

15W Array Laser Diode

Preliminary

Description

The SLD402S is a high power laser diode with an array structure, which achieves 15W high power.

Features

- High power Recommended output: Po = 15W
- Array structure
- Open package

Applications

Sold state laser excitation

Structure

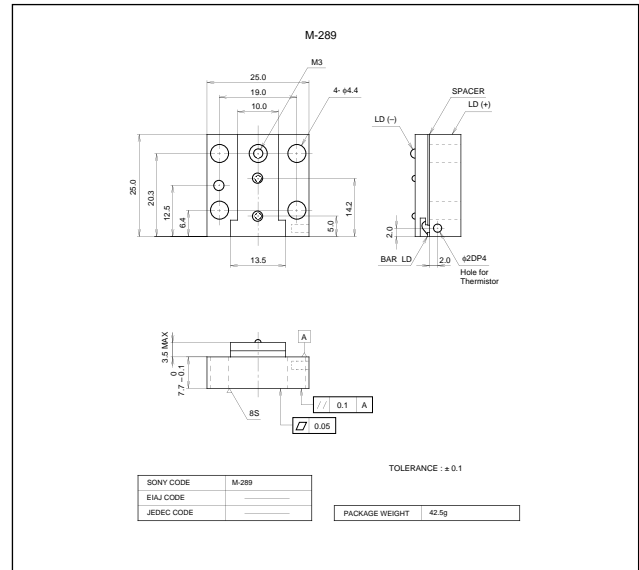
GaAlAs quantum well structure laser diode

Absolute Maximum Ratings (Tc = 25°C)

- Optical power output Po 16 W
- Reverse voltage VRLD 2 V

Package Outline

Unit : mm



Sony reserves the right to change products and specifications without prior notice. This information does not convey any license by any implication or otherwise under any patents or other right. Application circuits shown, if any, are typical examples illustrating the operation of the devices. Sony cannot assume responsibility for any problems arising out of the use of these circuits.

**Optical and Electrical Characteristics**

(T<sub>c</sub> = 25°C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Threshold current	I <sub>th</sub>			15	30	A	
Operating current	I <sub>op</sub>	P <sub>o</sub> = 15W		30	50	A	
Operating voltage	V <sub>op</sub>	P <sub>o</sub> = 15W		2.1	3.0	V	
Wavelength	λ <sub>P</sub>	P <sub>o</sub> = 15W	790		840	nm	
Radiation angle	Perpendicular	θ <sub>⊥</sub>	P <sub>o</sub> = 15W	20	28	40	degree
	Parallel	θ <sub>//</sub>	P <sub>o</sub> = 15W	5	13	25	degree
Positional accuracy	Position	ΔX, ΔY				±500	μm
	Angle	Δφ <sub>⊥</sub>	P <sub>o</sub> = 15W			±3	degree
Differential efficiency	η <sub>D</sub>	P <sub>o</sub> = 15W	0.2	0.6	1.5	W/A	

**Handling Precautions**

Eye protection against laser beams

The optical output of laser diodes ranges from several mW to 3W. However the optical power density of the laser beam at the diode chip reaches 1MW/cm<sup>2</sup>. Unlike gas lasers, since laser diode beams are divergent, uncollimated laser diode beams are fairly safe at a laser diode. For observing laser beams, ALWAYS use safety goggles that block infrared rays. Usage of IR scopes, IR cameras and fluorescent plates is also recommended for monitoring laser beams safely.

Note that the laser diode array of this product is not protected with window glass, etc, thus, careful handling should be required.

