

OKI Electronics Components

OL2450L-2-Wnnn, OL2451L-2-Wnnn OL2453L-2-Wnnn, OL3450L-2-Wnnn OL3451L-2-Wnnn, OL3453L-2-Wnnn OL4450L-2-Wnnn, OL4451L-2-Wnnn OL4453L-2-Wnnn Series(W127-141)

2mW Coaxial DFB Laser Diode Modules

1. DESCRIPTION

The OL2450L-2-Wnnn, OL2451L-2-Wnnn, OL2453L-2-Wnnn, OL3450L-2-Wnnn, OL3451L-2-Wnnn, OL3453L-2-Wnnn, OL4450L-2-Wnnn, OL4451L-2-Wnnn, OL4453L-2-Wnnn 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 CWDM 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

- CWDM

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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 Tc=25°C	OL245xL-2-W127	1267	1270	1273	nm
			OL245xL-2-W129	1287	1290	1293	
			OL345xL-2-W131	1307	1310	1313	
			OL345xL-2-W133	1327	1330	1333	
			OL345xL-2-W135	1347	1350	1353	
			OL345xL-2-W137	1367	1370	1373	
			OL345xL-2-W139	1387	1390	1393	
OL445xL-2-W141	1407	1410	1413				
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)

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

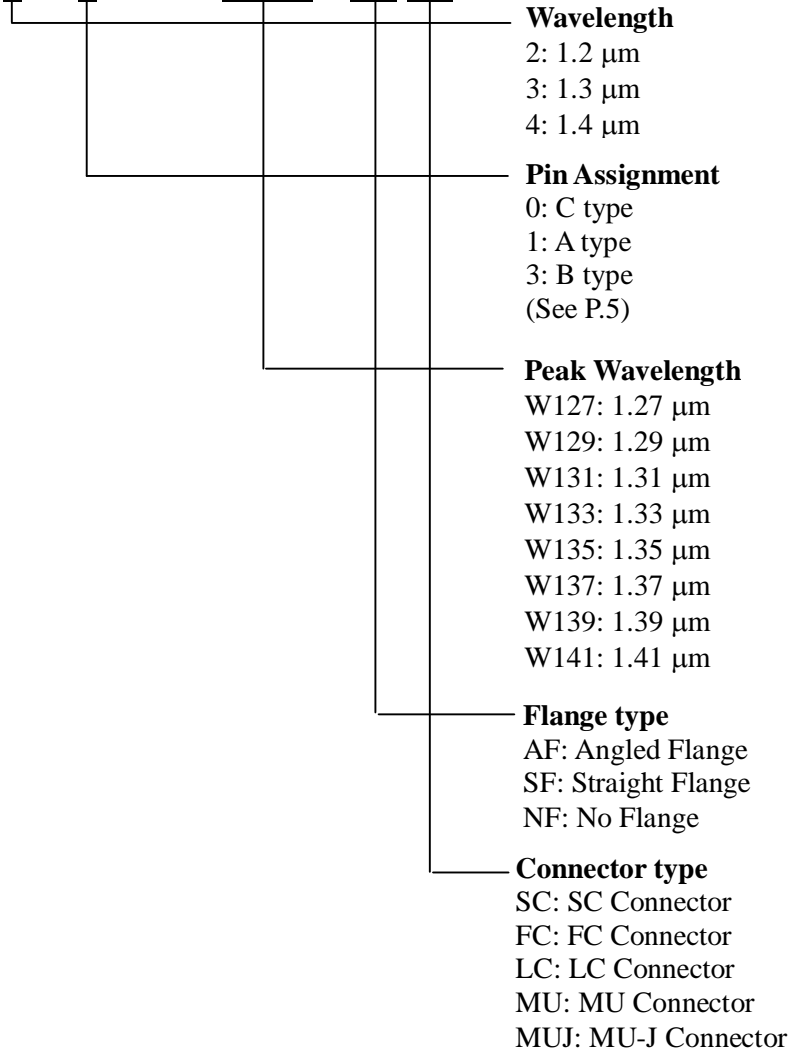
Parameter	Symbol	Rating	Unit
Fiber Output Power	Pf	4	mW
LD Reverse Voltage	Vrl	2	V
Monitor PD Forward Current	Ifd	10	mA
Monitor PD Reverse Current	Ird	3	mA
Monitor PD Reverse Voltage	Vrd	30	V
Operating Case Temperature (Tc)	Tc	0 to +70	°C
Storage Temperature	Tstg	-40 to +85	°C
Lead Soldering Temperature (10s)	-	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	1(Min)	m
Connector Type	FC/SC/LC/MU/MU-J	---

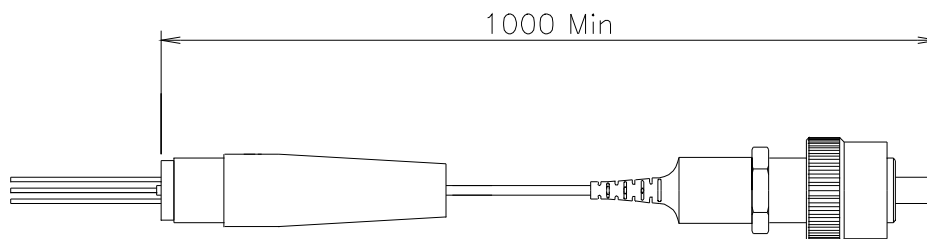
7.ORDERING INFORMATION

OL 3 45 0 L - 2 - W131 - AF SC



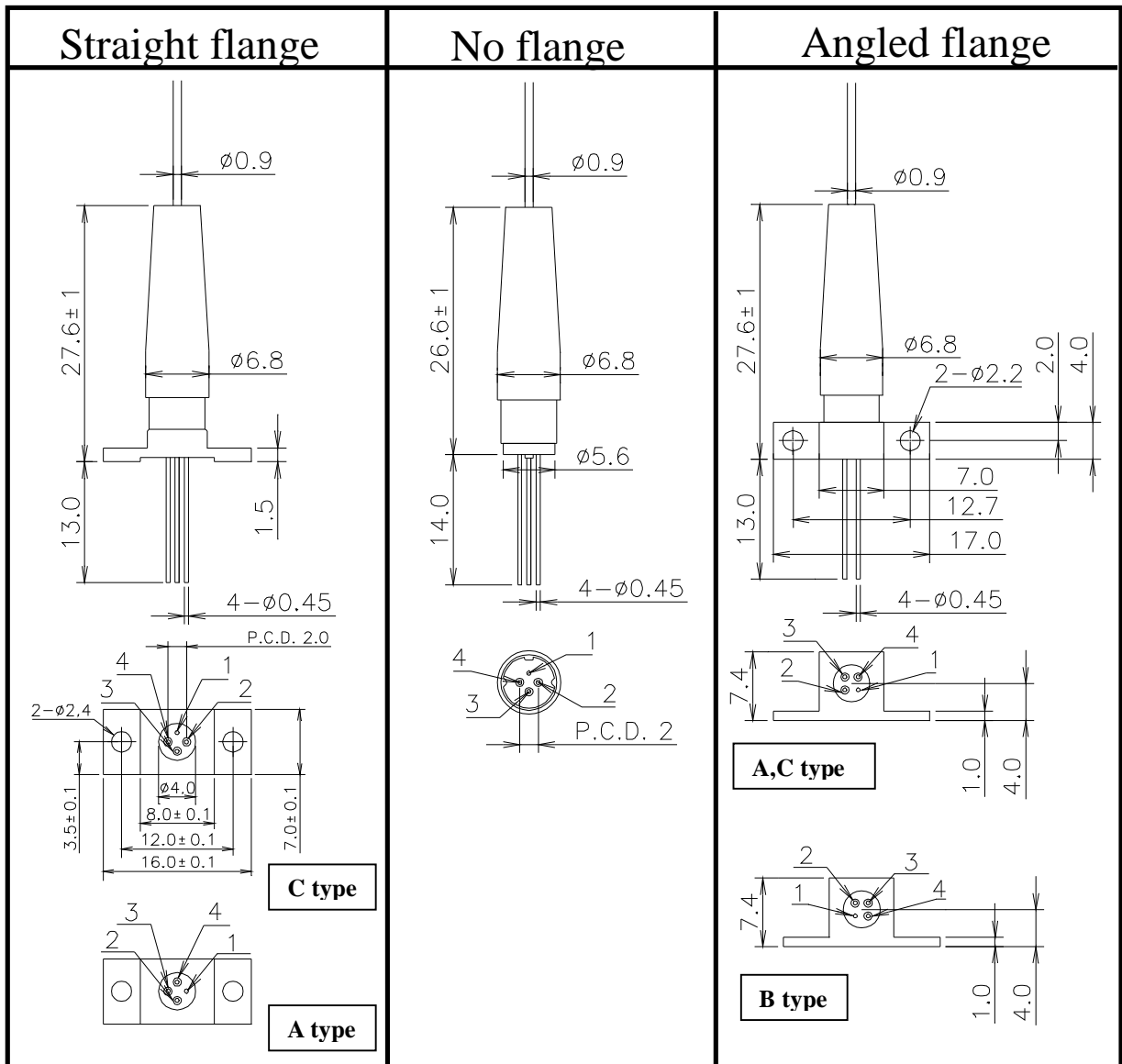
8.OUTLINE DRAWING

Length (mm)



All dimensions in millimeters

Flange Type



Pin Assignment

OL3450L (C type)	OL3451L (A type)	OL3453L (B type)																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">PIN configuration</td></tr> <tr><td style="text-align: center;">Assignment</td></tr> <tr><td>1 CASE</td></tr> <tr><td>2 LD cathode</td></tr> <tr><td>3 PD anode</td></tr> <tr><td>4 LD anode PD cathode</td></tr> </table>	PIN configuration	Assignment	1 CASE	2 LD cathode	3 PD anode	4 LD anode PD cathode	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">PIN configuration</td></tr> <tr><td style="text-align: center;">Assignment</td></tr> <tr><td>1 LD anode (CASE)</td></tr> <tr><td>2 LD cathode</td></tr> <tr><td>3 PD cathode</td></tr> <tr><td>4 PD anode</td></tr> </table>	PIN configuration	Assignment	1 LD anode (CASE)	2 LD cathode	3 PD cathode	4 PD anode	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">PIN configuration</td></tr> <tr><td style="text-align: center;">Assignment</td></tr> <tr><td>1 LD anode (CASE)</td></tr> <tr><td>2 PD anode</td></tr> <tr><td>3 PD cathode</td></tr> <tr><td>4 LD cathode</td></tr> </table>	PIN configuration	Assignment	1 LD anode (CASE)	2 PD anode	3 PD cathode	4 LD cathode
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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>

All specifications described herein are subject to change without notice.

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