

# OKI electronic components

## OL5201N-25, OL5204N-25

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

#### GENERAL DESCRIPTION

The OL5201N-25 and OL5204N-25 are 1.55  $\mu\text{m}$ , extremely high-power laser-diode DIP modules with single-mode fiber pigtailed. The Multi-Quantum-Well (MQW) structure laser diodes achieve a single-mode fiber output of over 25 mW. The modules are optimal light sources for optical measuring instruments and other systems that require high-power.

#### FEATURES

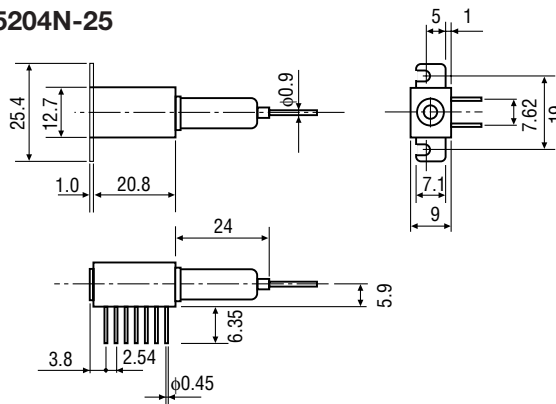
- High output power: Pf=25 mW
- Single-mode fiber
- Hermetically-sealed, 14-pin Dual-In-line Package (DIP)
- Includes thermoelectric cooler for temperature control
- Includes monitor photodiode for power control (OL5201N-25)

#### APPLICATIONS

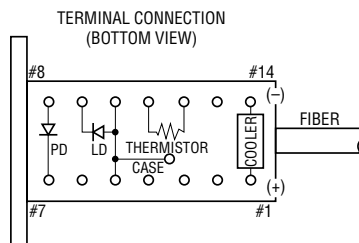
- Optical measuring instruments
- OTDRs

#### PACKAGE DIMENSIONS (Unit: mm)

##### • OL5201N-25/OL5204N-25

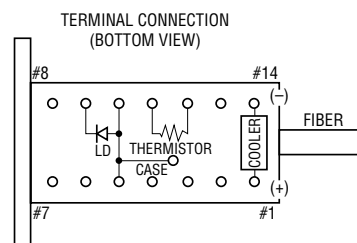


##### • OL5201N-25



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

##### • OL5204N-25



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

**ABSOLUTE MAXIMUM RATINGS**

Parameter	Symbol	Test Conditions	Ratings	Unit
Fiber Output Power	P <sub>f</sub>	T <sub>a</sub> =25°C	30	mW
Forward Current	I <sub>F</sub>		400	mA
Reverse Voltage	V <sub>R</sub>		2	V
Cooler Current	I <sub>c</sub>		1.2	A
Operating Temperature	T <sub>opr</sub>	—	-20 to +45	°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>	—	—	55	75	mA
Fiber Output Power	P <sub>f</sub>	I <sub>F</sub> =400 mA (CW)	25	27	—	mW
Center Wavelength	λ <sub>c</sub>	P <sub>f</sub> =25 mW	1520	1550	1580	nm
Spectral Half Width	Δλ	P <sub>f</sub> =25 mW	—	10	20	nm
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =400 mA	—	—	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>	P <sub>f</sub> =25 mW	50	—	—	μA
Cooler Capacity	ΔT	P <sub>f</sub> =25 mW, T <sub>c</sub> =45°C	20	—	—	°C
Cooler Current	I <sub>c</sub>	ΔT=20°C	—	—	1.2	A
Cooler Voltage	V <sub>c</sub>	ΔT=20°C	—	—	3	V
Thermistor Resistance	R <sub>th</sub>	—	—	10	—	kΩ

\* : OL5201N-25

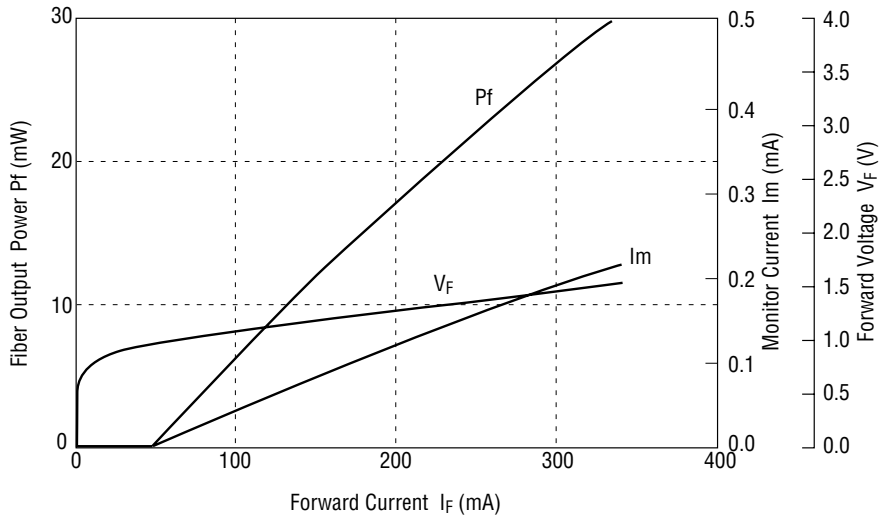
**FIBER PIGTAIL SPECIFICATIONS**

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

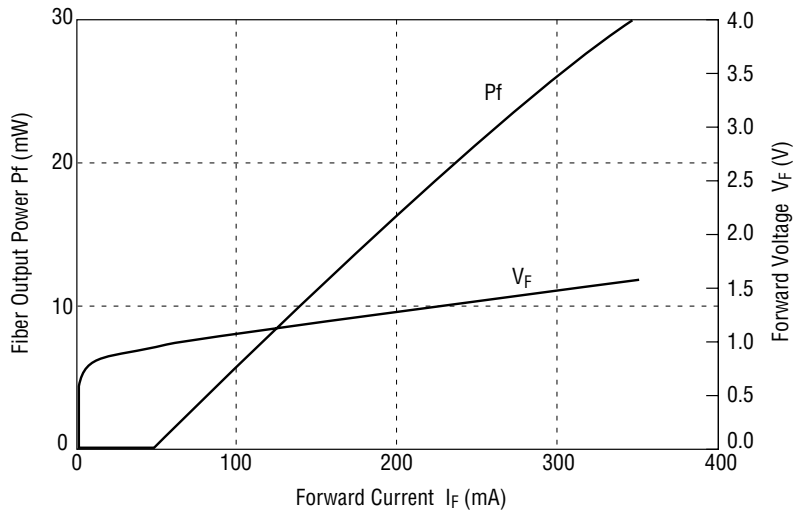
• OL5201N-25

Fiber Output Power vs. Forward Current



• OL5204N-25

Fiber Output Power vs. Forward Current



- OL5201N-25

Oscillation Spectrum

