

# HL6512MG

## Visible High Power Laser Diode

ODE-208-042A (Z)

Rev.1

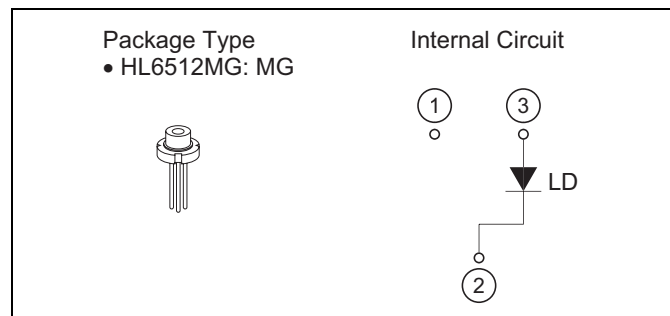
Oct. 20, 2006

### Description

The HL6512MG is a 0.65  $\mu\text{m}$  band AlGaInP laser diode (LD) with a multi-quantum well (MQW) structure. Its beam divergence (parallel to the junction) has a small variation to the optical output power. It is suitable as light sources for laser scanners and optical equipment for measurement.

### Features

- High output power and Wide operating temperature: 70 mW (pulse), PW = 100ns, duty = 50%, (Topr = 70°C)
- Small package :  $\phi$  5.6 mm
- Visible light output :  $\lambda_p$  = 658 nm Typ
- The beam divergence (parallel to the junction) has a small variation to the output power.
- Single longitudinal mode



### Absolute Maximum Ratings

(T<sub>C</sub> = 25°C)

| Item                        | Symbol                | Ratings                   | Unit |
|-----------------------------|-----------------------|---------------------------|------|
| Optical output power        | P <sub>O</sub>        | 50                        | mW   |
| Pulse optical output power  | P <sub>O(pulse)</sub> | 70 * <sup>1</sup>         | mW   |
| Laser diode reverse voltage | V <sub>R(LD)</sub>    | 2                         | V    |
| Operating temperature       | Topr                  | -10 to +70 * <sup>2</sup> | °C   |
| Storage temperature         | Tstg                  | -40 to +85                | °C   |

Notes: 1. Pulse condition : Pulse width = 100 ns, duty = 50%

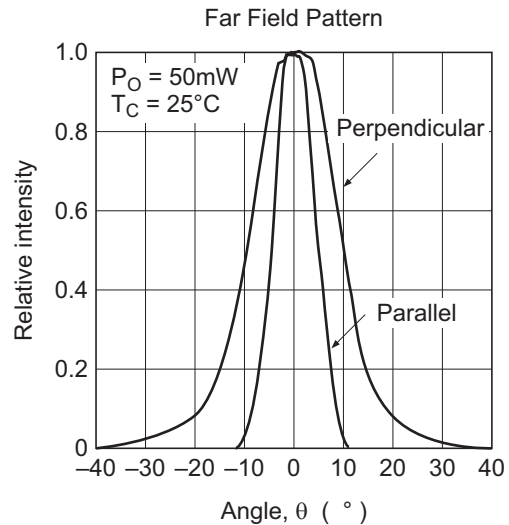
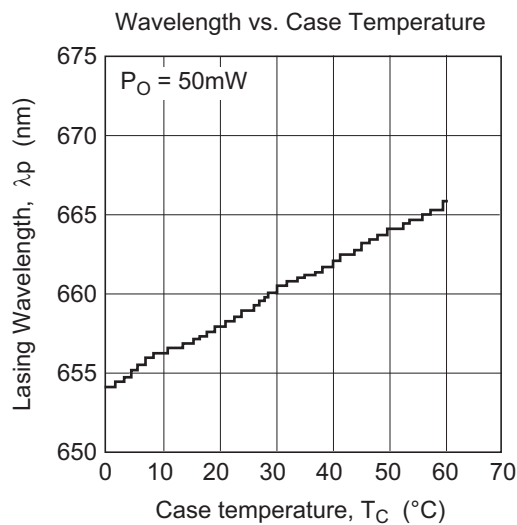
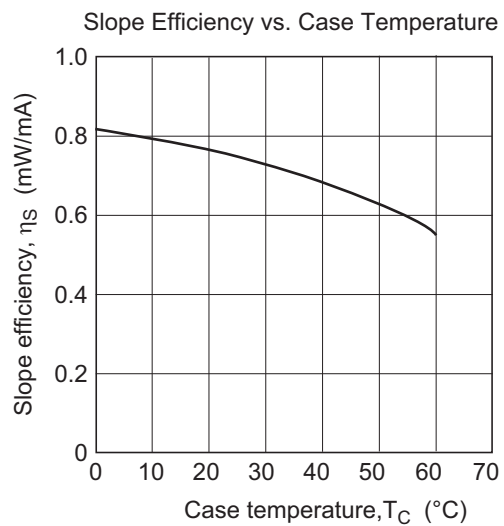
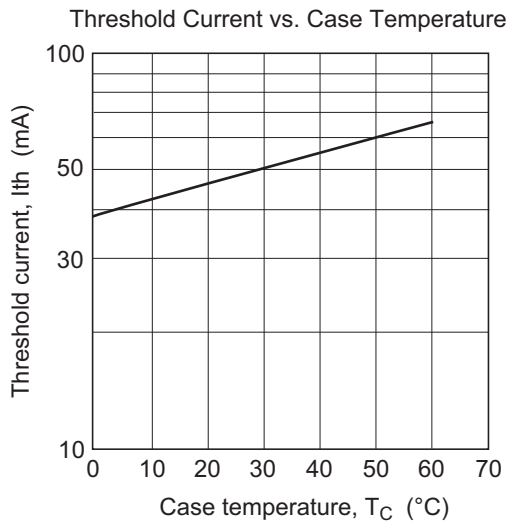
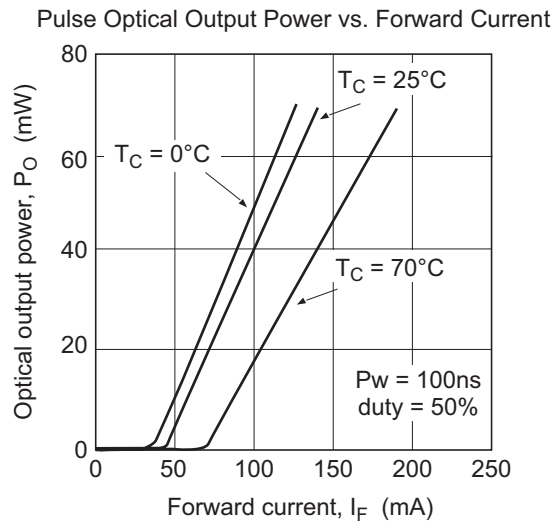
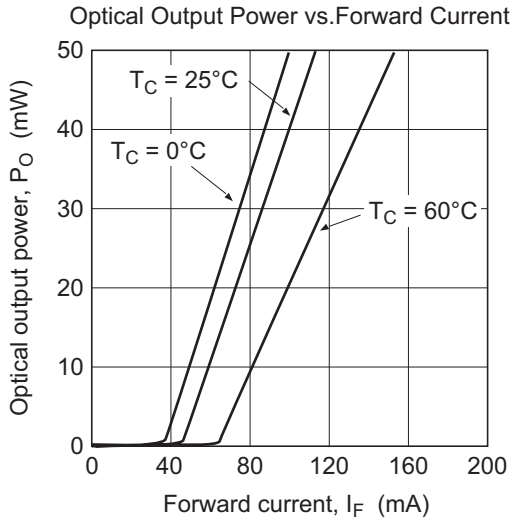
2. The value of -10 to +70°C is effective under pulse operation. The value under CW operation is -10 to +60°C.

### Optical and Electrical Characteristics

(T<sub>C</sub> = 25°C)

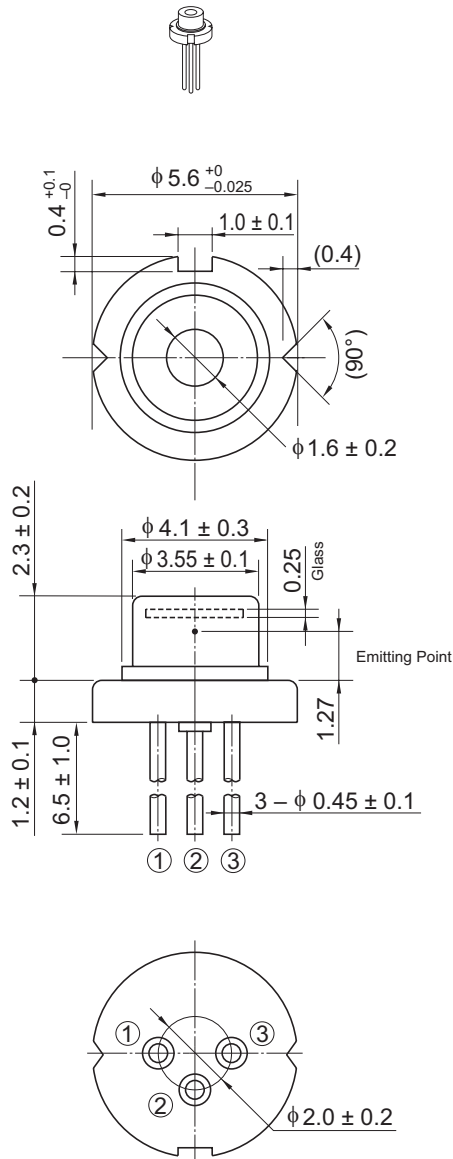
| Item  | Symbol           | Min | Typ | Max | Unit          | Test Conditions                  |
|---|------------------|-----|-----|-----|---------------|----------------------------------|
| Threshold current                             | I <sub>th</sub>  | 30  | 45  | 60  | mA            | —                                |
| Operating current                             | I <sub>op</sub>  | —   | 115 | 135 | mA            | P <sub>O</sub> = 50 mW           |
| Operating voltage                             | V <sub>OP</sub>  | 2.1 | 2.6 | 3.0 | V             | P <sub>O</sub> = 50 mW           |
| Beam divergence parallel to the junction      | $\theta_{//}$    | 7   | 8.5 | 11  | °             | P <sub>O</sub> = 50 mW           |
| Beam divergence perpendicular to the junction | $\theta_{\perp}$ | 18  | 21  | 26  | °             | P <sub>O</sub> = 50 mW           |
| Astigmatism                                   | A <sub>S</sub>   | —   | 5   | —   | $\mu\text{m}$ | P <sub>O</sub> = 5 mW, NA = 0.55 |
| Lasing wavelength                             | $\lambda_p$      | 655 | 658 | 662 | nm            | P <sub>O</sub> = 50 mW           |

### Typical Characteristic Curves



Package Dimensions

As of July, 2002  
Unit: mm



|                        |       |
|------------------------|-------|
| OPJ Code               | LD/MG |
| JEDEC                  | —     |
| JEITA                  | —     |
| Mass (reference value) | 0.3 g |

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## Sales Offices



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