

# OKI electronic components

## OL4112N-70

### 1.48 μm High-Power Butterfly Module

#### GENERAL DESCRIPTION

The OL4112N-70 is a 1.48 μm high-power laser device in a 14-pin "butterfly" package. This device provides optical power higher than 70 mW and can be used for a pumping source of an Er (erbium) doped fiber amplifier.

#### FEATURES

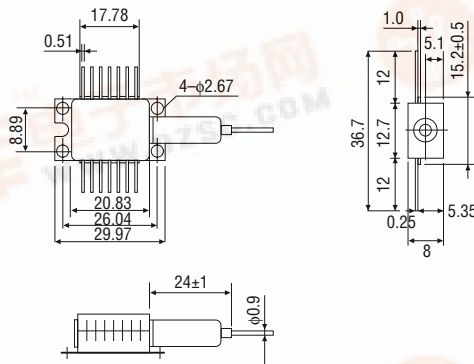
- Fiber output power:  $P_f=70$  mW
- 14-pin "butterfly" package
- Built-in isolator
- Includes monitor photodiode for power control
- Built-in thermoelectric cooler

#### APPLICATION

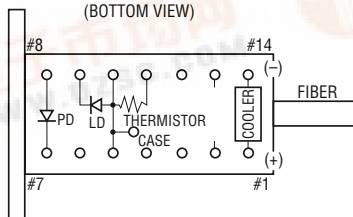
- Er doped fiber amplifier

#### PACKAGE DIMENSIONS (Unit: mm)

- OL4112N-70



TERMINAL CONNECTION (BOTTOM VIEW)



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
	CASE GROUND	11	THERMISTOR
6	NC	12	NC
7	PD CATHODE	13	NC



## ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Test Conditions	Ratings	Unit
Fiber Output Power	Pf	Ta=25°C	80	mW
LD Forward Current	I <sub>F</sub> (LD)		600	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>		1.5	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)

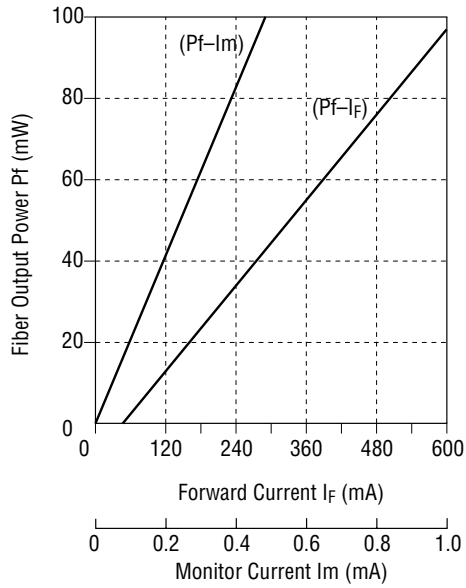
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Threshold Current	I <sub>th</sub>	—	—	40	70	mA
Fiber Output Power	Pf	I <sub>F</sub> =500 mA	70	—	—	mW
Center Wavelength	λ <sub>c</sub>	Pf=70 mA	1460	1480	1490	nm
Spectral Half Width	Δλ	Pf=70 mW	—	10	20	nm
Forward Voltage	V <sub>F</sub>	Pf=70 mW	—	1.8	2.5	V
PD Dark Current	I <sub>DARK</sub>	V <sub>R</sub> (PD) =5 V	—	—	1	μA
Monitor Current	I <sub>m</sub>	Pf=70 mW, V <sub>R</sub> (PD) =5 V	50	—	—	μA
Cooler Capacity	ΔT	Pf=70 mW	40	—	—	°C
Cooler Current	I <sub>c</sub>	ΔT=40°C, Pf=70mW	—	—	1.5	A
Cooler Voltage	V <sub>c</sub>	ΔT=40°C, Pf=70mW	—	—	3.5	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



Oscillation Spectrum

