

OLx109L-5 Series**Preliminary****5mW Laser Diode Butterfly Modules with Single Mode Fiber, Built in Cooler, Isolator.****1. DESCRIPTION**

OLx109L-5 Series are Laser Diode in Butterfly package with SMF.

2. FEATURES

- Fiber output: Pf=5mW
- Internal monitor PD for power control
- MQW DFB Laser
- Thermo-electric cooler
- Built-in optical isolator

3. APPLICATION

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

4. OPTICAL AND ELECTRICAL CHARACTERISTICS

(TLD= 25°C, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit	
Threshold Current	I _{th}	CW	---	---	30	mA	
Operation Current	I _{op}	Pf=5mW, CW	---	---	100	mA	
LD Forward Voltage	V _{fl}		---	---	3	V	
Peak Wavelength	λ _p	Pf=5mW, CW	OL4109L-5	1475	1480	1485	nm
			OL5109L-5A	1505	1510	1515	nm
			OL6109L-5A	1620	1625	1630	nm
			OL6109L-5B	1645	1650	1655	nm
Spectral Width	Δλ	Pf=5mW, CW, -20dB	---	---	1	nm	
Side Mode Suppression Ratio	SMSR	Pf=5mW, CW	30	---	---	dB	
Isolation	-	T _c =-5 to 70°C	20	---	---	dB	
Rise Time	τ _r	I _{bias} =I _{th} , Pf=5mW, 10-90%	---	---	0.5	ns	
Fall Time	τ _f		---	---	0.5	ns	
Photo Dark Current	I _D	V _{rd} =5V	---	---	1	μA	
Monitor Current	I _m	Pf=5mW, CW, V _{rd} =5V	50	---	---	μA	
PD Capacitance	C _t	V _{rd} =5V, f=1MHz	---	15	---	pF	
Cooler Capacity	ΔT	Pf=5mW	45	---	---	°C	
Cooler Current	I _c	ΔT=45°C, Pf=5mW	---	---	1.2	A	
Cooler Voltage	V _c		---	---	2.4	V	
Thermistor Resistance	R _{th}	T _{thm} =25°C	9.5	10	10.5	kΩ	

5.ABSOLUTE MAXIMUM RATING

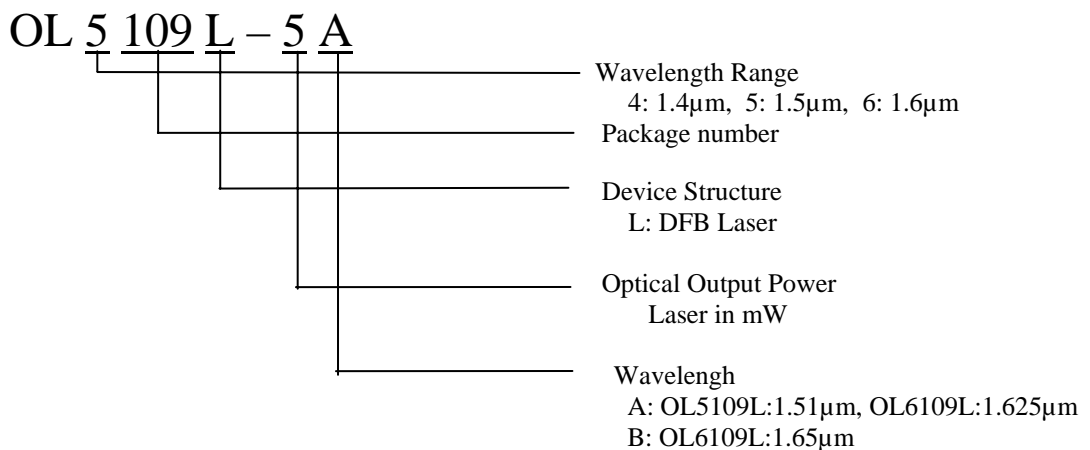
(Tc = 25°C, unless otherwise specified)

Parameter	Symbol	Rating	Unit
Fiber Output Power	Pf	6	mW
LD Reverse Voltage	Vrl	2.0	V
LD Forward Current	Ifl	150	mA
PD Reverse Voltage	Vrd	20	V
Cooler Current	Ic	1.3	A
Operating Temperature	Topr	-5 to +70	°C
Storage Temperature	Tstg	-40 to +85	°C
Lead Soldering	-	260(10sec)	°C

6. CONNECTOR AND FIBER SPECIFICATIONS

Parameter	Specifications	Unit
Type	SMF	---
Mode Field Diameter	9±1	µm
Cladding Diameter	125±2	µm
Jacket Diameter	900	µm
Length	1 (Min.)	m
Connector	FC/SPC	---

7.ORDERING INFORMATION

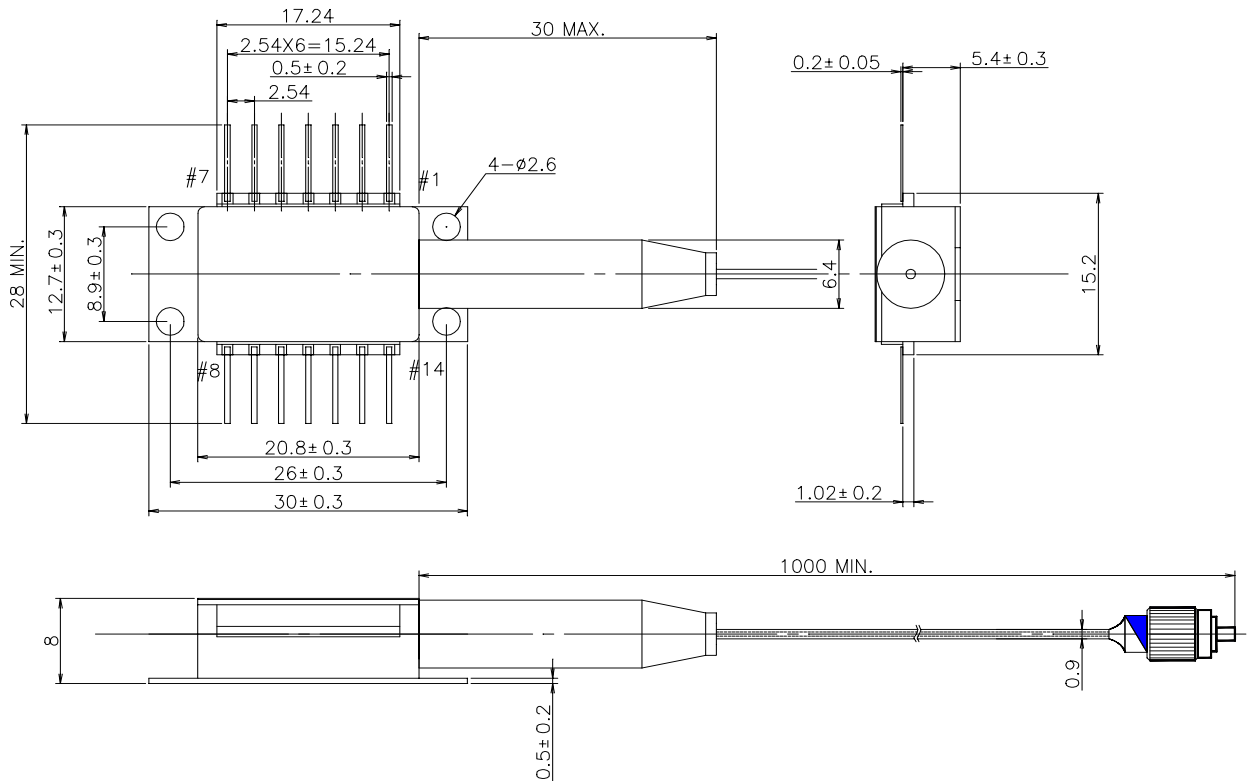


8.Attached Data

- If-Pf, If-Vf, If-Im graph at TLD=25°C
- Spectrum graph at TLD=25°C
- Threshold current(Ith) at TLD=25°C
- Operating current(Iop) at Pf=5mW, TLD=25°C
- Monitor current(Im) at Pf=5mW, TLD=25°C
- SMSR at TLD=25°C

9. Outline Drawing

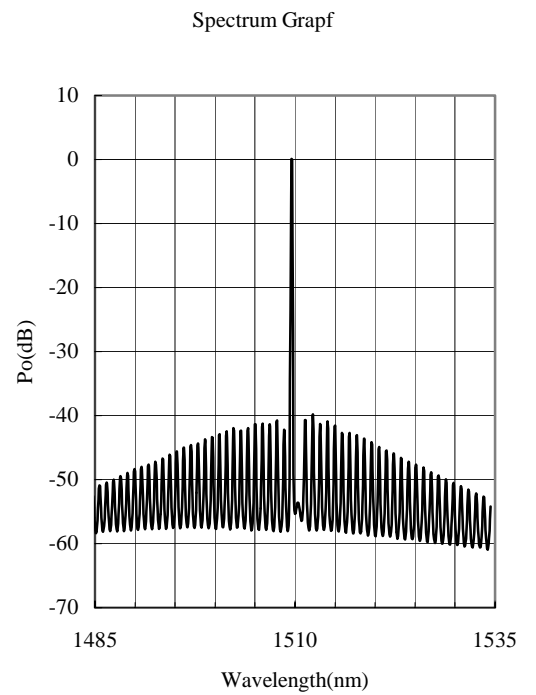
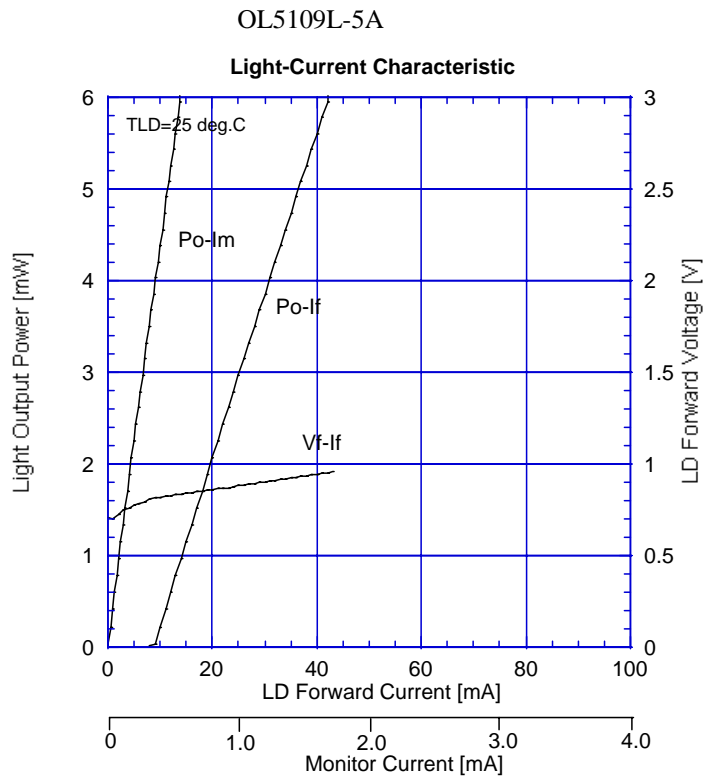
All dimensions in millimeters
Tolerances unless noted +/-0.5
Package No. 109(Unit: mm)



Package Pinout

Pin No.	Function	Pin No.	Function
1	Thermistor	8	NC
2	Thermistor	9	NC
3	NC	10	NC
4	Monitor Anode	11	LD Anode
5	Monitor Cathode	12	LD Cathode
6	TEC+	13	NC
7	TEC-	14	NC

10.TYPICAL OPERATING CHARACTERISTICS



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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