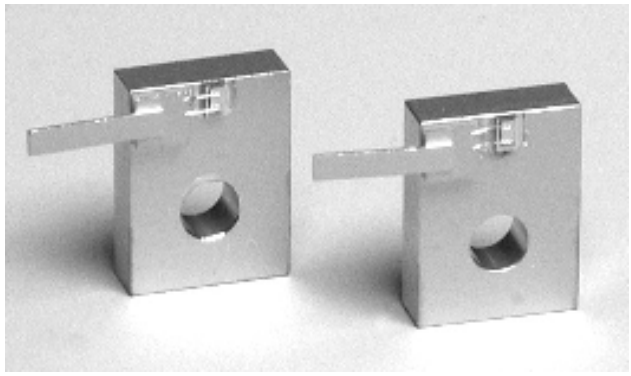
HAMAMATSU

Preliminary Data

808nm 0.5W CW Laser Diode

L8933-07

■ FEATURES:

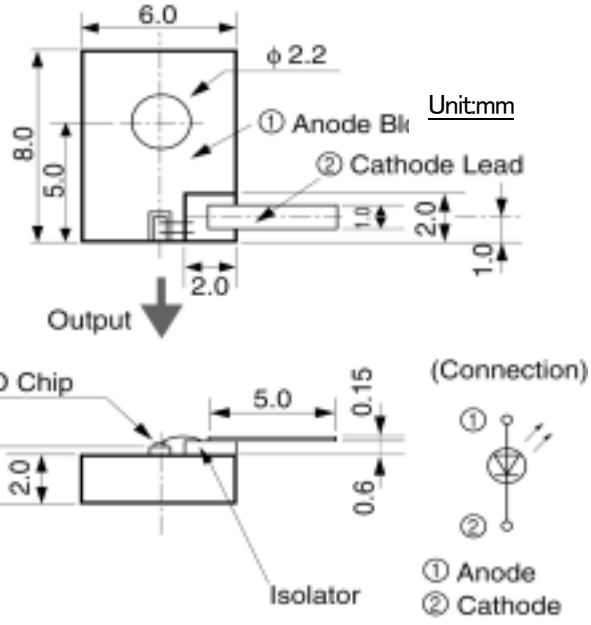


High output power & high brightness
- 0.5W CW Output Power
- 50 μm x 1 μm Emitting Area

Peak Emission Wavelength 808nm +/− 3nm
Multimode
High Stability
Long Life
Compact

■ APPLICATIONS:

Pumping source for Solid State Laser
Printing
Medical Instrument
Measuring Instrument



■ ABSOLUTE MAXIMUM RATINGS

(Top(c)=25°C)

Parameter	Symbol	Value	Unit
Radiant Output Power	$Ø_e$	0.6	W
Forward Current	I_F	0.8	A
Reverse Voltage	V_R	2	V
Operating Temperature	$Top_{(c)}$	0 to +30	°C
Storage Temperature	Tstg	−30 to +80	°C

■ ELECTRICAL AND OPTICAL CHARACTERISTICS

($Top_{(c)}$=25°C)

Parameter	Symbol	Condition	Value			Unit
			Min.	Typ.	Max.	
Forward Current	I_F	$Ø_e$=0.5W	−	0.65	0.75	A
Peak Emission Wavelength	λ_p	$Ø_e$=0.5W	805	808	811	nm
Spectral Radiation Half Bandwidth	$\Delta\lambda$	$Ø_e$=0.5W	−	2	3	nm
Forward Voltage	V_F	$Ø_e$=0.5W	−	2	2.4	V
Beam Spread Angle : Parallel	$\theta_{//}$	$Ø_e$=0.5W	4	8	12	degree
: Vertical	$\theta_{\perp}$	FWHM	27	32	37	degree
Lasing Threshold Current	Ith	−	−	0.15	0.25	A

808nm 0.5W CW Laser Diode L8933-07

Figure 1: Radiant Output Power vs. Forward Current (Typ.)

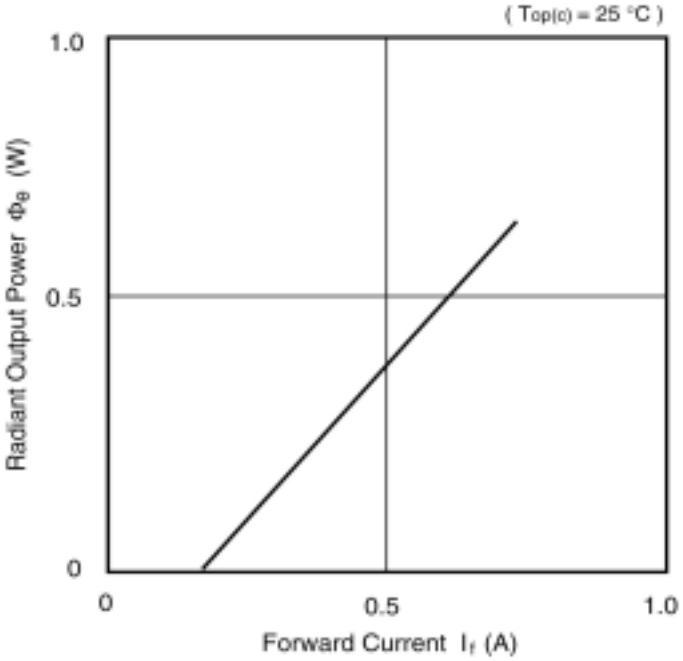


Figure 2: Emission Spectrum (Typ.)

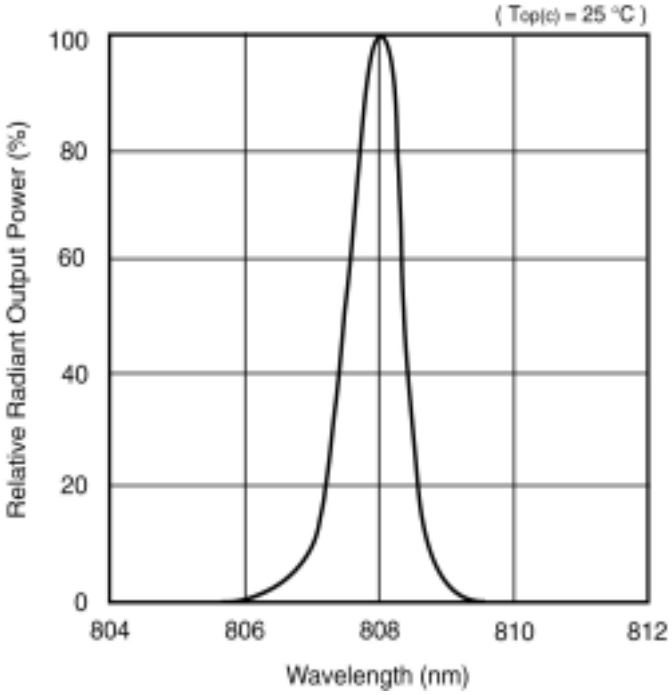
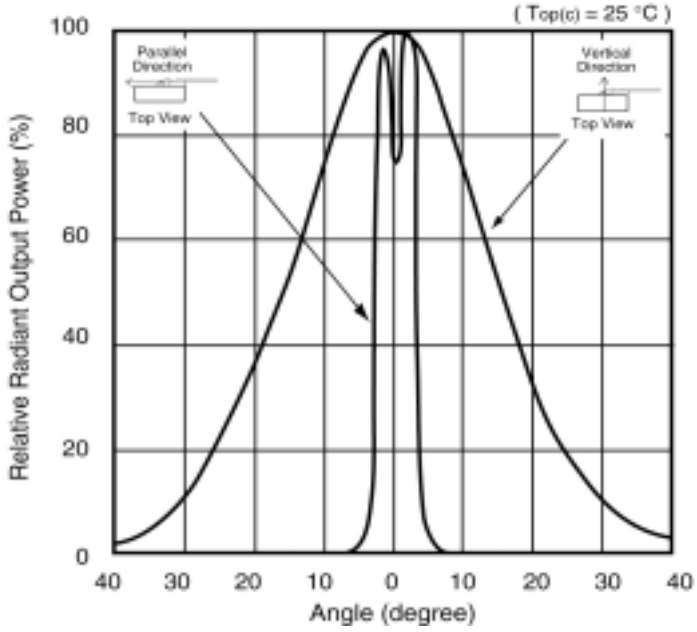


Figure 3: Directivity (Typ.)



■ INSTRUCTIONS FOR SAFETY USE

1. Heat dissipation

Reliability of this LD is deeply correlated with junction temperature. Under higher operating temperature, the reliability deteriorates soon. Heat dissipating device (material: Aluminum, Copper) should be attached to the base of the LD, and cooling devices (air, water, peltier etc.) should be operated with the LD in order to dissipate the heat from the LD, so that the operating temperature is kept within the absolute maximum ratings.

2. Safety for operators and users

This LD emits invisible laser radiation. It's classified into Class 4 according to the laser product standards of the IEC 60825-1 (Safery of laser products Part 1 : Equipment classification, requirements and user's guide) and/or ANSI Z136.1 (American National Standard for Safe Use of Lasers) etc. Direct or reflected laser beam from this LD may damage eyes or skin by being absorbed by cell. The operator must not stare the emitting area of LD, must avoid direct exposure to the laser beam.

3. Bare chip type

This LD is bare chip type, vital & fragile part is naked. Dusts, expiration, finger print, sputum, condensation bending, chip off of LD chip, re-forming of wire may leads to degradation of performance of the LD. **Please unpack, keep, handle, operate, and drive in air-conditioned clean rooms that the LD is keep away from dust & condensation.**

HAMAMATSU http://www.hamamatsu.com Jan 2003

HAMAMATSU PHOTONICS K.K. Laser Group, Sales Dept.

5000, Hirakuchi, Hamakita City, Shizuoka, Japan

Telephone: (81)53-584-0227, Fax: (81)53-584-0228, e-mail: laser-g@lsr.hpk.co.jp