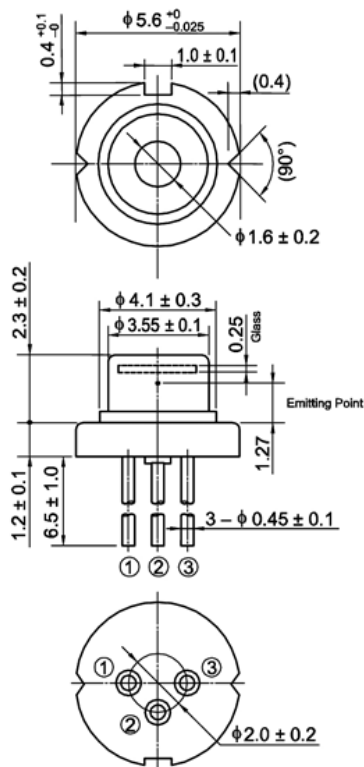


## HL6395MG-A/96MG-A

639nm / 12mW AlGaInP Laser Diode

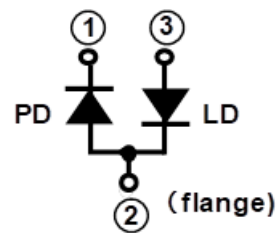
### Outline



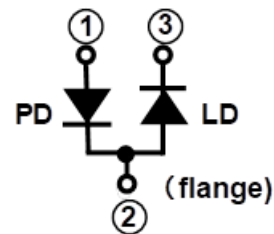
(unit:mm)

### Internal Circuit

HL6395MG-A



HL6396MG-A



### Features

- Visible light output: 639 nm Typ.
- Optical output power: 10 mW (CW)
- Single transverse mode
- Low operating current: 55 mA Typ.
- Low operating voltage: 2.5 V Max.
- Operating temperature: +60°C
- TE mode oscillation

### Application

- Laser leveler
- Laser scanner
- Light source of optical equipments

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

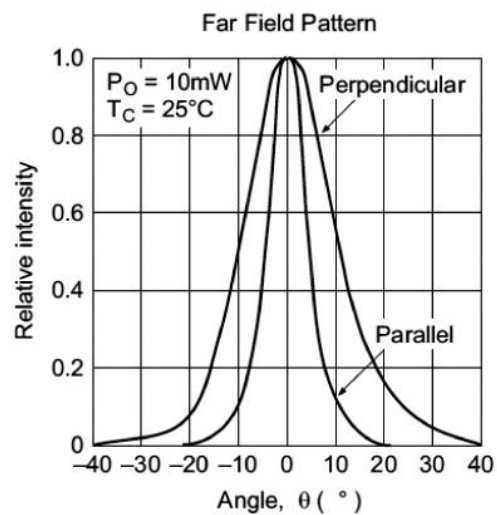
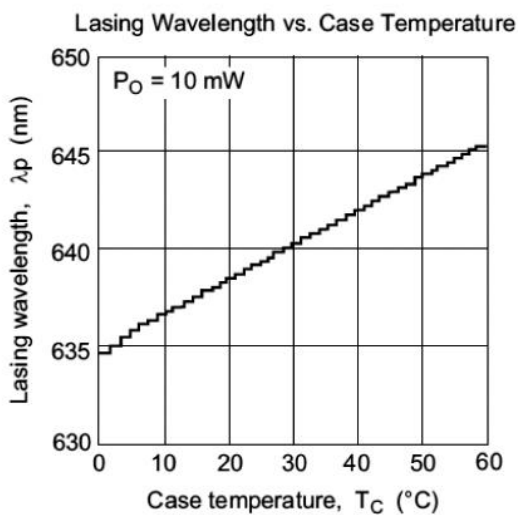
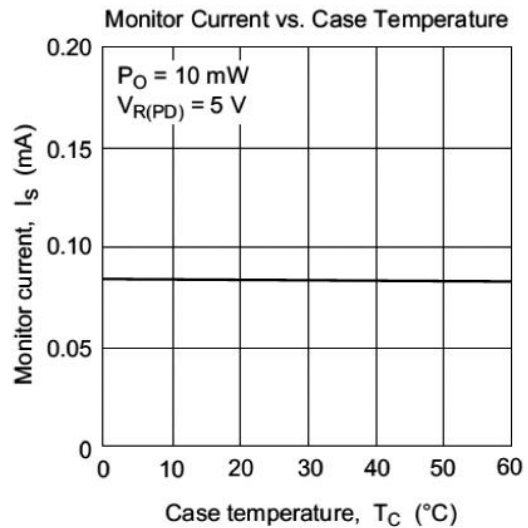
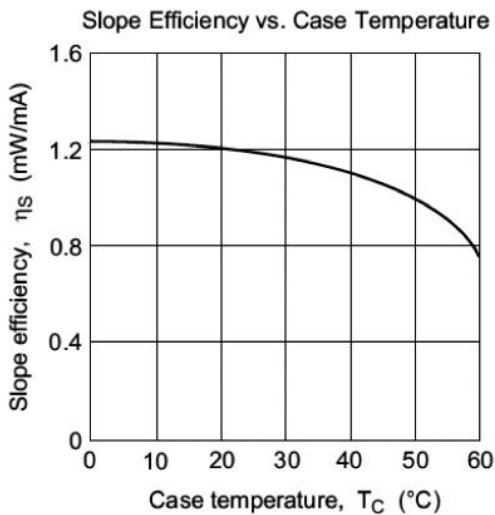
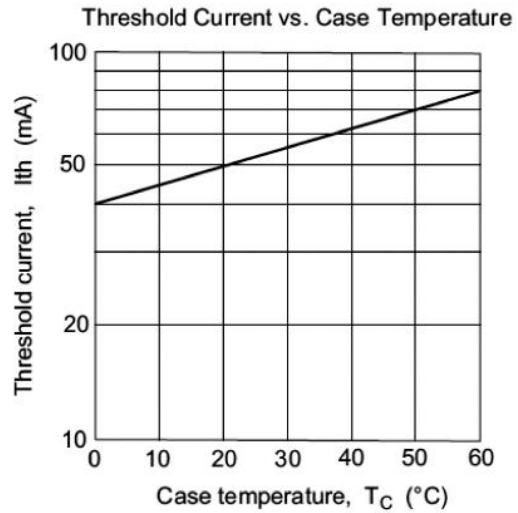
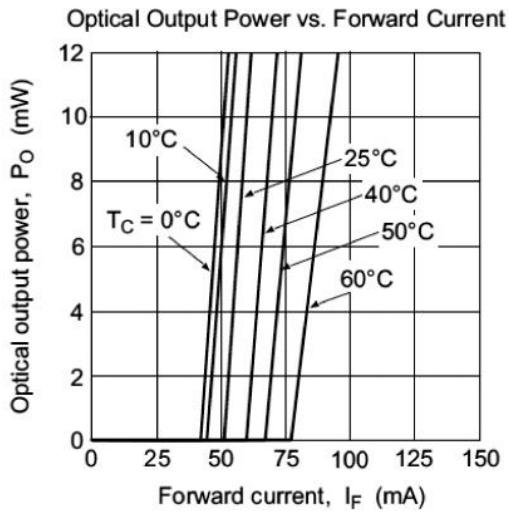
| Item                  | Symbol             | Ratings   | Unit |
|-----------------------|--------------------|-----------|------|
| Optical output power  | Po                 | 12        | mW   |
| LD Reverse Voltage    | V <sub>R(LD)</sub> | 2         | V    |
| PD Reverse Voltage    | V <sub>R(PD)</sub> | 30        | V    |
| Operating Temperature | T <sub>opr</sub>   | -10 ~ +60 | °C   |
| Storage Temperature   | T <sub>stg</sub>   | -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> | -    | 45   | 60   | mA   | -                                  |
| Operating current                                | I <sub>op</sub> | -    | 55   | 70   | mA   | Po=10mW                            |
| Operating voltage                                | V <sub>op</sub> | -    | 2.3  | 2.5  | V    | Po=10mW                            |
| Beam divergence<br>Parallel to the junction      | θ <sub>//</sub> | 6    | 9    | 12   | °    | Po=10mW,<br>FWHM                   |
| Beam divergence<br>Perpendicular to the junction | θ <sub>⊥</sub>  | 16   | 21   | 24   | °    | Po=10mW,<br>FWHM                   |
| Lasing Wavelength                                | λ <sub>p</sub>  | -    | 639  | 643  | nm   | Po=10mW                            |
| Monitor Current                                  | I <sub>s</sub>  | 0.04 | 0.07 | 0.15 | mA   | Po=10mW,<br>V <sub>R(PD)</sub> =5V |

## Typical Characteristic Curves



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