

## Data Sheet

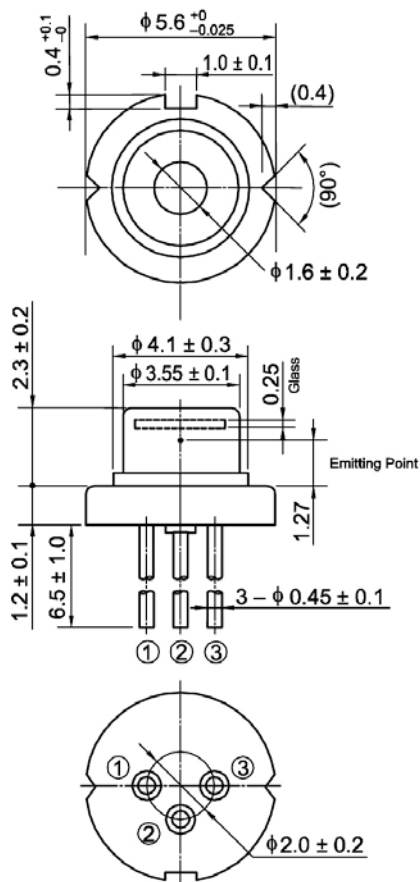
# HL6501MG

658nm / 35mW

AlGaInP Laser Diode

USHIO

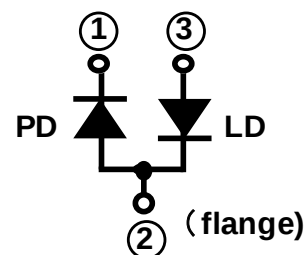
### Outline



(Unit: mm)

### Internal Circuit

#### • HL6501MG



### Features

- Visible light output: 658nm Typ.
- Optical output power: 30mW (CW)
- Operating temperature: +60°C
- Built-in monitor diode
- Single transverse mode
- TE mode oscillation

### Application

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

## Absolute Maximum Ratings (Tc=25°C)

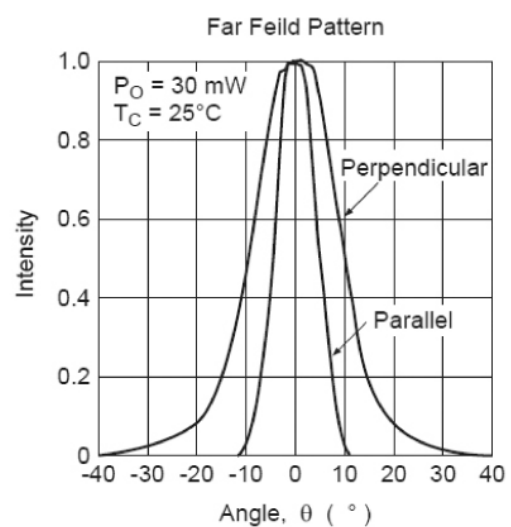
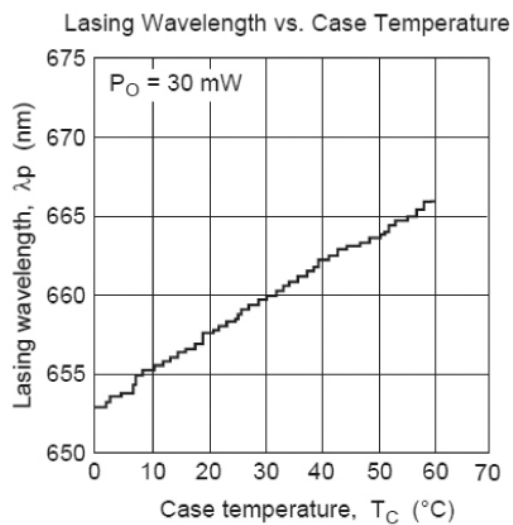
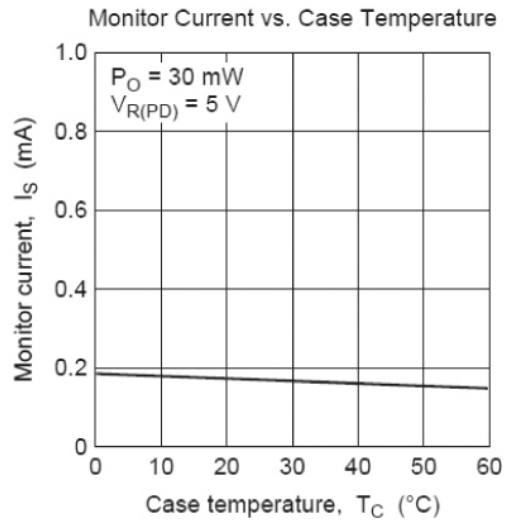
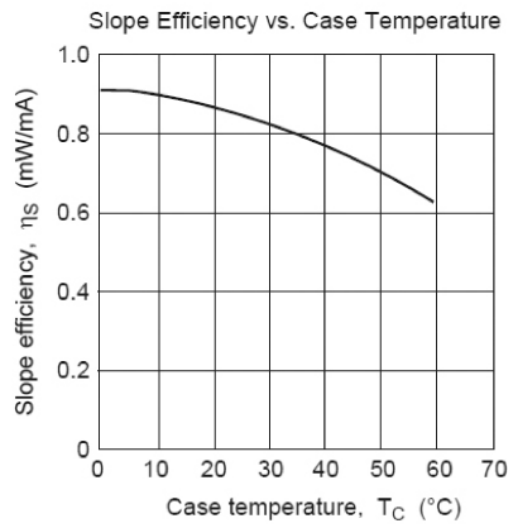
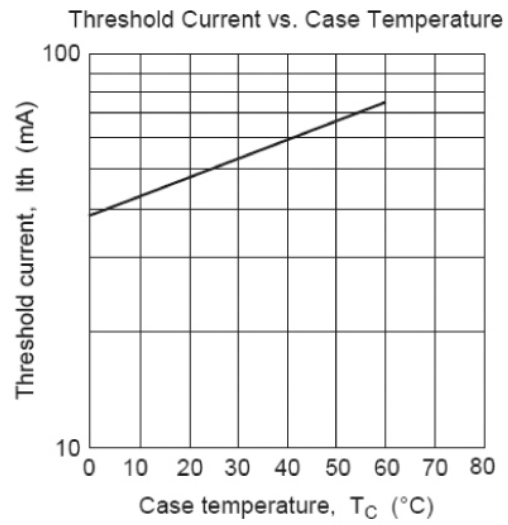
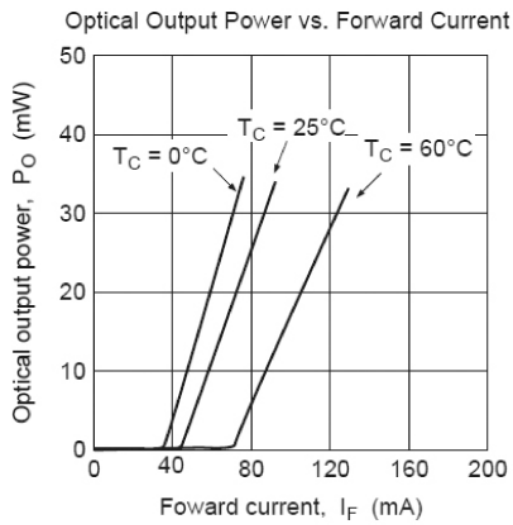
| Item                       | Symbol                | Ratings   | Unit |
|----------------------------|-----------------------|-----------|------|
| Optical output power       | Po                    | 35        | mW   |
| Pulse optical output power | Po <sub>(pulse)</sub> | 50        | mW   |
| LD Reverse Voltage         | V <sub>R(LD)</sub>    | 2         | V    |
| PD Reverse Voltage         | V <sub>R(PD)</sub>    | 30        | V    |
| Operating Temperature      | Topr                  | -10 ~ +60 | °C   |
| Storage Temperature        | Tstg                  | -40 ~ +85 | °C   |

Note: Pulse condition: Pulse width = 30nsec, duty = 35%

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

| Parameter                                        | Symbol          | Min  | Typ | Max  | Unit | Test Condition                     |
|--------------------------------------------------|-----------------|------|-----|------|------|------------------------------------|
| Threshold current                                | I <sub>th</sub> | 30   | 45  | 70   | mA   | -                                  |
| Operating current                                | I <sub>op</sub> | 70   | 85  | 120  | mA   | Po=30mW                            |
| Operating voltage                                | V <sub>op</sub> | 2.1  | 2.6 | 3.0  | V    | Po=30mW                            |
| Beam divergence<br>Parallel to the junction      | θ <sub>//</sub> | 7    | 8.5 | 10.5 | °    | Po=30mW,<br>FWHM                   |
| Beam divergence<br>Perpendicular to the junction | θ <sub>⊥</sub>  | 18   | 22  | 26   | °    | Po=30mW,<br>FWHM                   |
| Lasing Wavelength                                | λ <sub>p</sub>  | 645  | 658 | 665  | nm   | Po=30mW                            |
| Monitor Current                                  | I <sub>s</sub>  | 0.05 | 0.3 | 1.5  | mA   | Po=30mW,<br>V <sub>R(PD)</sub> =5V |

## Typical Characteristic Curves



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