

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

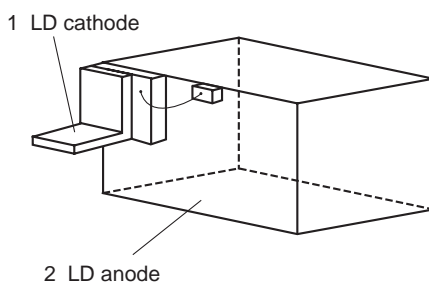
GaAIAs double hetero-type laser diode

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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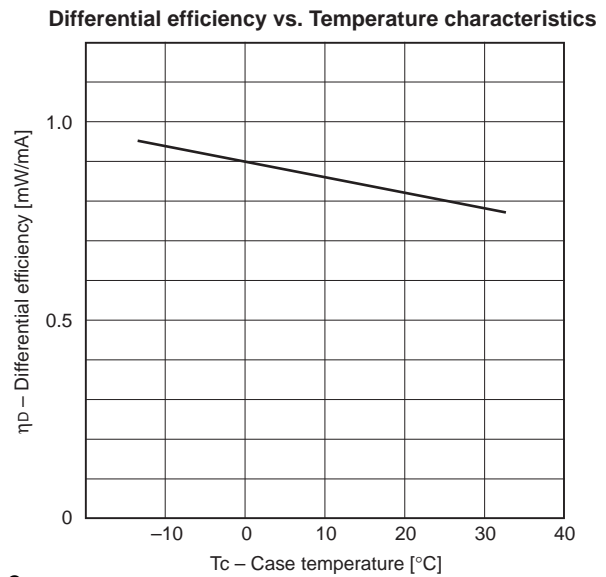
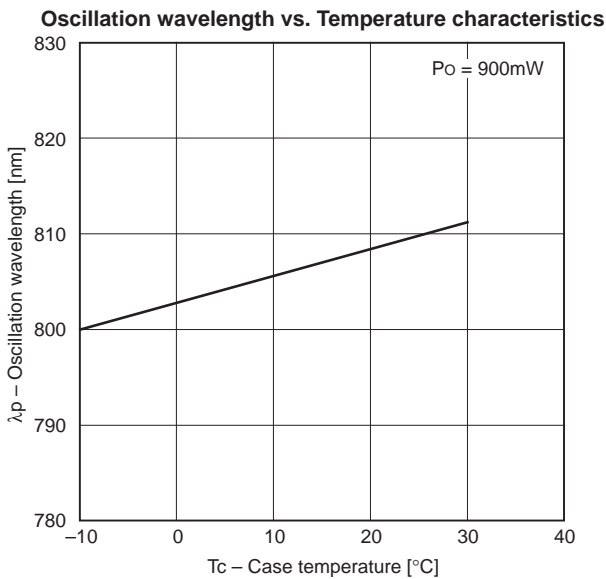
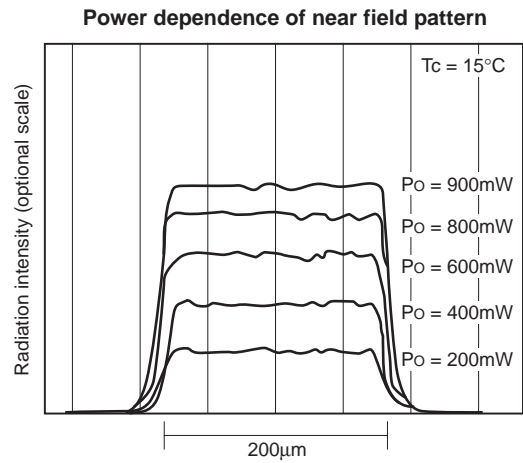
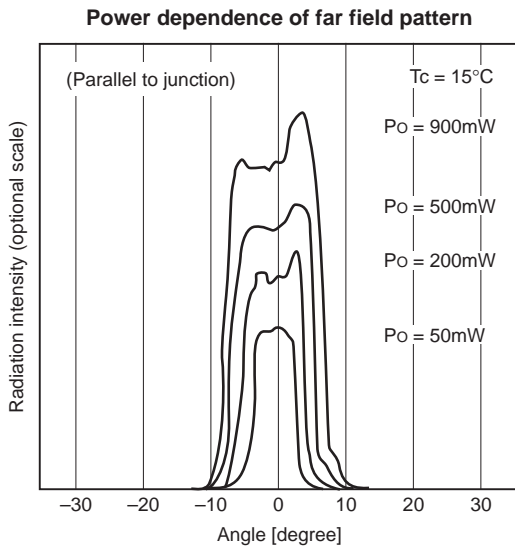
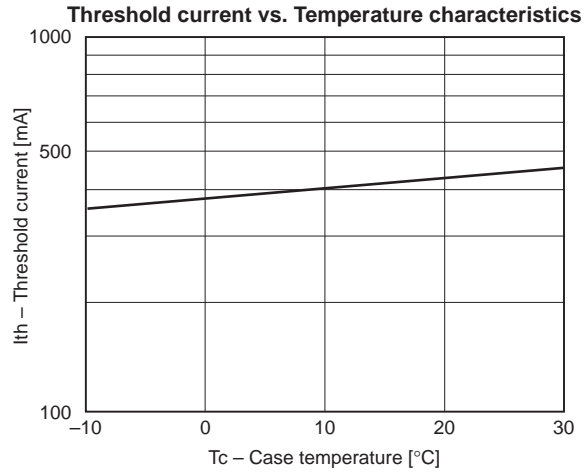
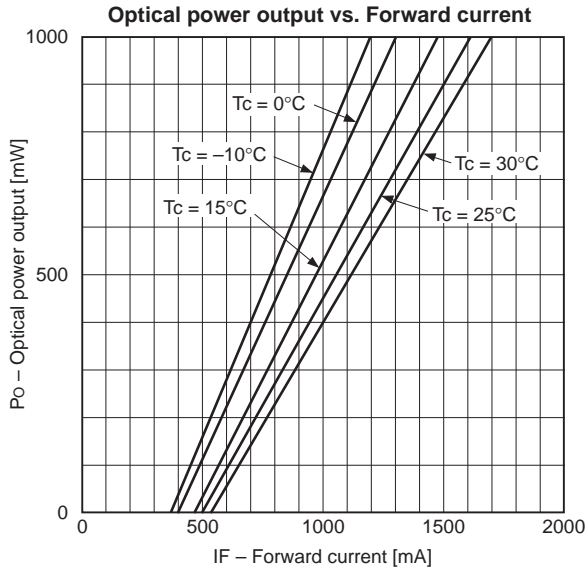
Electrical and Optical Characteristics

(T_c = 15°C)

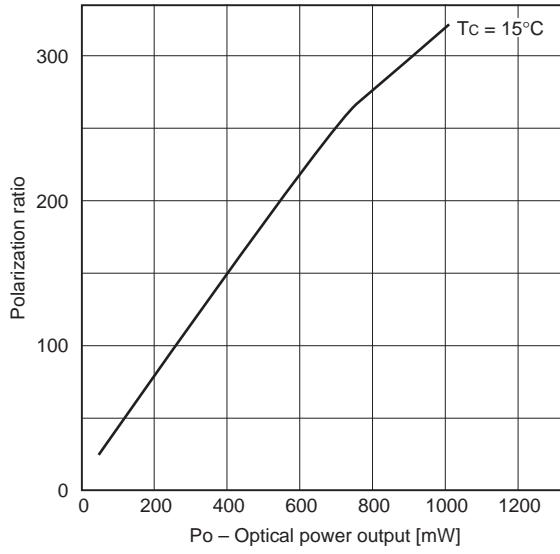
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		I _{th}			450	700	mA
Operating current		I _{op}	P _o = 900mW		1400	2000	mA
Operating voltage		V _{op}	P _o = 900mW		2.1	3.0	V
Wavelength		λ _p	P _o = 900mW	770		840	nm
Radiation angle (F. W. H. M.*)	Perpendicular to junction	θ _⊥	P _o = 900mW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

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

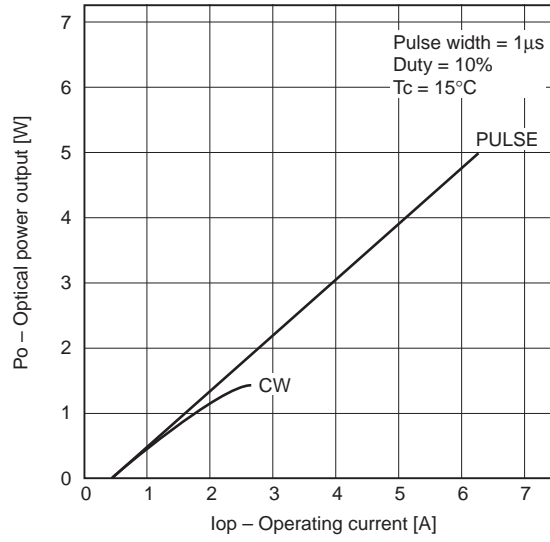
Example of Representative Characteristics



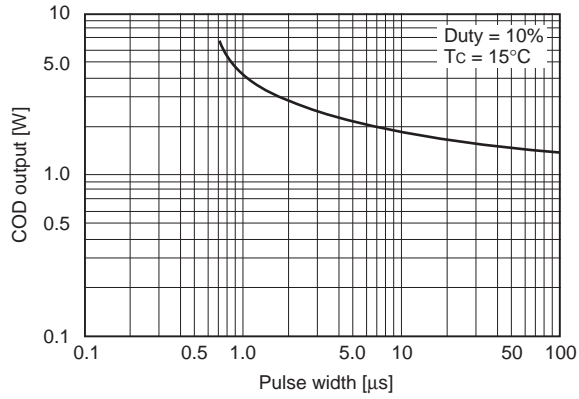
Power dependence of polarization ratio



Optical power output vs. Operating current

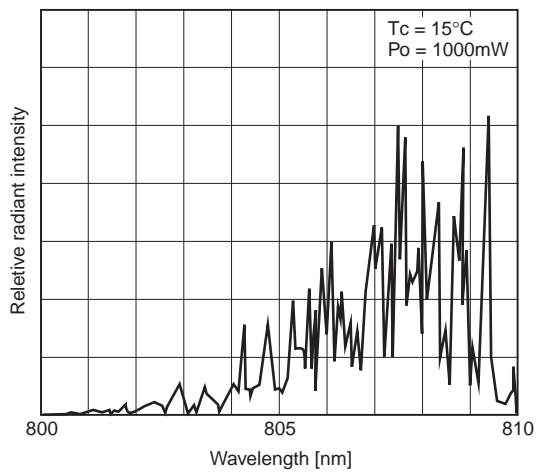
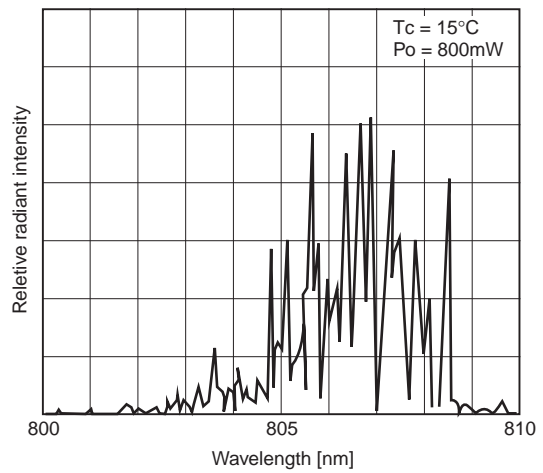
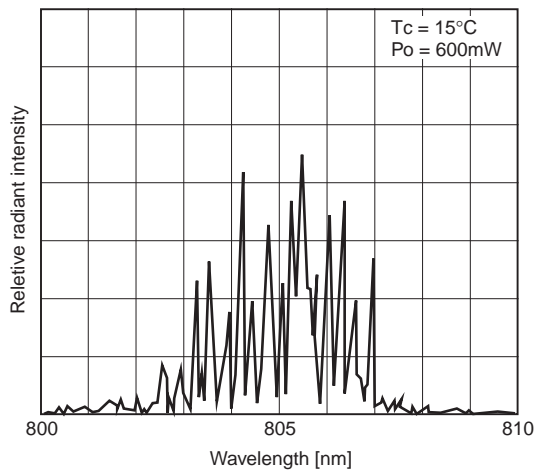
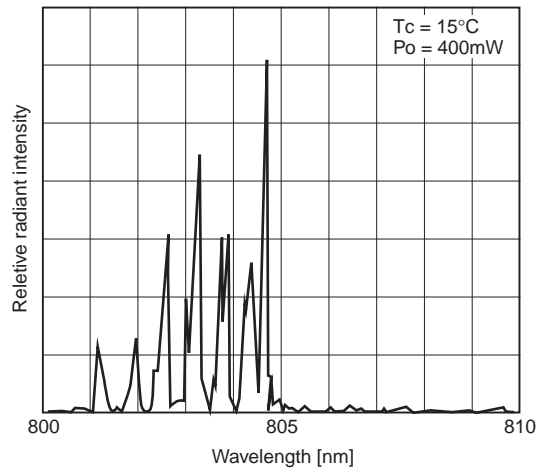
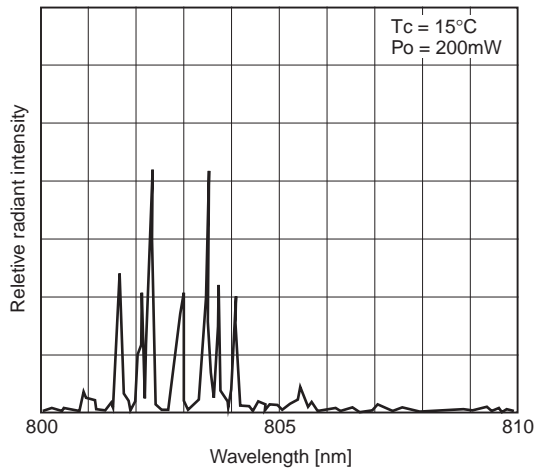


Pulse width dependence of COD* power

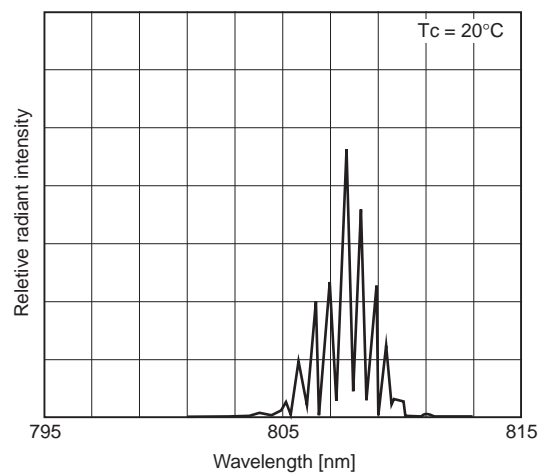
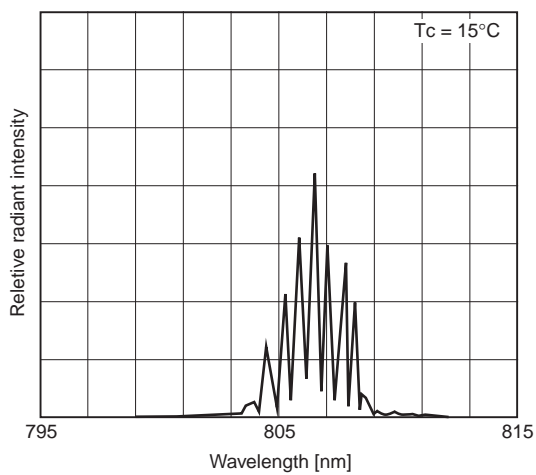
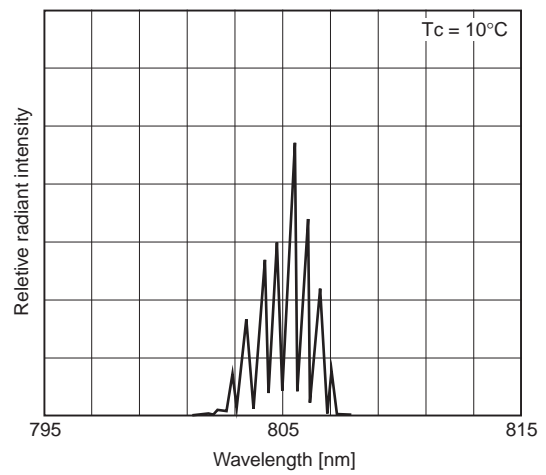
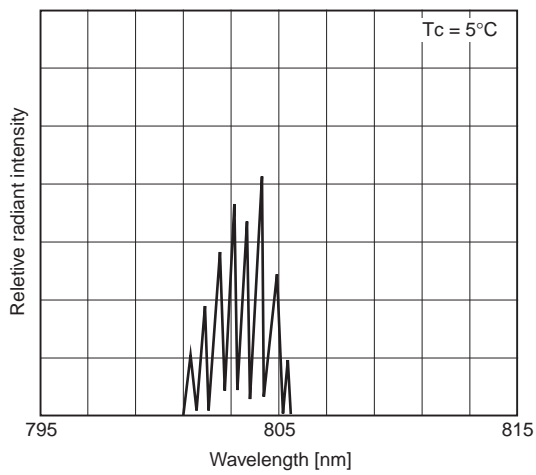
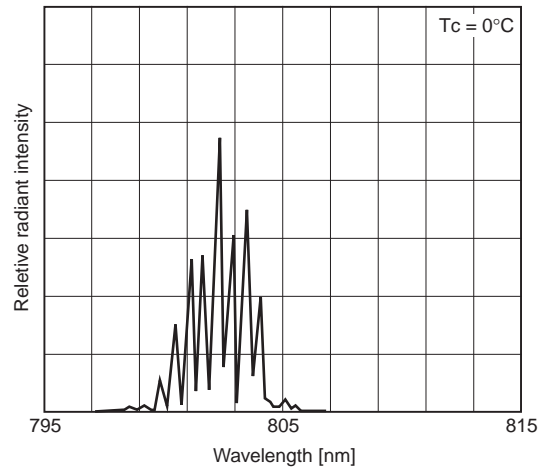
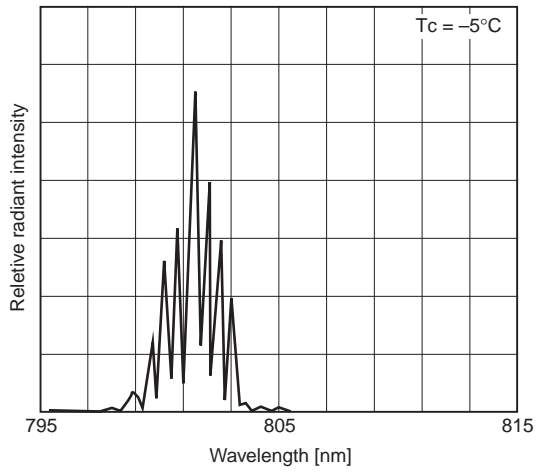


* COD (Catastrophic Optical Damage)

Power Dependence of Wavelength



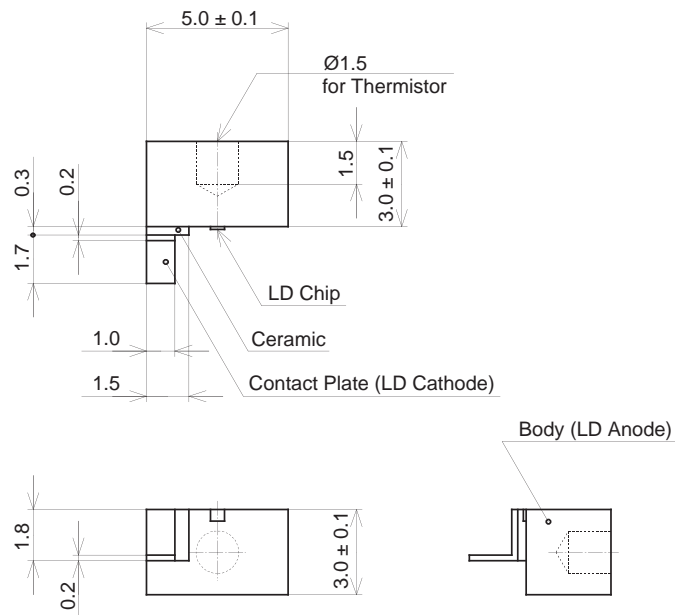
Temperature Dependence of Wavelength ($P_o = 90mW$)



Package Outline

Unit: mm

M - 261



SONY CODE	M-261
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE STRUCTURE

PACKAGE WEIGHT	1g
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