

OKI electronic components

OL5112L

1.55 μ m DFB Laser Butterfly Module

GENERAL DESCRIPTION

The OL5112L is a 1.55 μ m DFB laser module with a single-mode fiber and mounted 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

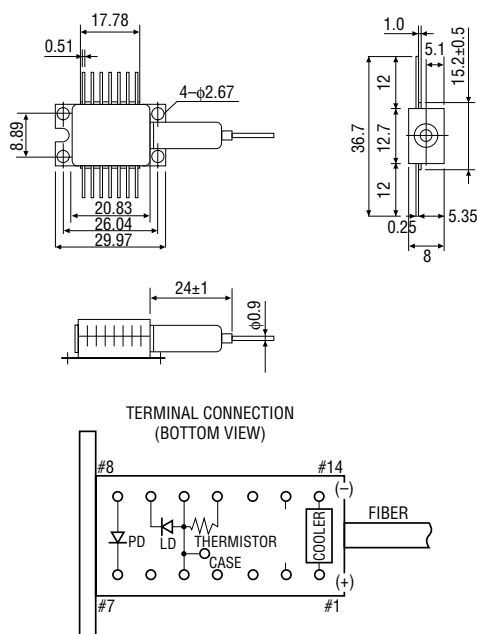
- Fiber output power: $P_f=2$ mW
- 14-pin "butterfly" package
- Built-in isolator, monitor photodiode and thermoelectric cooler

APPLICATIONS

- Long-haul transmission systems
- CATV systems

PACKAGE DIMENSIONS (Unit: mm)

• OL5112L



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

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Test Conditions	Ratings	Unit
Fiber Output Power	Pf	Ta=25°C	3	mW
LD Forward Current	I _F (LD)		150	mA
LD Reverse Voltage	V _R (LD)		2	V
PD Reverse Voltage	V _R (PD)		20	V
PD Forward Current	I _F (PD)		10	mA
Cooler Current	I _c		1.2	A
Operating Temperature	T _{opr}	—	−20 to +60	°C
Storage Temperature	T _{stg}	—	−40 to +70	°C

OPTICAL AND ELECTRICAL CHARACTERISTICS

(T_{LD}=25°C)

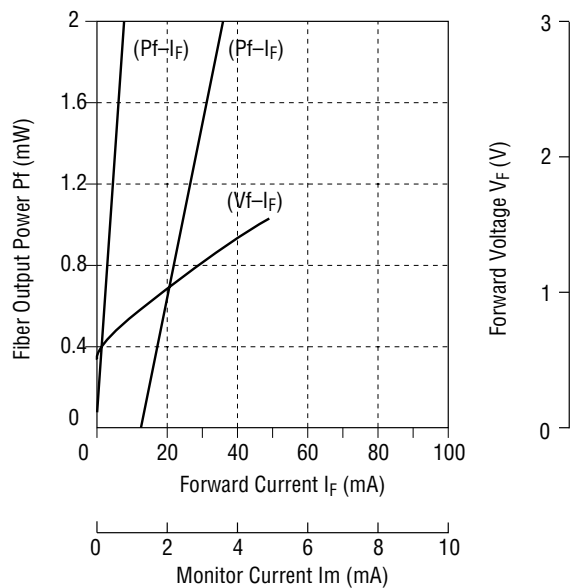
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Threshold Current	I _{th}	—	—	15	30	mA
Fiber Output Power	Pf	I _F =I _{th} +40 mA	2	—	—	mW
Peak Wavelength	λ _p	Pf=2 mA	1530	1550	1570	nm
Spectral Width	Δλ	Pf=2 mW, −20dB	—	—	1	nm
Side Mode Suppression Ratio	SMSR	Pf=2 mW	30	—	—	dB
Forward Voltage	V _F	I _F =30 mW	—	—	1.5	V
Rise Time	t _r	I _{bias} =I _{th}	—	—	0.2	ns
Fall Time	t _f	Pf (ave.)=1 mW, 10% to 90%	—	—	0.3	ns
PD Dark Current	I _{DARK}	V _R (PD) =5 V	—	—	1	μA
Monitor Current	I _m	Pf=2 mW, V _R (PD) =5 V	20	50	—	μA
Cooler Capacity	ΔT	Pf=2 mW	40	—	—	°C
Cooler Current	I _c	ΔT=40°C, Pf=2mW	—	—	1.2	A
Cooler Voltage	V _c	ΔT=40°C, Pf=2mW	—	—	3	V
Thermistor Resistance	R _{th}	—	—	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

TYPICAL CHARACTERISTICS

Fiber Output Power vs. Forward Current



Spectrum

