODUCT



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

All specifications described herein are subject to change without notice.

Notice

No copying or reproduction of this document, in part or in whole, is permitted without the consent of LAPIS Semiconductor Co., Ltd.

The content specified herein is subject to change for improvement without notice.

The content specified herein is for the purpose of introducing LAPIS Semiconductor's products (hereinafter "Products"). If you wish to use any such Product, please be sure to refer to the specifications, which can be obtained from LAPIS Semiconductor upon request.

Examples of application circuits, circuit constants and any other information contained herein illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

Great care was taken in ensuring the accuracy of the information specified in this document. However, should you incur any damage arising from any inaccuracy or misprint of such information, LAPIS Semiconductor shall bear no responsibility for such damage.

The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. LAPIS Semiconductor does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by LAPIS Semiconductor and other parties. LAPIS Semiconductor shall bear no responsibility whatsoever for any dispute arising from the use of such technical information.

The Products specified in this document are intended to be used with general-use electronic equipment or devices (such as audio visual equipment, office-automation equipment, communication devices, electronic appliances and amusement devices).

The Products specified in this document are not designed to be radiation tolerant.

While LAPIS Semiconductor always makes efforts to enhance the quality and reliability of its Products, a Product may fail or malfunction for a variety of reasons.

Please be sure to implement in your equipment using the Products safety measures to guard against the possibility of physical injury, fire or any other damage caused in the event of the failure of any Product, such as derating, redundancy, fire control and fail-safe designs. LAPIS Semiconductor shall bear no responsibility whatsoever for your use of any Product outside of the prescribed scope or not in accordance with the instruction manual.

The Products are not designed or manufactured to be used with any equipment, device or system which requires an extremely high level of reliability the failure or malfunction of which may result in a direct threat to human life or create a risk of human injury (such as a medical instrument, transportation equipment, aerospace machinery, nuclear-reactor controller, fuel-controller or other safety device). LAPIS Semiconductor shall bear no responsibility in any way for use of any of the Products for the above special purposes. If a Product is intended to be used for any such special purpose, please contact a ROHM sales representative before purchasing.

If you intend to export or ship overseas any Product or technology specified herein that may be controlled under the Foreign Exchange and the Foreign Trade Law, you will be required to obtain a license or permit under the Law.

Copyright 2008 - 2011 LAPIS Semiconductor Co., Ltd.