

## Block-type 1000mW High Power Laser Diode

### Description

The SLD304B is a high power laser diode mounted on a 3 × 3 × 5mm Copper block.

It is ideal for applications which require a minimal distance between the laser facet and external optical parts.

### Features

- Compact size                    3 × 3 × 5mm block
- High power output            Po = 1000mW
- Hole for thermistor

### Applications

- Solid state laser excitation
- Medical use

### Structure

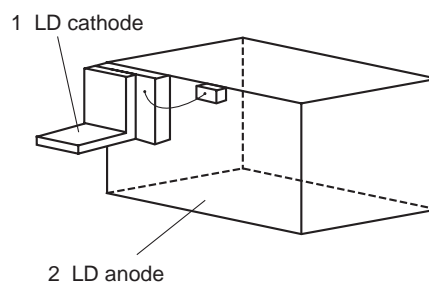
GaAlAs double hetero-type laser diode

### Absolute Maximum Ratings (Tc = 15°C)

- |                                    |       |            |    |
|------------------------------------|-------|------------|----|
| • Optical power output             | Po    | 1000       | mW |
| • Recommended optical power output | Po    | 900        | mW |
| • Reverse voltage                  | VR LD | 2          | V  |
| • Operating temperature            | Topr  | -10 to +30 | °C |
| • Storage temperature              | Tstg  | -40 to +85 | °C |

### Pin Configuration

No.	Function
1	LD cathode
2	LD anode



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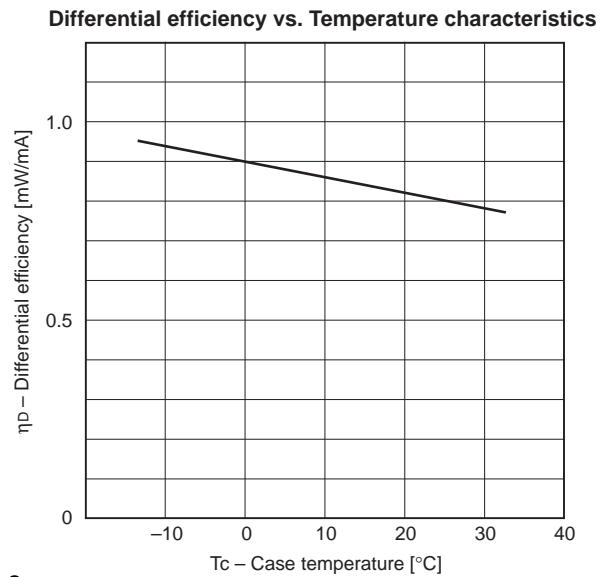
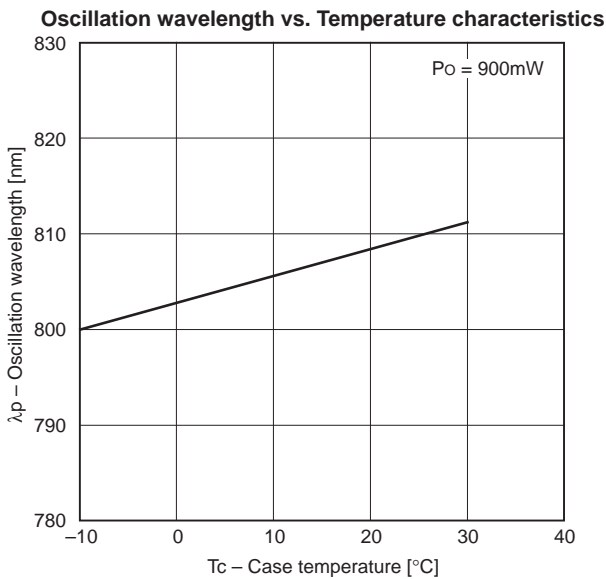
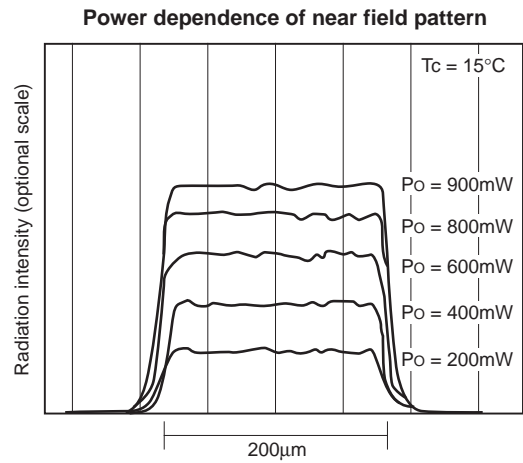
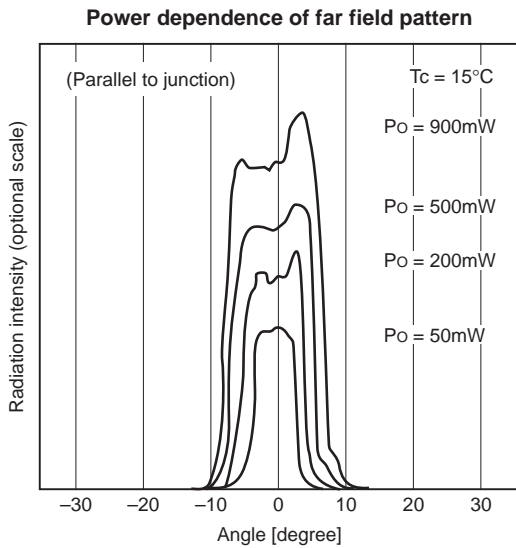
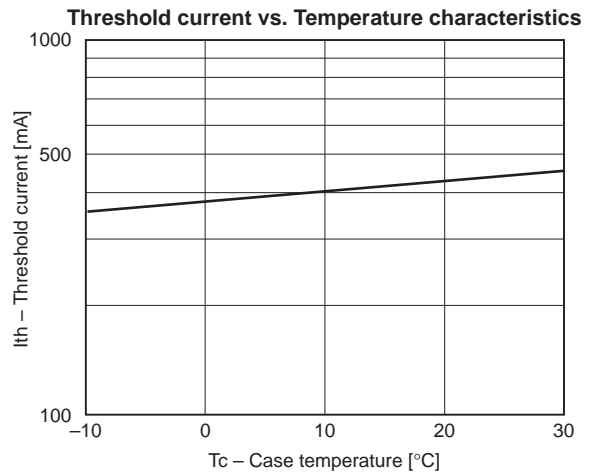
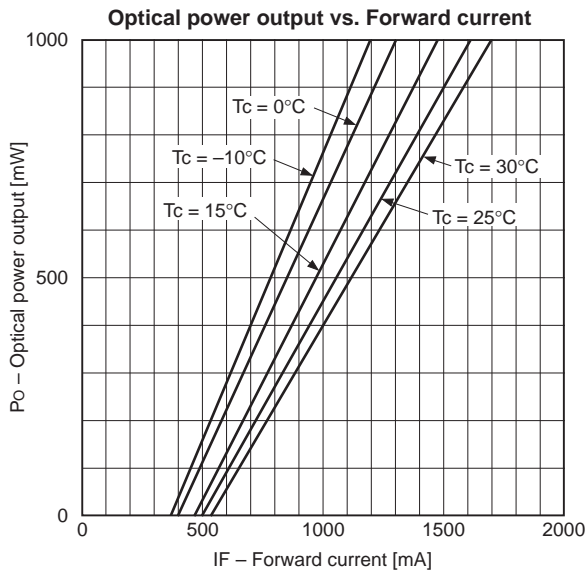
## Electrical and Optical Characteristics

(T<sub>c</sub> = 15°C)

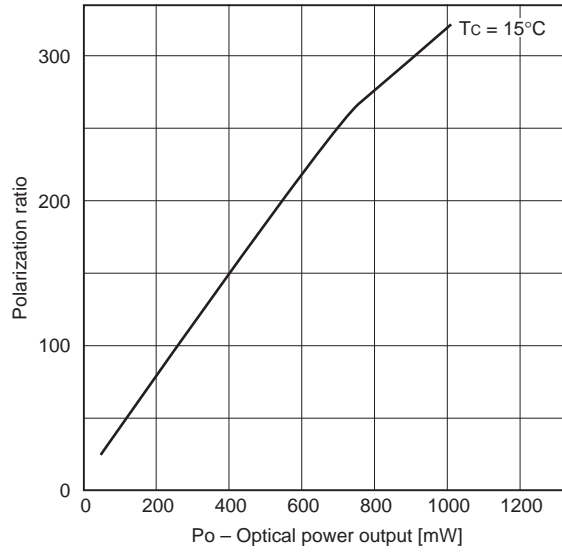
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		I <sub>th</sub>			450	700	mA
Operating current		I <sub>op</sub>	P <sub>o</sub> = 900mW		1400	2000	mA
Operating voltage		V <sub>op</sub>	P <sub>o</sub> = 900mW		2.1	3.0	V
Wavelength		λ <sub>p</sub>	P <sub>o</sub> = 900mW	770		840	nm
Radiation angle (F. W. H. M.*)	Perpendicular to junction	θ <sub>⊥</sub>	P <sub>o</sub> = 900mW		28	40	degree
	Parallel to junction	θ <sub>//</sub>			13	17	
Positional accuracy	Position	ΔX	P <sub>o</sub> = 900mW			±300	μm
		ΔY, ΔZ				±100	
	Angle	Δφ <sub>⊥</sub>					±3
Differential efficiency		η <sub>D</sub>	P <sub>o</sub> = 900mW	0.5	0.8		mW/mA

\* F. W. H. M. : Full Width at Half Maximum

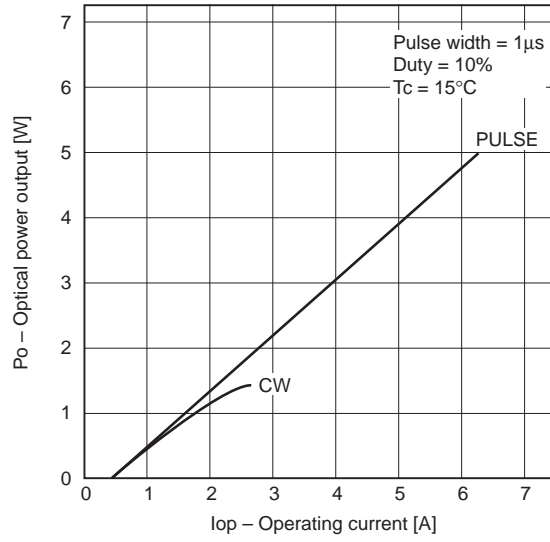
Example of Representative Characteristics



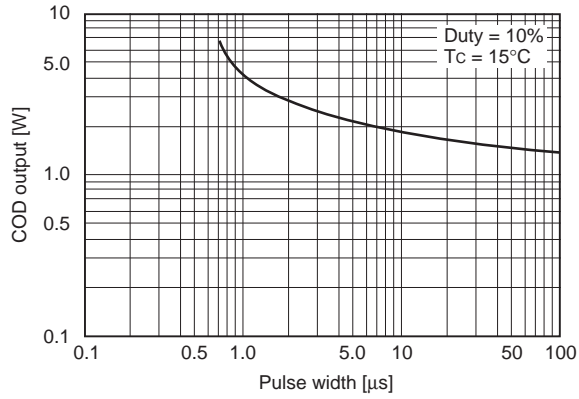
Power dependence of polarization ratio



Optical power output vs. Operating current

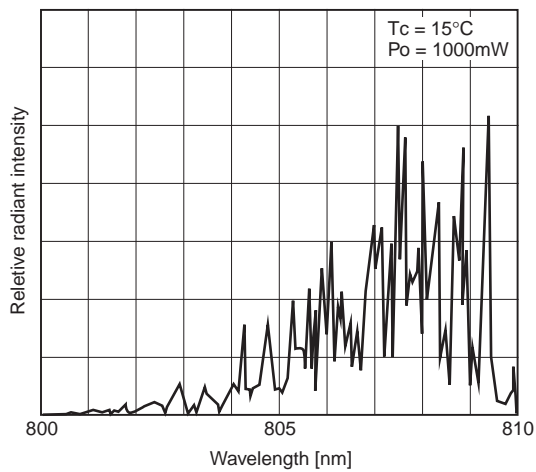
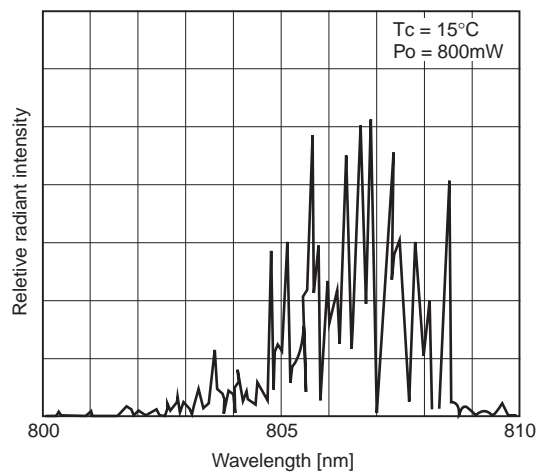
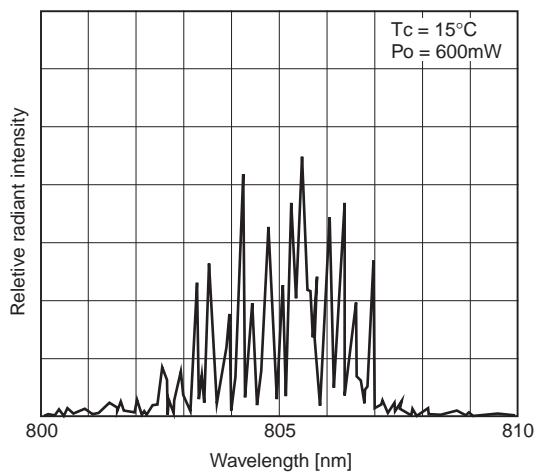
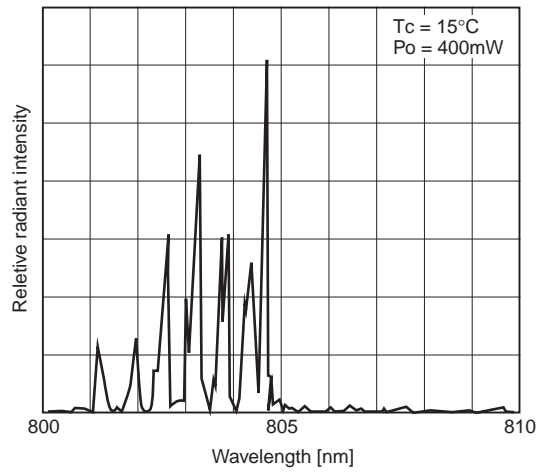
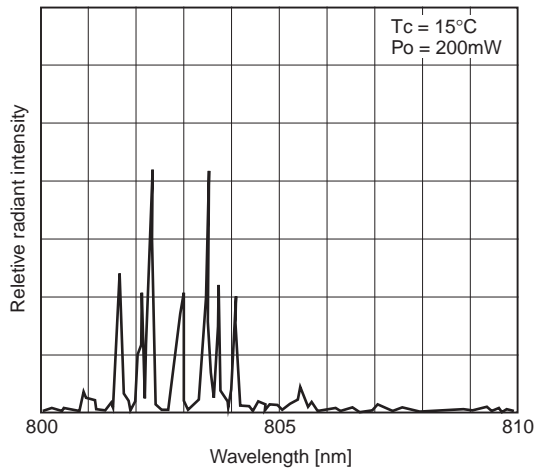


Pulse width dependence of COD\* power

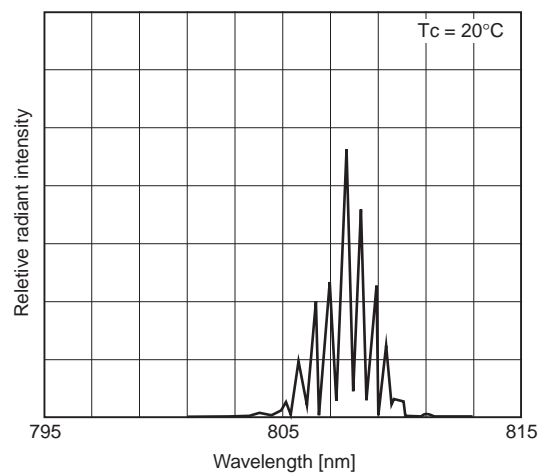
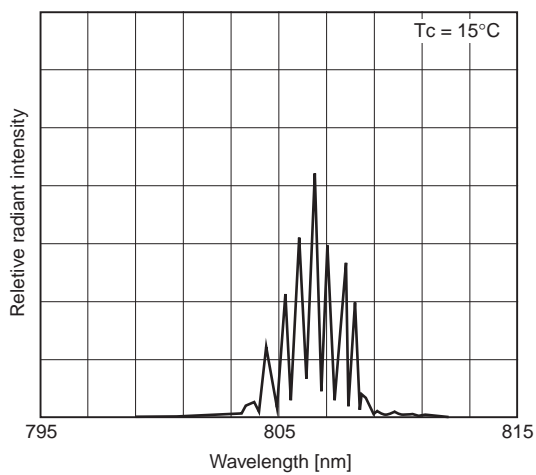
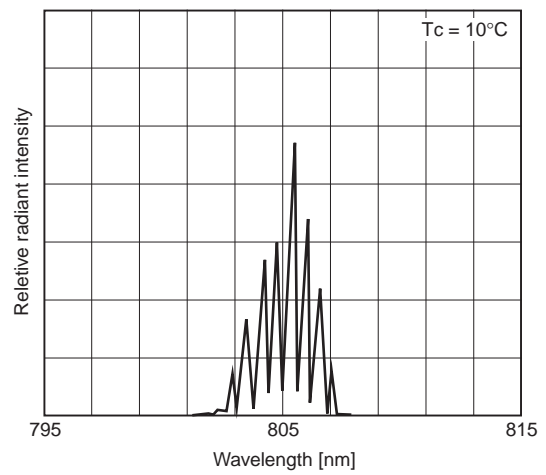
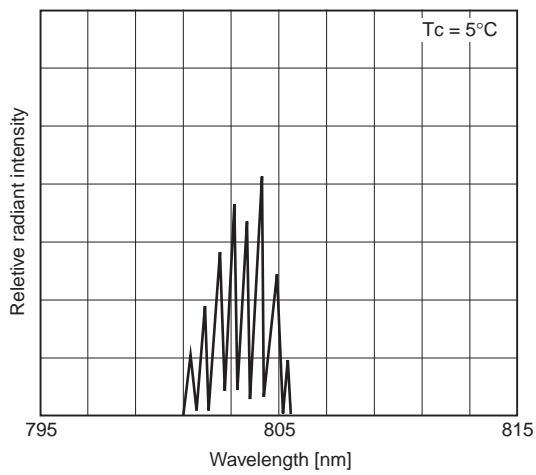
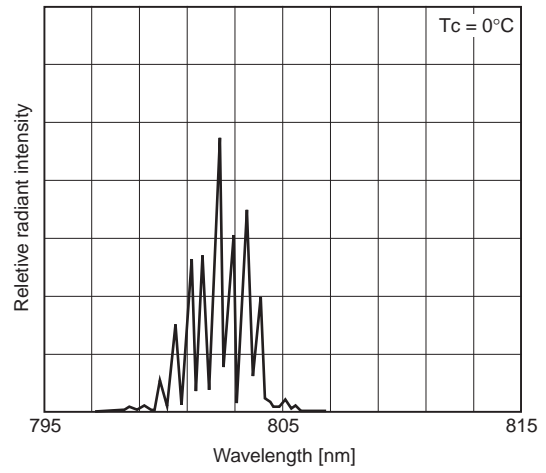
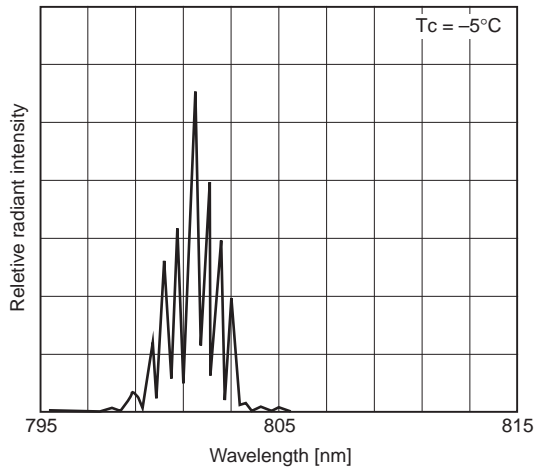


\* COD (Catastrophic Optical Damage)

Power Dependence of Wavelength



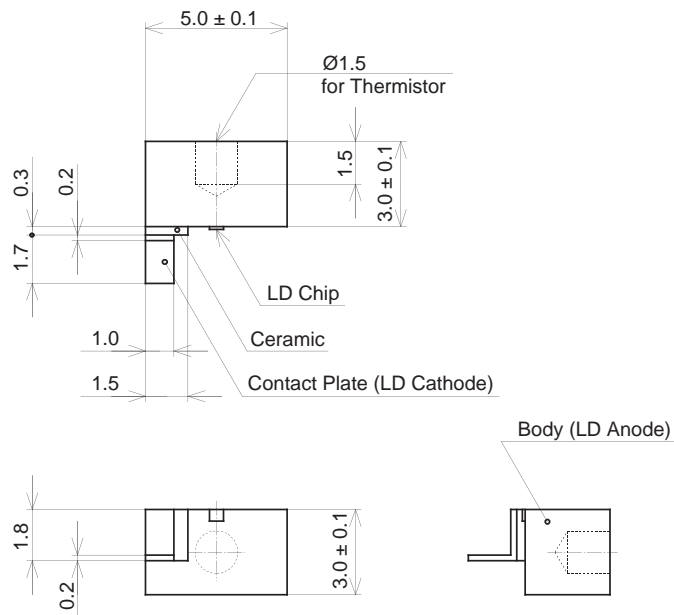
Temperature Dependence of Wavelength ( $P_o = 90mW$ )



Package Outline

Unit: mm

M - 261



SONY CODE	M-261
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE STRUCTURE

PACKAGE WEIGHT	1g
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