

# OKI electronic components

## OL3112L

### 1.3 $\mu\text{m}$ DIP Laser Butterfly Module

#### GENERAL DESCRIPTION

The OL3112L is a 1.3  $\mu\text{m}$  DFB laser in a 14-pin "butterfly" package. Having rated output power of 2 mW, this laser can be used in telecommunication applications and high speed WDM systems.

#### FEATURES

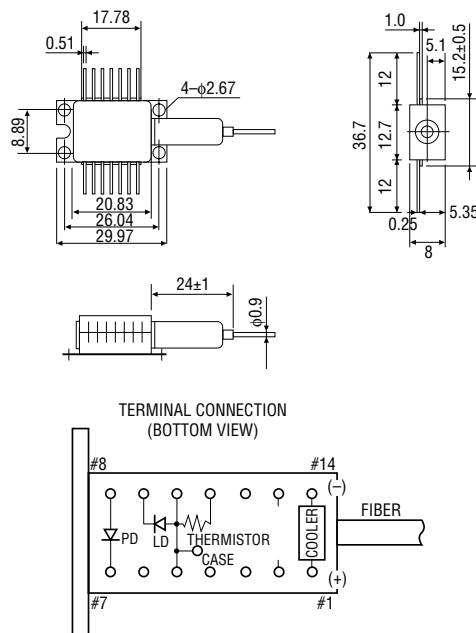
- Fiber output power:  $P_f=2$  mW
- 14-pin "butterfly" package
- Built-in isolator
- Includes monitor photodiode for power control
- Built-in thermoelectric cooler

#### APPLICATIONS

- Long-haul transmission systems
- CATV systems

#### PACKAGE DIMENSIONS (Unit: mm)

- OL3112L



PIN No.	FUNCTION	PIN No.	FUNCTION
1	COOLER ANODE	8	PD ANODE
2	NC	9	LD CATHODE
3	NC	10	LD ANODE, THERMISTOR and CASE GROUND
4	NC	11	THERMISTOR
5	LD ANODE and CASE GROUND	12	NC
6	NC	13	NC
7	PD CATHODE	14	COOLER CATHODE

**ABSOLUTE MAXIMUM RATINGS**

(Unless otherwise noted)

Parameter	Symbol	Test Conditions	Ratings	Unit
Fiber Output Power	Pf	Ta=25°C	3	mW
LD Forward Current	I <sub>F</sub> (LD)		150	mA
LD Reverse Voltage	V <sub>R</sub> (LD)		2	V
PD Reverse Voltage	V <sub>R</sub> (PD)		20	V
PD Forward Current	I <sub>F</sub> (PD)		10	mA
Cooler Current	I <sub>c</sub>		1.2	A
Operating Temperature	T <sub>opr</sub>	—	-20 to +65	°C
Storage Temperature	T <sub>stg</sub>	—	-40 to +70	°C

**OPTICAL AND ELECTRICAL CHARACTERISTICS**(T<sub>LD</sub>=25°C)

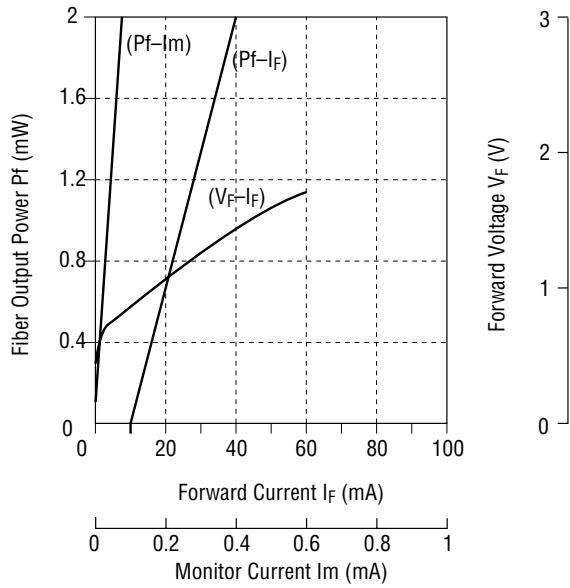
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Threshold Current	I <sub>th</sub>	—	—	15	30	mA
Fiber Output Power	Pf	I <sub>F</sub> =I <sub>th</sub> +40 mA	2	—	—	mW
Peak Wavelength	λ <sub>p</sub>	Pf=2 mA	1280	1310	1340	nm
Spectral Width	Δλ	Pf=2 mW, -20dB	—	—	1	nm
Side Mode Suppression Ratio	SMSR	Pf=2 mW	30	—	—	dB
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =30 mA	—	—	1.5	V
Rise Time	t <sub>r</sub>	I <sub>bias</sub> =I <sub>th</sub>	—	—	0.3	ns
Fall Time	t <sub>f</sub>	Pf (ave.)=1 mW, 10 to 90%	—	—	0.3	ns
PD Dark Current	I <sub>DARK</sub>	V <sub>R</sub> (PD) =5 V	—	—	1	μA
Monitor Current	I <sub>m</sub>	Pf=2 mW, V <sub>R</sub> (PD) =5 V	20	50	—	μA
Cooler Capacity	ΔT	Pf=2 mW	40	—	—	°C
Cooler Current	I <sub>c</sub>	ΔT=40°C, Pf=2mW	—	—	1.0	A
Cooler Voltage	V <sub>c</sub>	ΔT=40°C, Pf=2mW	—	—	3	V
Thermistor Resistance	R <sub>th</sub>	—	—	10	—	kΩ

**FIBER PIGTAIL SPECIFICATIONS**

Parameter	Specifications	Unit
Fiber Type	Single-mode	—
Mode Field Diameter	10±1	μm
Cladding Diameter	125±2	μm
Jacket Diameter	900	μm
Length	1 (Min)	m
Connector	FC	—

TYPICAL CHARACTERISTICS

Fiber Output Power vs. Forward Current



Spectrum

