

Block-type 100mW High Power Laser Diode

Description

The SLD301B 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 = 100mW
- Hole for thermistor

Applications

- Solid state laser excitation
- Medical use

Structure

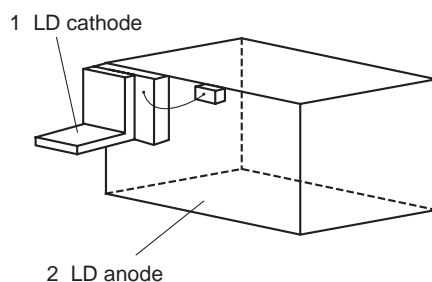
GaAlAs double hetero-type laser diode

Absolute Maximum Ratings (Tc = 25°C)

| | | | |
|------------------------------------|-------|------------|----|
| • Optical power output | Po | 100 | mW |
| • Recommended optical power output | Po | 90 | mW |
| • Reverse voltage | VR LD | 2 | V |
| • Operating temperature | Topr | -10 to +50 | °C |
| • Storage temperature | Tstg | -40 to +85 | °C |

Pin Configuration

| No. | Function |
|-----|------------|
| 1 | LD cathode |
| 2 | LD anode |



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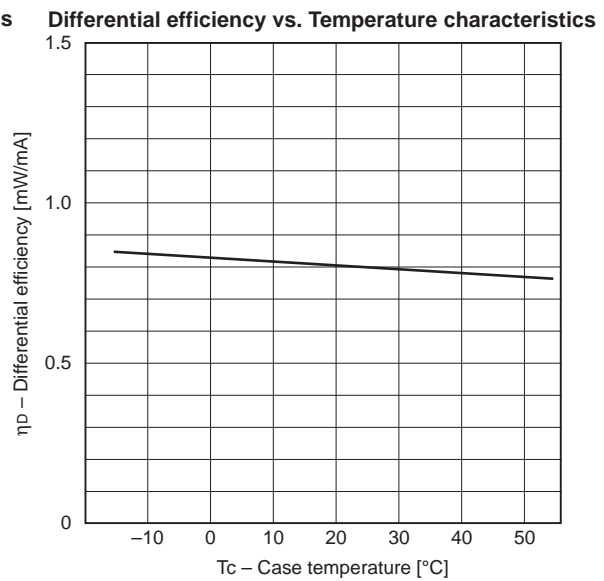
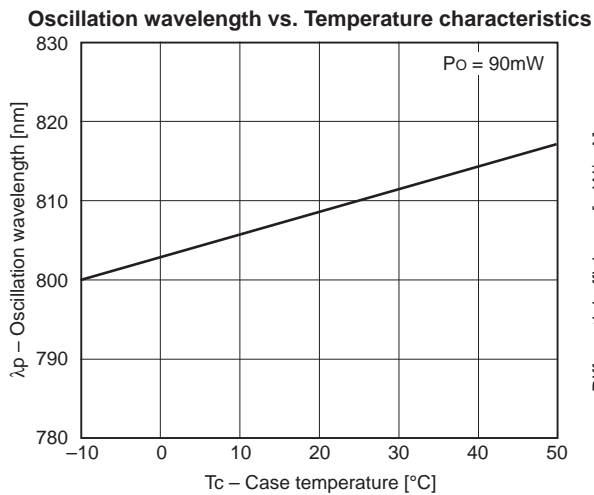
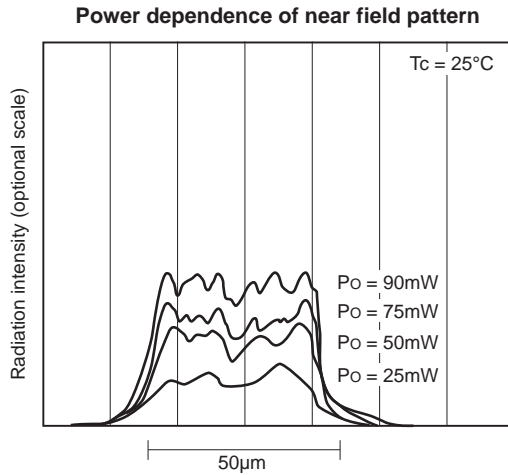
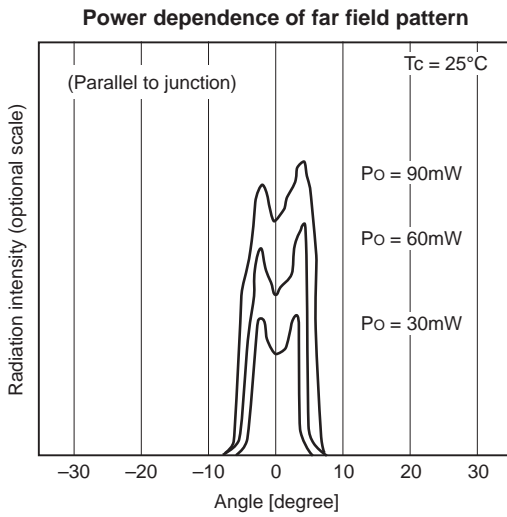
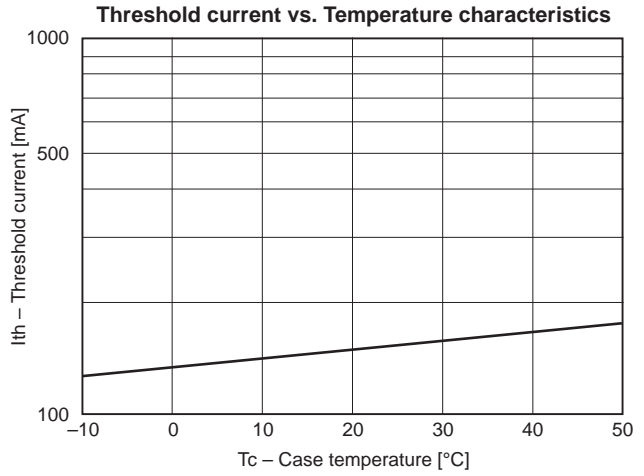
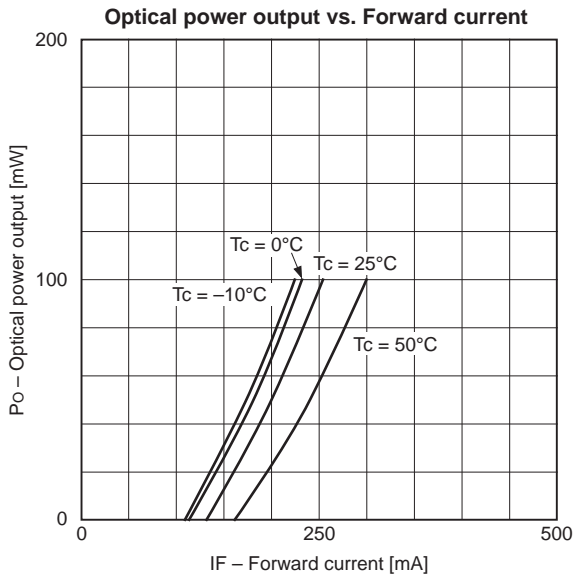
Electrical and Optical Characteristics

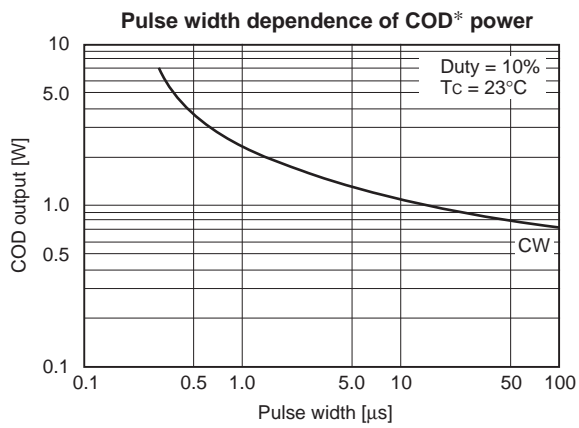
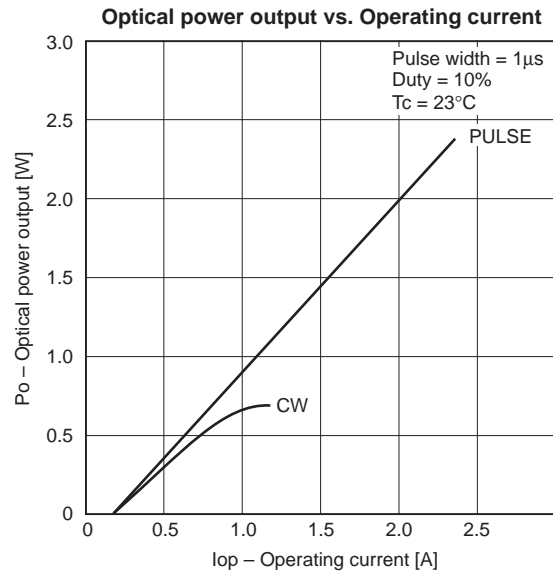
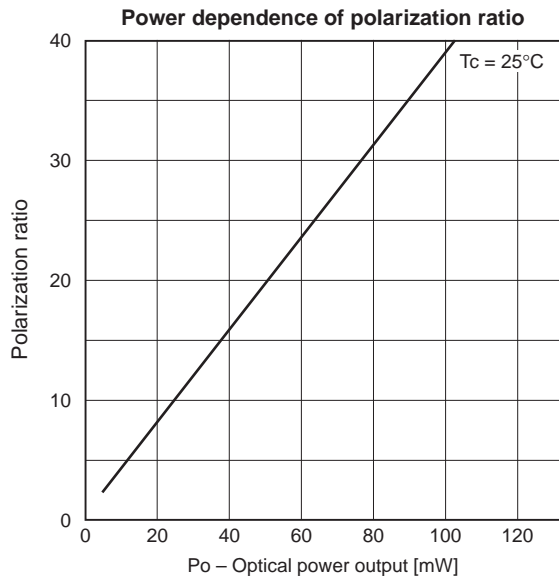
(T_c = 25°C)

| Item | | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|-----------------------------------|---------------------------|-----------------|-----------------------|------|------|------|--------|
| Threshold current | | I _{th} | | | 150 | 200 | mA |
| Operating current | | I _{op} | P _o = 90mW | | 300 | 400 | mA |
| Operating voltage | | V _{op} | P _o = 90mW | | 1.9 | 3.0 | V |
| Wavelength | | λ _p | P _o = 90mW | 770 | | 840 | nm |
| Radiation angle (F. W. H. M.*) | Perpendicular to junction | θ _⊥ | P _o = 90mW | | 28 | 40 | degree |
| | Parallel to junction | θ _{//} | | | 12 | 17 | |
| Positional accuracy | Position | ΔX | P _o = 90mW | | | ±300 | μm |
| | | ΔY, ΔZ | | | | ±100 | |
| | Angle | Δφ _⊥ | | | | | ±3 |
| Differential efficiency | | η _D | P _o = 90mW | 0.5 | 0.7 | | mW/mA |

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

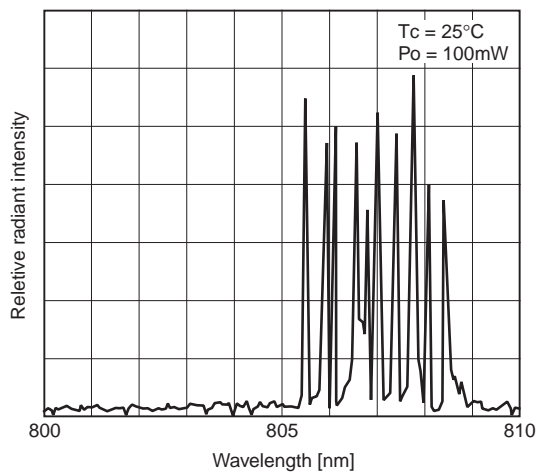
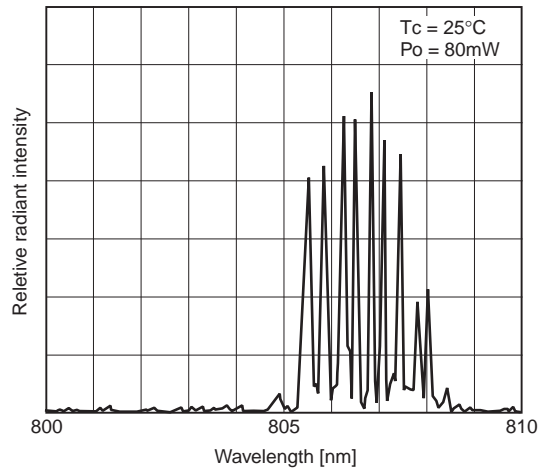
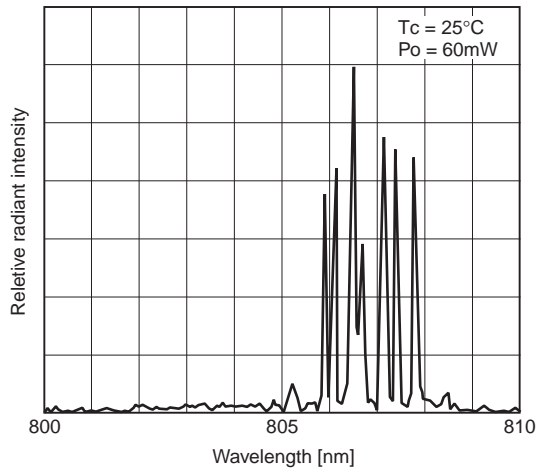
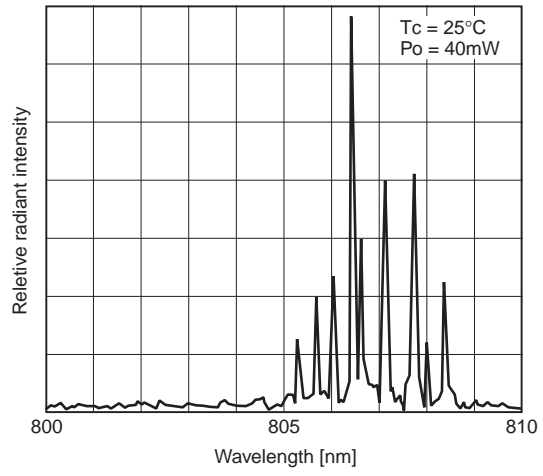
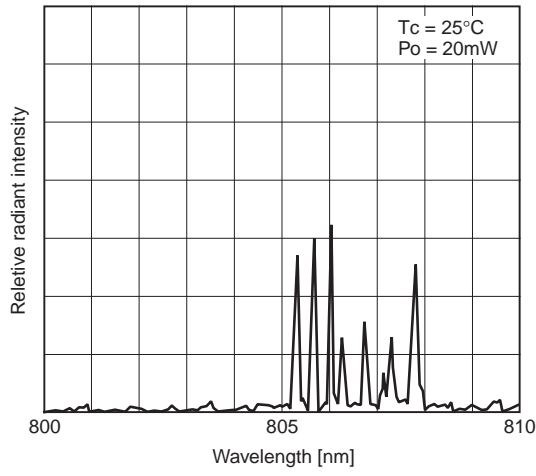
Example of Representative Characteristics



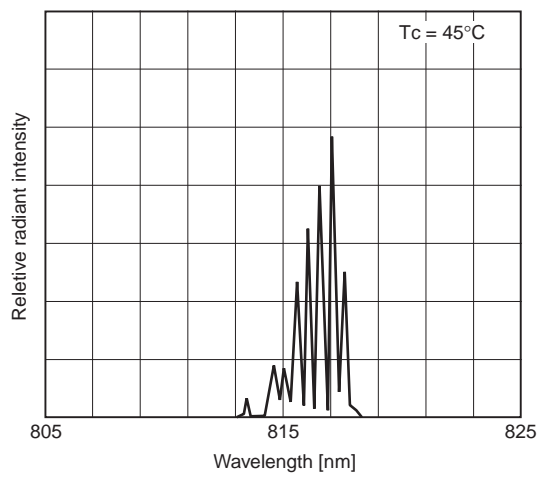
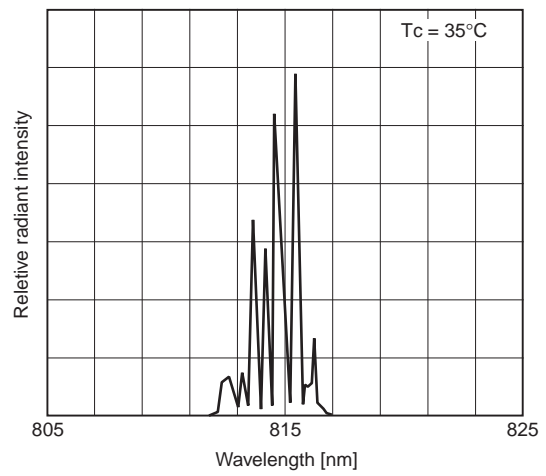
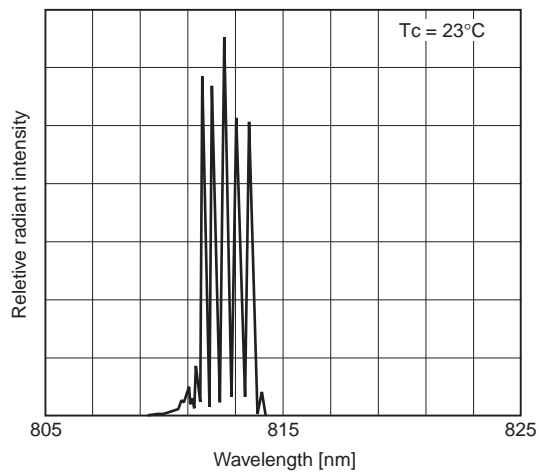
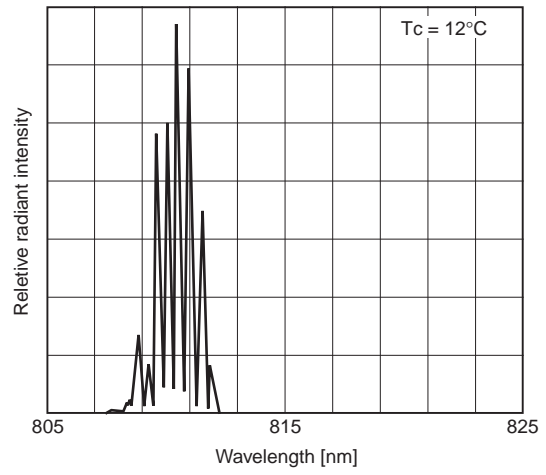
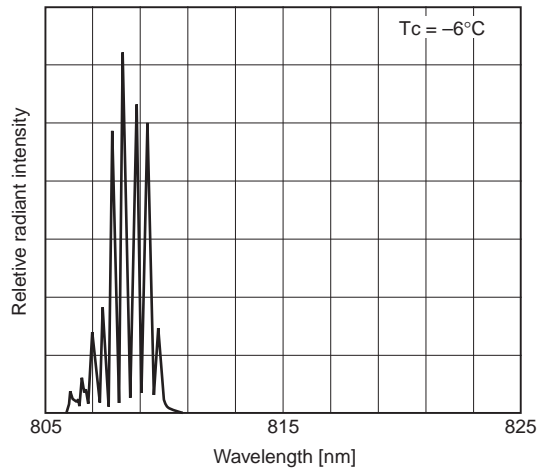


* COD (Catastrophic Optical Damage)

Power Dependence of Wavelength



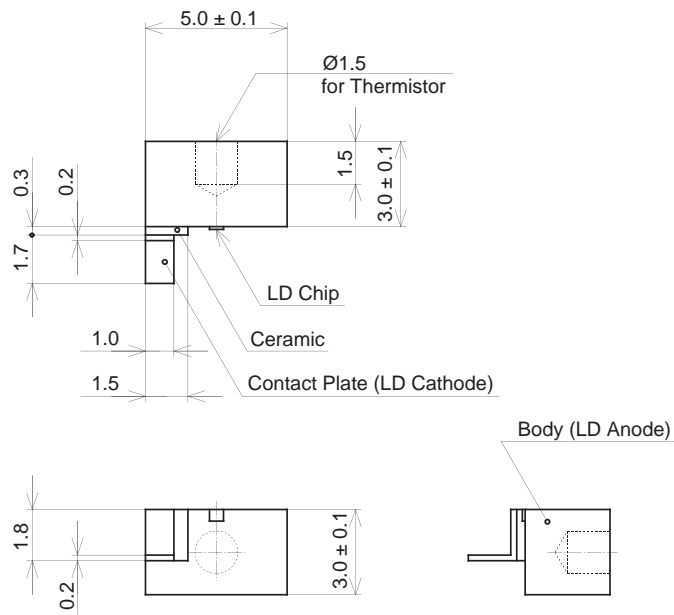
Temperature Dependence of Wavelength ($P_o = 90\text{mW}$)



Package Outline

Unit: mm

M - 261



| | |
|------------|-------|
| SONY CODE | M-261 |
| EIAJ CODE | _____ |
| JEDEC CODE | _____ |

PACKAGE STRUCTURE

| | |
|----------------|----|
| PACKAGE WEIGHT | 1g |
|----------------|----|