SONY

SLD202U/V

25mW High Power Laser Diode

Description

The SLD202U/V is a gain-guided high-power laser diode fabricated by MOCVD.

Features

High power laser diode with the excellent general purpose

Application

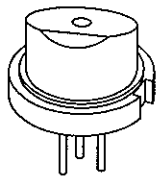
Communications, Optical disc

Structure

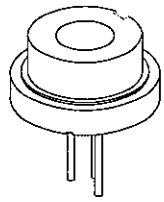
AlGaAs double-hetero laser diode, PIN photo diode included for monitoring the laser radiant power output

Recommended Radiant Power Output 20mW

SLD202U
M-221



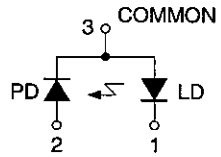
SLD202V
M-248



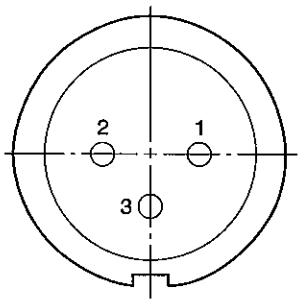
Absolute Maximum Ratings (Tc = 25°C)

• Optical power output	Pomax		25	mW
• Reverse voltage	V_R	LD	2	V
		PD	30	V
• Operating temperature	Topr		−10 to +50	°C
• Storage temperature	Tstg		−40 to +85	°C

Connection Diagram



Pin Configuration



Bottom View

1. LD Cathode
2. PD Anode
3. COMMON

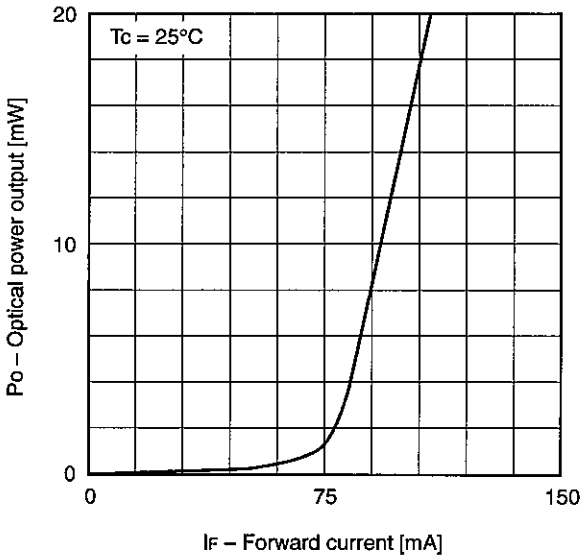
E89316D1Y

Electrical and Optical Characteristics (Tc = 25°C)

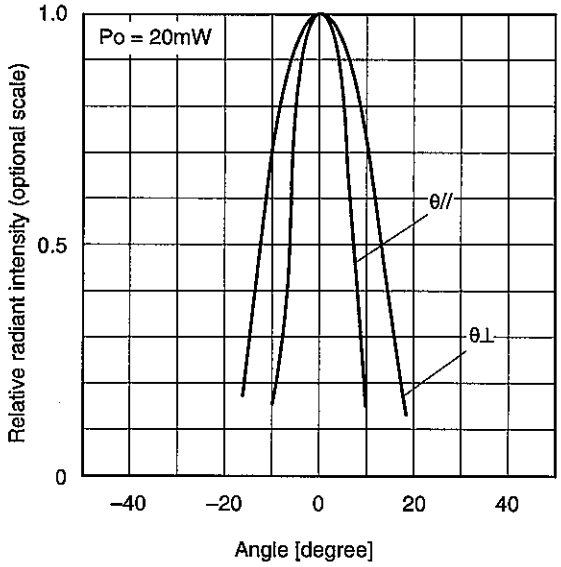
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		Ith			80	110	mA
Operating current		Iop	Po = 20mW		100	140	mA
Operating voltage		Vop	Po = 20mW		1.9	2.5	V
Wavelength		λ	Po = 20mW	800	820	840	nm
Monitor current		Im	Po = 20mW V_R = 15V	0.025	0.12	0.6	mA
Radiation angle	Perpendicular	θ⊥	Po = 20mW		28	38	degree
	Parallel	θ//		7	15	22	degree
Positional accuracy	Position	ΔX, ΔY, ΔZ	Po = 20mW			±50	μm
	Angle	Δφ⊥				±3	degree
		Δφ//					
Differential efficiency		η_D	Po = 20mW	0.3	1.0		mW/mA
Dark current of PD		I_D	V_R = 15V			0.15	μA

Example of Representative Characteristics

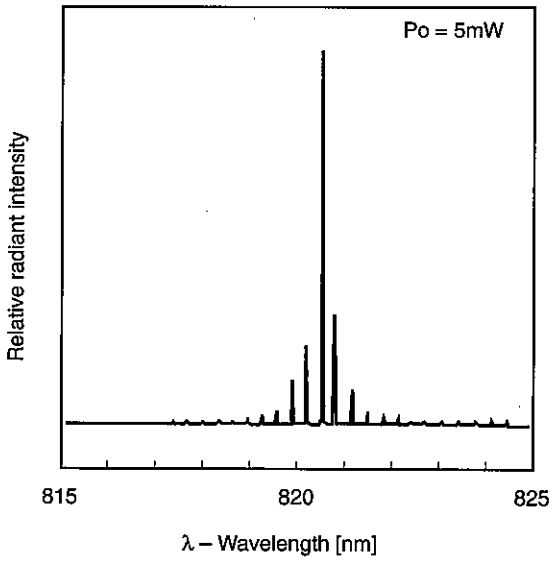
Optical power output vs. Forward current characteristics



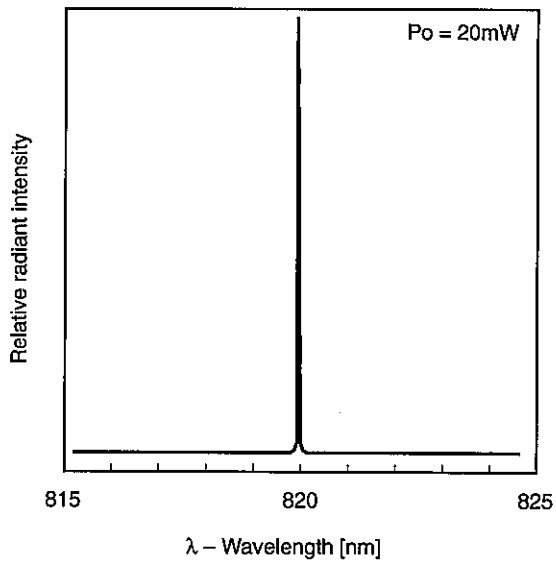
Far field pattern (FFP)



Relative radiant intensity vs. Wavelength characteristics



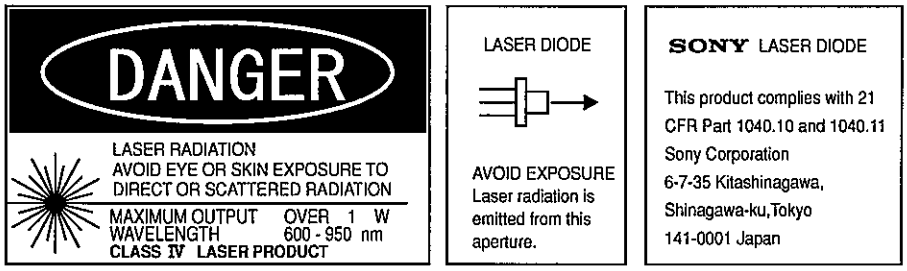
Relative radiant intensity vs. Wavelength characteristics



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 IEC60825-1 and JIS standard C6802 "Laser Product Emission Safety Standards".



(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.

(5) Use for special applications

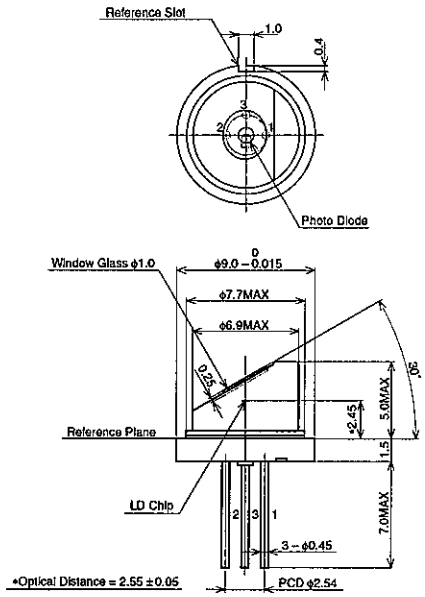
This product is not designed or manufactured for use in equipment used under circumstances where failure may pose a risk to life and limb, or result in significant material damage, etc.

Consult your Sony sales representative when investigating use for medical, vehicle, nuclear power control or other special applications. Also, use the power supply that was designed not to exceed the optical power output specified at the absolute maximum ratings.

Package Outline Unit: mm

SLD202U

M-221 (LO-2)



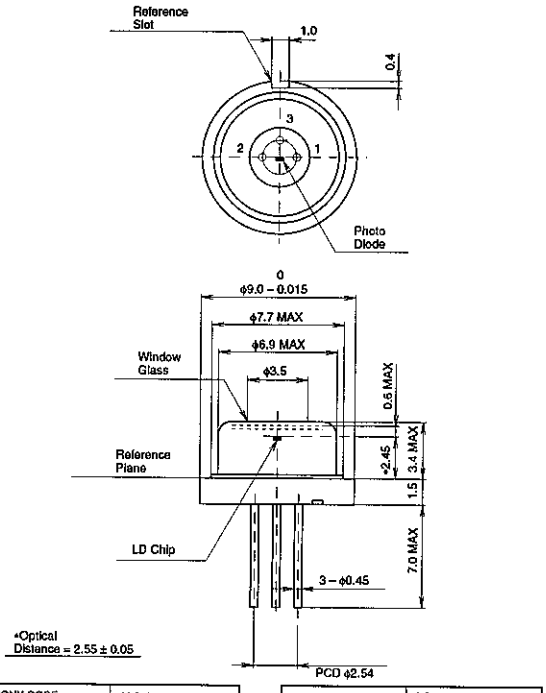
SONY CODE	M-221(LO-2)
EIAJ CODE	———
JEDEC CODE	———

PACKAGE STRUCTURE

PACKAGE MASS	1.2g

SLD202V

M-248 (LO-11)



SONY CODE	M-248
EIAJ CODE	———
JEDEC CODE	———

PACKAGE MASS	1.2g