

# **OKI** electronic components

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## **OL560N-5**

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### **1.55 $\mu\text{m}$ Laser Diode DIP Module**

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#### **GENERAL DESCRIPTION**

The OL560N-5 is a 1.55  $\mu\text{m}$ , InGaAsP/InP laser-diode DIP module with a single-mode fiber pigtail. This module is an optimal light source for long-distance, high-bit-rate optical transmission systems.

#### **FEATURES**

- High output power:  $P_f=5$  mW
- Single-mode fiber
- Hermetically-sealed, 14-pin Dual-In-line Package (DIP)
- Includes thermoelectric cooler and monitor photo diode for temperature and power control

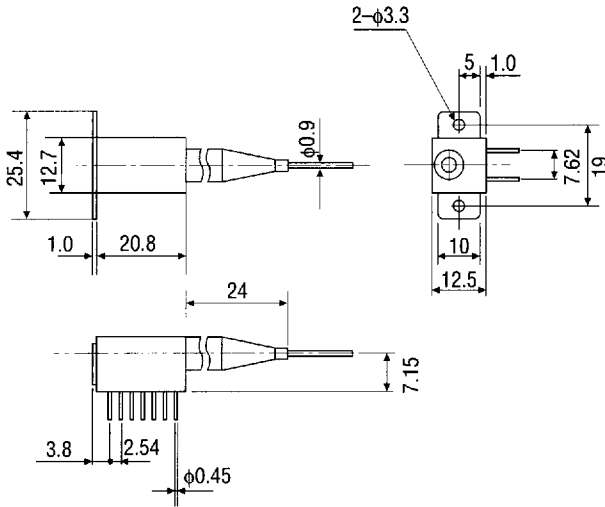
#### **APPLICATIONS**

- Line transmission systems
- Subscriber loops
- Optical measuring instruments

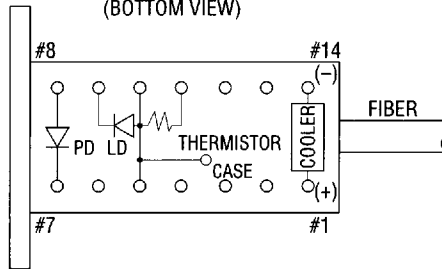
PACKAGE DIMENSIONS

• OL560N-5

(Unit: mm)



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, CASE GROUND and THERMISTOR
4	NC	11	THERMISTOR
5	LD ANODE CASE GROUND and THERMISTOR	12	NC
6	NC	13	NC
7	PD CATHODE	14	COOLER CATHODE

## ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Test Conditions	Ratings	Unit
Fiber Output	Pf	Ta=25°C	7	mW
LD Reverse Voltage	Vr (LD)		2	V
PD Reverse Voltage	Vr (PD)		20	V
PD Forward Current	If (PD)		10	mA
Cooler Current	Ic		1.2	A
Operating Temperature	T <sub>opr</sub>	—	-20 to +65	°C
Storage Temperature	T <sub>stg</sub>	—	-20 to +70	°C

## OPTICAL AND ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Threshold Current	I <sub>th</sub>	—	—	30	45	mA
Operating Current	I <sub>op</sub>	Pf=5 mW	—	100	140	mA
Center Wavelength	λ <sub>c</sub>	Pf=5 mW	1520	1550	1580	nm
Spectral Half Width	Δλ	Pf=5 mW	—	3	10	nm
Rise Time	t <sub>r</sub>	I <sub>bias</sub> =I <sub>th</sub>	—	0.3	0.5	ns
Fall Time	t <sub>f</sub>	Pf=5 mW		0.5	0.8	ns
Forward Voltage	V <sub>f</sub>	Pf=5 mW	—	—	2	V
PD Dark Current	I <sub>dark</sub>	Vr (PD)=5 V	—	—	1	μA
Monitor Current	I <sub>m</sub>	Pf=5 mW	100	300	—	μA
PD Capacitance	C <sub>t</sub>	Vr (PD)=5 V, f=1 MHz	—	15	—	pF
Cooler Capacity	ΔT	Pf=5 mW	40	—	—	°C
Cooler Current	Ic	ΔT=40°C	—	—	1.2	A
Cooler Voltage	Vc	ΔT=40°C	—	—	3	V
Thermistor Resistance	R <sub>th</sub>	—	—	10	—	kΩ

## FIBER PIGTAIL SPECIFICATIONS

(Ta=25°C)

Parameter	Specifications	Unit
Type	SM	—
Mode Field Diameter	10 <sup>+1</sup>	μm
Cladding Diameter	125 <sup>±2</sup>	μm
Jacket Diameter	900	μm
Length	1 (Min.)	m
Connector	FC	—

TYPICAL CHARACTERISTICS

