

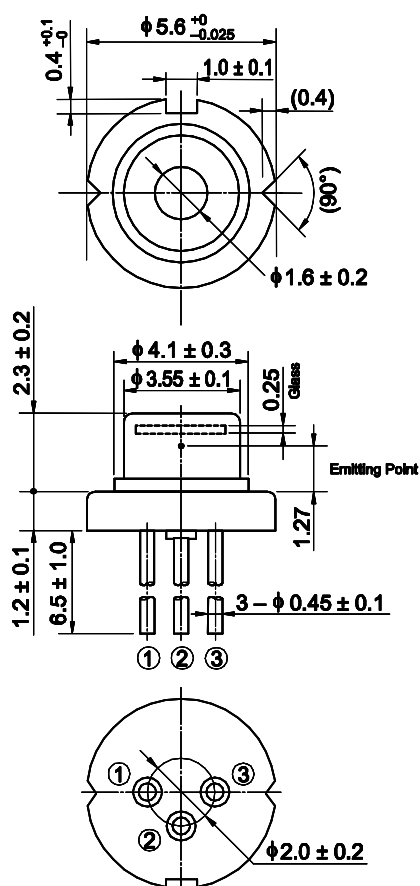
# Data Sheet

# HL6388MG

637nm / 250mW AlGaInP Laser Diode

USHIO

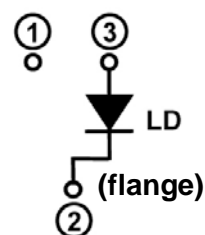
## Outline



(unit:mm)

## Internal Circuit

•HL6388MG



## Features

- Visible light output: 637nm Typ.
- Optical output power: 250mW (CW)
- Multi transverse mode
- High operating temperature: +50°C
- Small package:  $\phi 5.6$ mm
- TM mode oscillation

## Application

- Pico projector
- Laser module
- Light source of optical equipments

## Absolute Maximum Ratings (Tc=25°C)

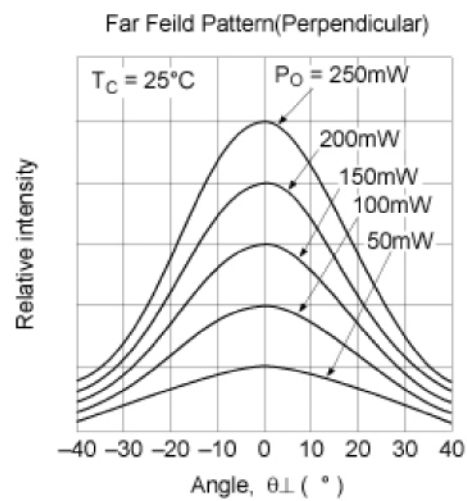
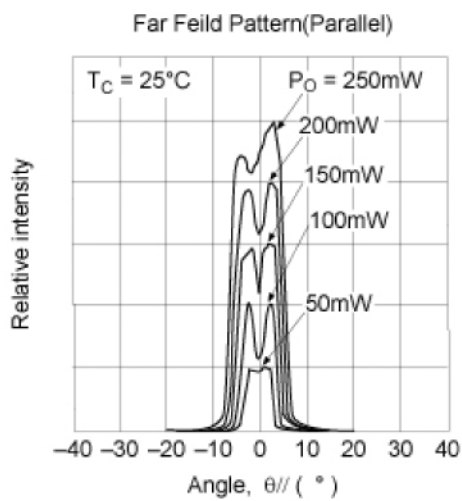
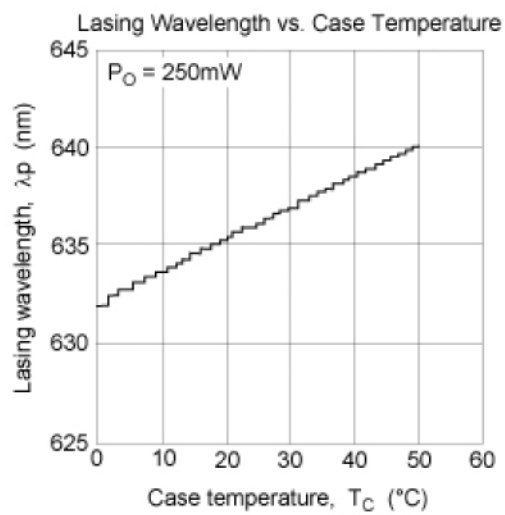
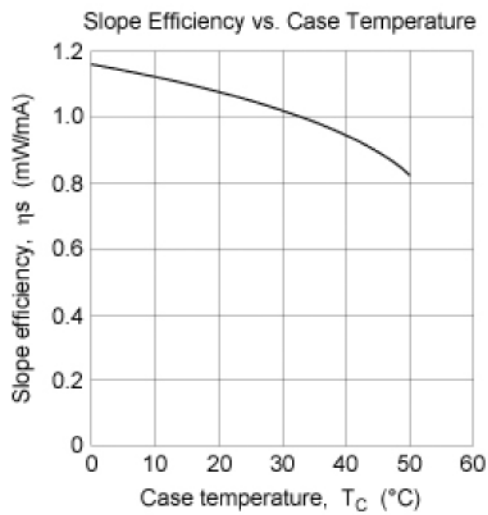
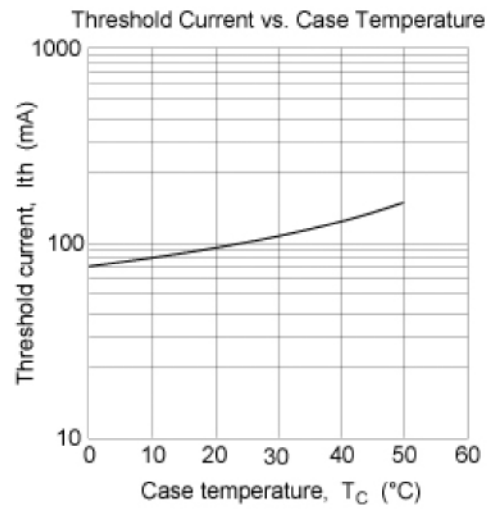
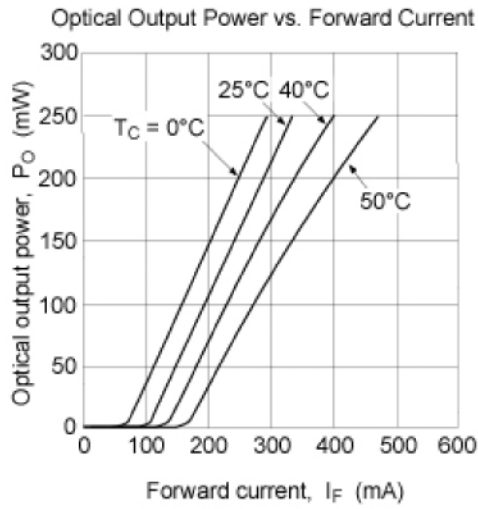
| Item                  | Symbol             | Ratings   | Unit |
|-----------------------|--------------------|-----------|------|
| Optical output power  | Po                 | 250       | mW   |
| LD Reverse Voltage    | V <sub>R(LD)</sub> | 2         | V    |
| Operating Temperature | Topr               | -10 ~ +50 | °C   |
| Storage Temperature   | Tstg               | -40 ~ +85 | °C   |

Note: Operating temperature is defined by Case temperature “Tc”. High increase in temperature of LD chip itself is expected during operation due to high current density. Thus, without proper heat dissipation, it is observed that no specific output power is achieved or it results to LD degradation. It is advised that sufficient measure of heat dissipation should be taken so that LD's maximum operating temperature is not exceeded during actual operation.

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

| Parameter  | Symbol          | Min | Typ  | Max | Unit  | Test Condition    |
|--|-----------------|-----|------|-----|-------|-------------------|
| Threshold current                                | I <sub>th</sub> | -   | 100  | 140 | mA    | -                 |
| Slope efficiency                                 | η <sub>s</sub>  | 0.7 | 1.05 | -   | mW/mA | -                 |
| Operating current                                | I <sub>op</sub> | -   | 340  | 430 | mA    | Po=250mW          |
| Operating voltage                                | V <sub>op</sub> | -   | 2.3  | 2.8 | V     | Po=250mW          |
| Beam divergence<br>Parallel to the junction      | θ <sub>//</sub> | -   | 11   | 20  | °     | Po=250mW,<br>FWHM |
| Beam divergence<br>Perpendicular to the junction | θ <sub>⊥</sub>  | 30  | 40   | 50  | °     | Po=250mW,<br>FWHM |
| Lasing Wavelength                                | λ <sub>p</sub>  | 632 | 637  | 642 | nm    | Po=250mW          |

## Typical Characteristic Curves



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