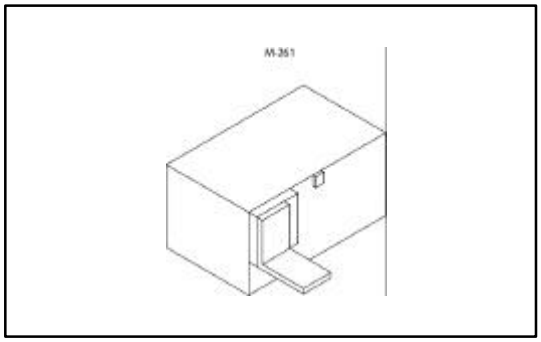
SONY

SLD327B

High Power Density 3.0 W Laser Diode



Description

The SLD327B is a high power, gain-guided laser diode produced by MOCVD method*1. Compared to the SLD300 Series, this laser diode has a high brightness output with a doubled optical density which can be achieved by QW-SCH structure*2.

*1 MOCVD: Metal Organic Chemical Vapor Deposition

*2QW-SCH: Quantum Well separate confinement Heterostructure

Features

- High power
  Recommended optical power output: Po=3.0W
- High optical power density:3W/200 μm(Emitting line width)

Application

- Solid state laser excitation
- Material processes
- Measurement

Structure

- AlGaAs quantum well structure laser diode

Operating Lifetime

MTTF : 10.000 H(effective value) at Po= 3.0 W, Tc= 25℃

Absolute Maximum Ratings (Tc=25℃)

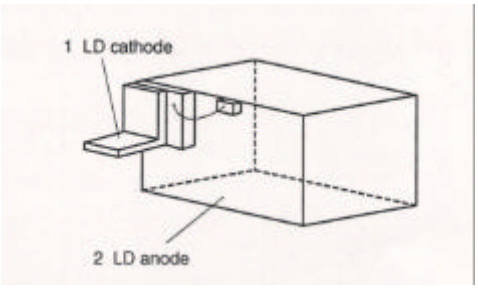
• Optical power output	Pomax		3.3	W
• Reverse voltage	V_R	LD	2	V
• Operating temperature	Top		- 10～ + 30	℃
• Storage temperature	Tstg		- 40～ + 85	℃

Warranty

Reliability assurance does not apply to this product.

Pin Configuration

No.	Function
1	LD cathode
2	LD anode



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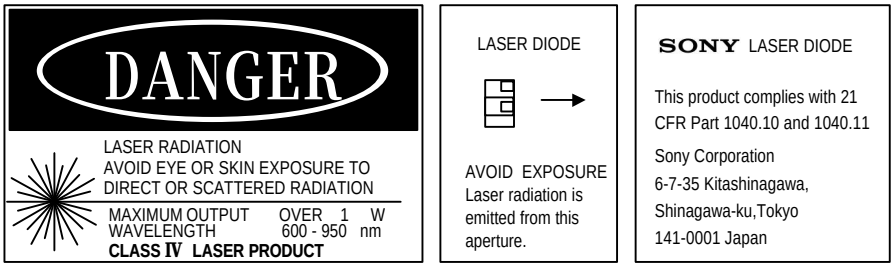
Electrial and Optical Characteristics (Tc=25°C, Tc:Case temperature)

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		Ith			0.6	2.0	A
Operating current		Iop	Po=3.0W		4.0	6.0	A
Operating voltage		Vop	Po=3.0W		2.4	3.0	V
Wavelength		λp	Po=3.0W	790		840	nm
Radiation angle	Perpendicular	θ⊥	Po=3.0W	20	30	40	degree
	Parallel	θ∥		5	10	20	degree
Positional accuracy	Position	△X	Po=3.0W			±300	μm
		△Y,△Z				±100	μm
	Angle	Δφ⊥				±3	degree
Differential efficiency		ηD	Po=3.0W	0.65	1.0		mW/mA

Notes on Operation

Care should be taken for the following points When using this product.

(1) This product corresponds to a Class 4 product under IEC 60825-1 .



(2) Eye protection against laser beams

Take care not to allow laser beams to enter your eyes under any circumstances.

For observing laser beams ALWAYS use Safety goggles that block laser beams. Usage of IR scopes, IR cameras and fluorescent plates is also recommended for monitoring laser beams safely.

(3) Gallium Arsenide

This product uses gallium arsenide (GaAs). This is not a problem for normal use, but GaAs vapors may be potentially hazardous to the human body. Therefore, never crush, heat to the maximum storage temperature or higher, or place the product in your mouth.

In addition, the following disposal methods are recommended when disposing of this product.

1. Engaging the services of a contractor certified in the collection, transport and intermediate treatment of items containing arsenic.
2. Managing the product through to final disposal as specially managed industrial waste which is handled separately from general industrial waste and household waste.

(4) Prevention of surge current and electrostatic discharge

Laser diodes are most sensitive to electrostatic discharge among semiconductors. When a large current is passed through the laser diode for even an extremely short time, the strong light emitted from the laser diode promotes deterioration and then destruction of the laser diode. Therefore, note that surge current should not flow to the laser diode driving circuit from switches and others. Also, if the laser diode is handled carelessly, it may be destroyed instantly because electrostatic discharge is easily applied by a human body. Therefore, be extremely careful about overcurrent and electrostatic discharge.

Also, use the power supply that was designed not to exceed the optical power output specified at the absolute maximum ratings.

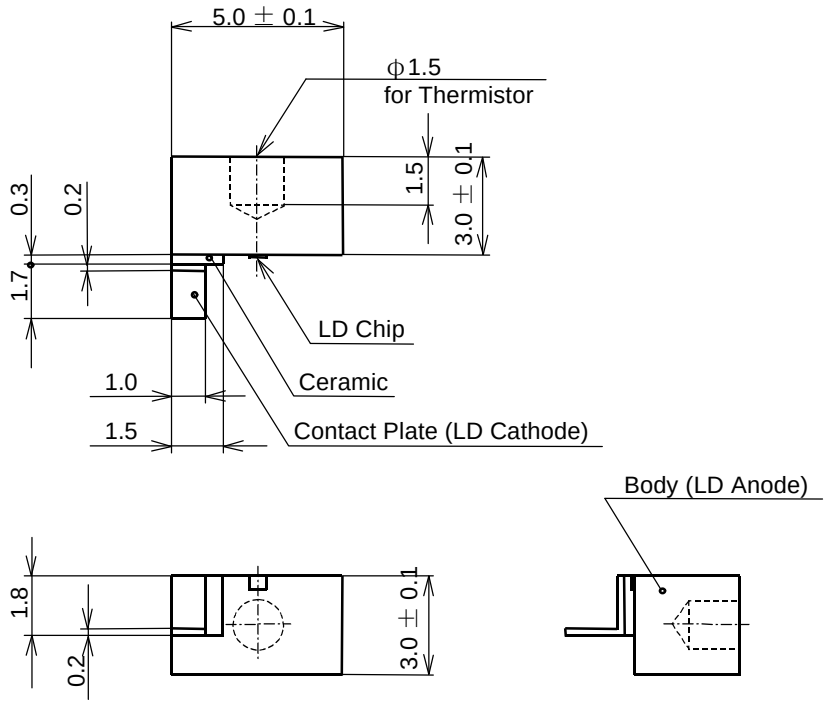
(5) Use for special applications

This product is not designed or manufactured for use in equipment used under circumstances where failure may pose a risk to life and limb, or result in significant material damage, etc.

Consult your Sony sales representative when investigating use for medical, vehicle, nuclear power control or other special applications.

Package Outline Unit: mm

M – 261



SONY CODE	M-261
EIAJ CODE	———
JEDEC CODE	———

PACKAGE MASS	1g

Sony Corporation