

# OKI electronic components

## OL3201N-40, OL3204N-40

### 1.3 $\mu\text{m}$ High-Power Laser-Diode DIP Module

#### GENERAL DESCRIPTION

The OL3201N-40 and OL3204N-40 are extremely high power, 1.3  $\mu\text{m}$  laser-diode DIP modules with single-mode fiber pigtailed. The OKI laser chips achieve single-mode fiber output of over 40 mW. These modules are optimal light sources for optical measuring instruments and other systems that require high power.

#### FEATURES

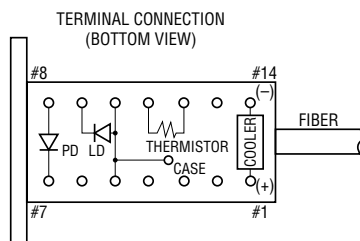
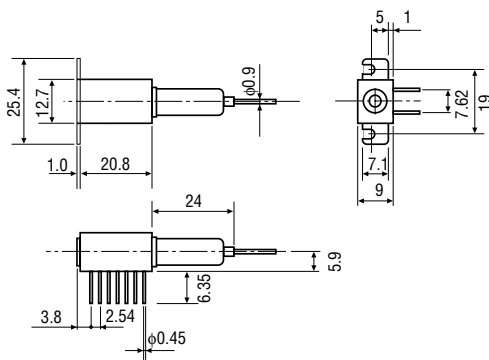
- High output power (single-mode fiber output):  $P_f=40$  mW
- Single-mode fiber
- Hermetically-sealed, 14-pin Dual-In-line Package (DIP)
- Includes thermoelectric cooler for temperature control
- Includes monitor photodiode (OL3201N-40)

#### APPLICATIONS

- Optical measuring instruments
- OTDRs

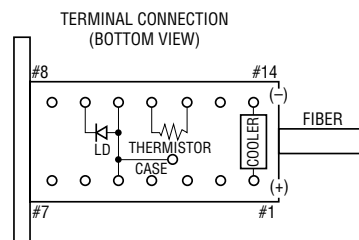
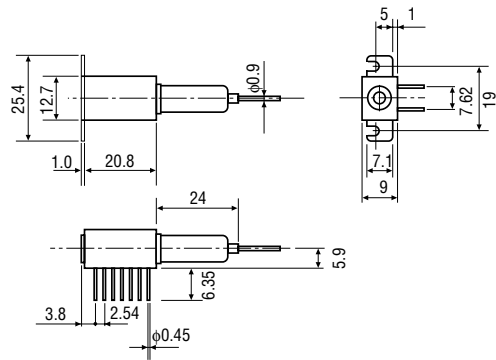
#### PACKAGE DIMENSIONS (Unit: mm)

##### • OL3201N-40



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

##### • OL3204N-40



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	Pf	Ta=25°C	60	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**

( Ta=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Threshold Current	I <sub>th</sub>	—	—	50	65	mA
Center Wavelength	λ <sub>c</sub>	Pf=40 mW	1280	1310	1330	nm
Spectral Half Width	Δλ	Pf=40 mW	—	7	20	nm
Fiber Output Power	Pf	I <sub>F</sub> =400 mA (CW)	40	50	—	mW
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>	Pf=40 mW	50	—	—	μA
Cooler Capacity	ΔT	Pf=40 mW	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

\* : OL3201N-40

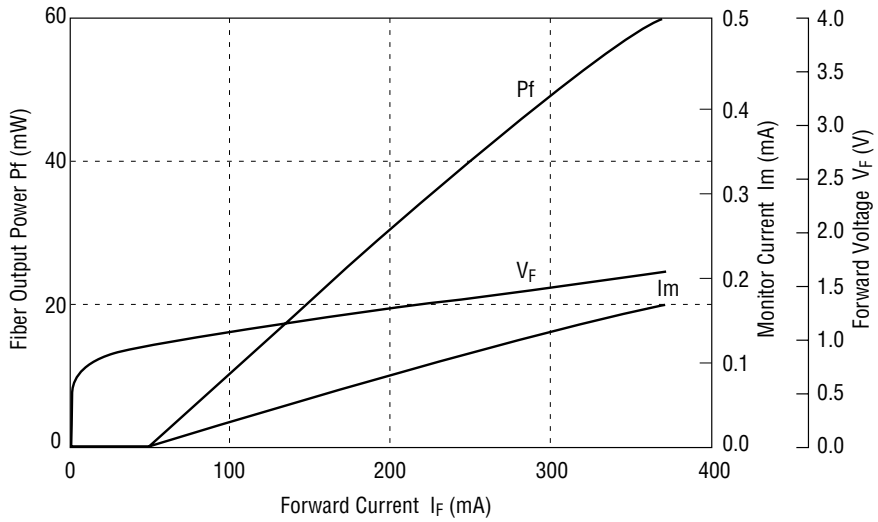
**FIBER PIGTAIL SPECIFICATIONS**

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

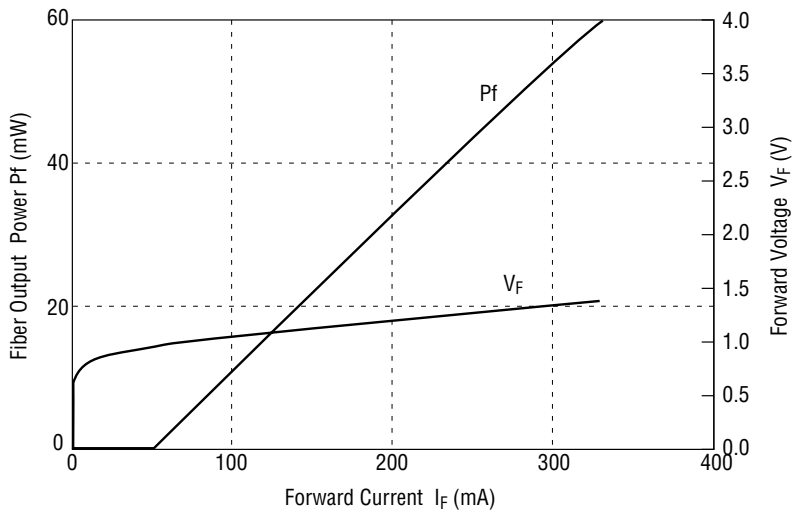
• OL3201N-40

Fiber Output Power vs. Forward Current



• OL3204N-40

Fiber Output Power vs. Forward Current



- OL3201N-40, OL3204N-40

Oscillation Spectrum

