

# OKI electronic components

## OL5200N

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

#### GENERAL DESCRIPTION

The OL5200N 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 high-capacity long-haul optical transmission systems.

#### FEATURES

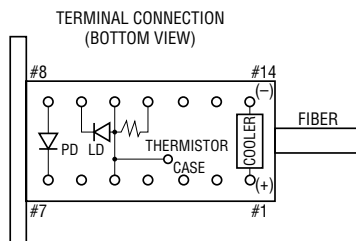
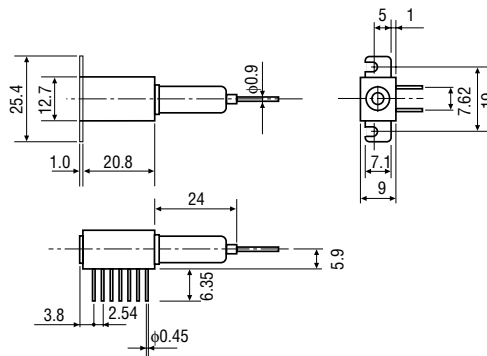
- High output power
- Single-mode fiber
- Hermetically-sealed, 14-pin Dual-In-line Package (DIP)
- Includes thermoelectric cooler and monitor photodiode for temperature and power control

#### APPLICATIONS

- Line transmission systems
- Subscriber loops
- Optical measuring instruments

#### PACKAGE DIMENSIONS (Unit: mm)

- OL5200N



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 Power	Pf	Ta=25°C	3	mW
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>	—	-20 to +70	°C

## OPTICAL AND ELECTRICAL CHARACTERISTICS

( T<sub>LD</sub>=25°C)

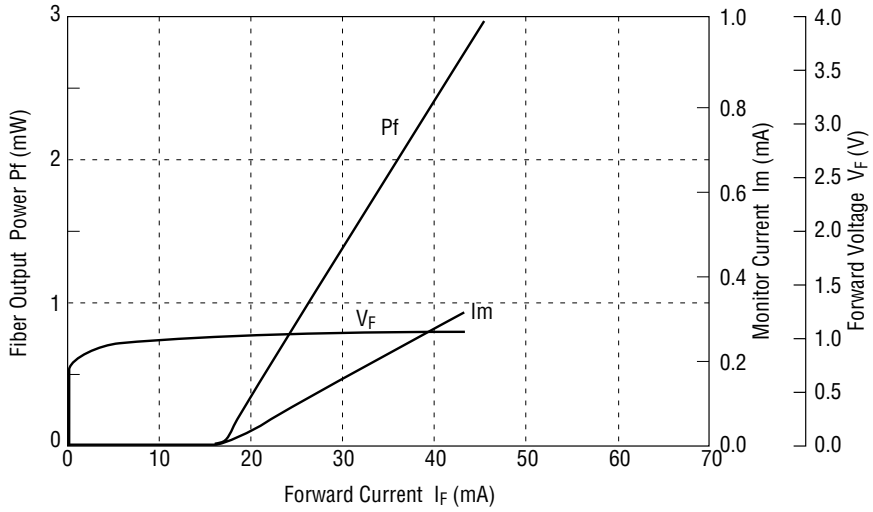
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Threshold Current	I <sub>th</sub>	—	—	30	45	mA
Center Wavelength	λ <sub>c</sub>	Pf=2 mW	1520	1550	1580	nm
Spectral Half Width	Δλ	Pf=2 mW	—	3	10	nm
Fiber Output Power	Pf	SMF, I <sub>F</sub> =I <sub>th</sub> +40 mA	2.0	2.5	—	mW
Rise Time	t <sub>r</sub>	I <sub>bias</sub> =I <sub>th</sub>	—	0.3	0.5	ns
Fall Time	t <sub>f</sub>	Pf=2 mW	—	0.5	0.8	ns
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =I <sub>th</sub> +40 mA	—	—	2	V
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	100	300	—	μA
PD Capacitance	C <sub>t</sub>	V <sub>R</sub> (PD)=5 V, f=1 MHz	—	15	—	pF
Cooler Capacity	ΔT	Pf=2 mW	40	—	—	°C
Cooler Current	I <sub>c</sub>	ΔT=40°C	—	—	1.2	A
Cooler Voltage	V <sub>c</sub>	ΔT=40°C	—	—	2.4	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

