

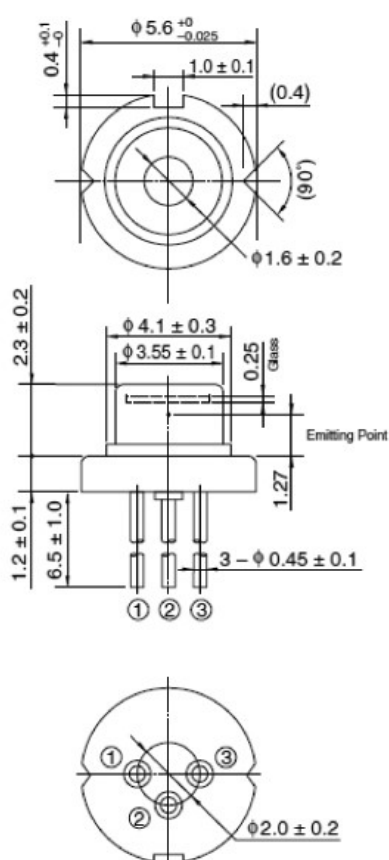
## Data Sheet

# HL83013MG

830nm / 50mW GaAlAs Laser Diode

USHIO

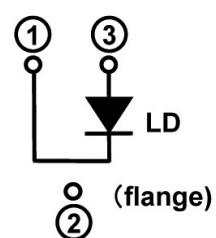
### Outline



(Unit:mm)

### Internal Circuit

#### HL83013MG



### Features

- Operation temperature: -10~+60°C
- Optical output power: 50mW(CW)
- Infrared lasing: 830nm Typ.
- Low operating voltage: 2.4V Max.
- Package:  $\phi 5.6$ mm
- Single transverse mode
- TE mode oscillation

### Application

- Sensor application
- Night vision
- Machine vision
- Light source of optical equipments

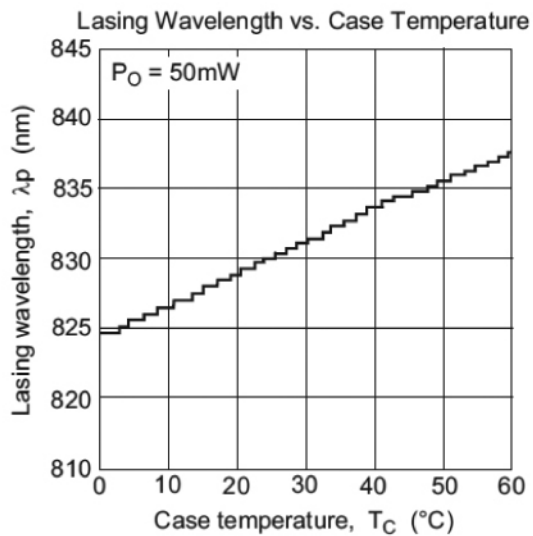
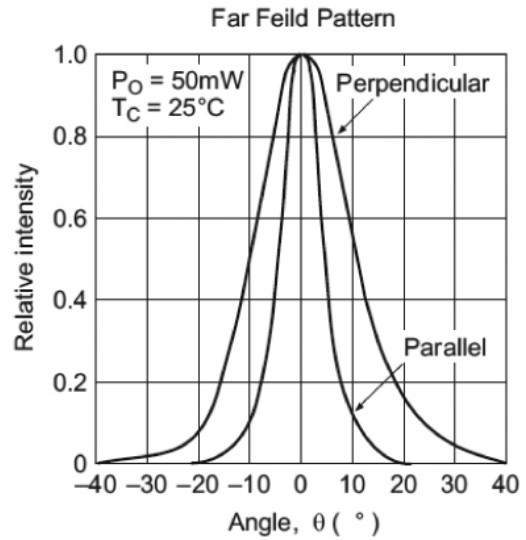
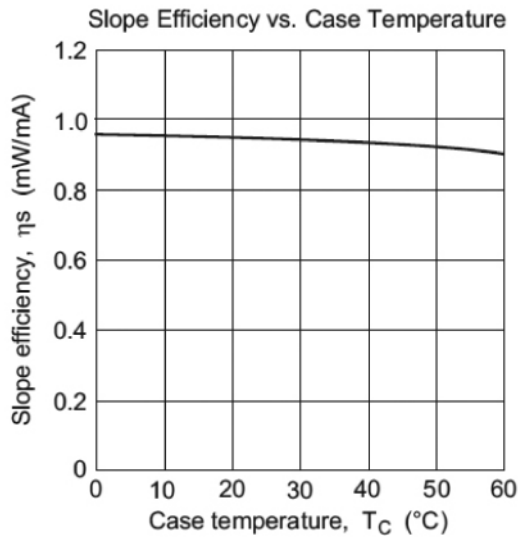
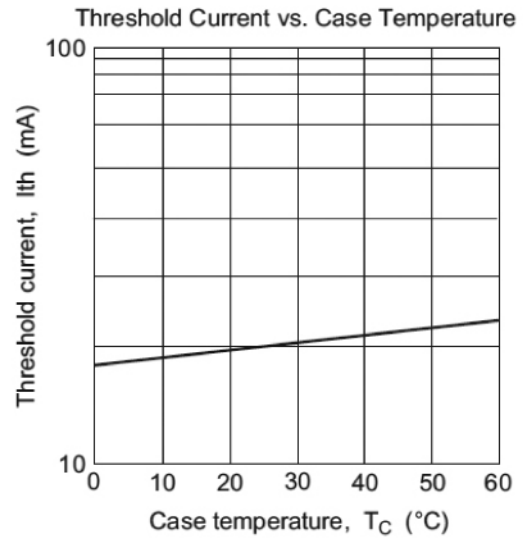
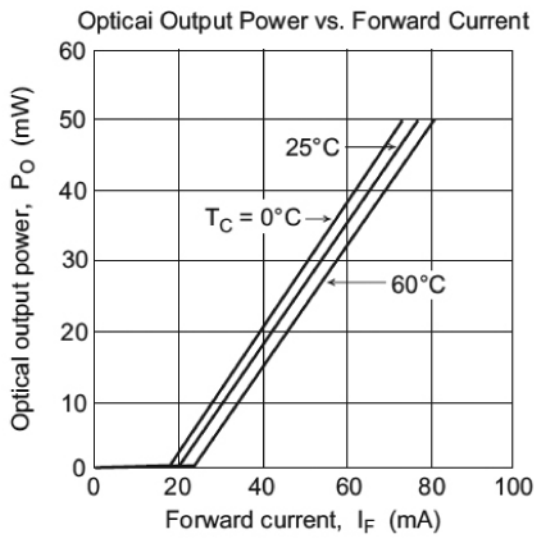
### Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Optical output power	Po	50	mW
LD Reverse Voltage	V <sub>R(LD)</sub>	2	V
Operating Temperature	Topr	-10 ~ +60	°C
Storage Temperature	Tstg	-40 ~ +85	°C

### Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	I <sub>th</sub>	-	20	40	mA	-
Operating current	I <sub>op</sub>	-	75	100	mA	Po=50mW
Operating voltage	V <sub>op</sub>	-	1.9	2.4	V	Po=50mW
Beam divergence Parallel to the junction	θ <sub>//</sub>	6	9	12	°	Po=50mW, FWHM
Beam divergence Perpendicular to the junction	θ <sub>⊥</sub>	18	22	26	°	Po=50mW, FWHM
Lasing Wavelength	λ <sub>p</sub>	820	830	840	nm	Po=50mW

## Typical Characteristic Curves



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1.The laser light is harmful to human body especially to eye no matter what directly or indirectly. The laser beam shall be observed or adjusted through infrared camera or equivalent.

2.This product (without violet laser diode) contains gallium arsenide (GaAs), which may seriously endanger your health even at very low doses. Please avoid treatment which may create GaAs powder or gas, such as disassembly or performing chemical experiments, when you handle the product. When disposing of the product, please follow the laws of your country and separate it from other waste such as industrial waste and household garbage.

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