

# HL6323MG

## AlGaInP Laser Diodes

ODE2013-00 (M)

Rev.0

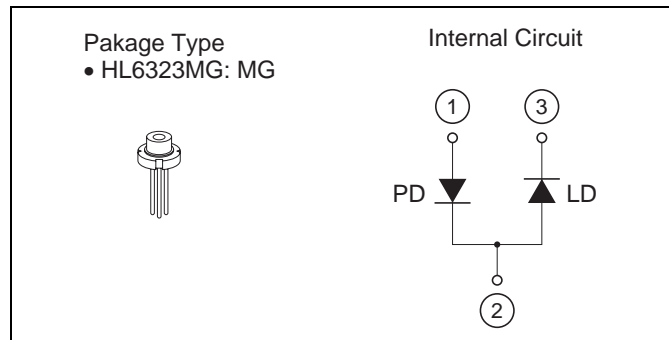
Aug. 01, 2008

### Description

The HL6323MG is a 0.63  $\mu\text{m}$  band AlGaInP laser diode (LD) with a multi-quantum well (MQW) structure. It is suitable as a longer distance operating range for laser markers and a higher speed for positioning control sensors. The HL6323MG is packaged in the small can ( $\phi 5.6$  mm), enabling end products to be kept small.

### Features

- High output power: 35 mW (CW)
- Visible light output:  $\lambda_p = 639$  nm Typ
- Small package:  $\phi 5.6$  mm
- TM mode oscillation
- Single longitudinal mode



### Absolute Maximum Ratings

( $T_C = 25^\circ\text{C}$ )

| Item                       | Symbol                | Ratings           | Unit             |
|----------------------------|-----------------------|-------------------|------------------|
| Optical output power       | $P_O$                 | 35 * <sup>1</sup> | mW               |
| Pulse optical output power | $P_{O(\text{pulse})}$ | 50 * <sup>2</sup> | mW               |
| LD reverse voltage         | $V_{R(\text{LD})}$    | 2                 | V                |
| PD reverse voltage         | $V_{R(\text{PD})}$    | 30                | V                |
| Operating temperature      | $T_{opr}$             | -10 to +50        | $^\circ\text{C}$ |
| Storage temperature        | $T_{stg}$             | -40 to +85        | $^\circ\text{C}$ |

Notes: 1. This value is not the same as the specification for long term reliability, such as lifetime.

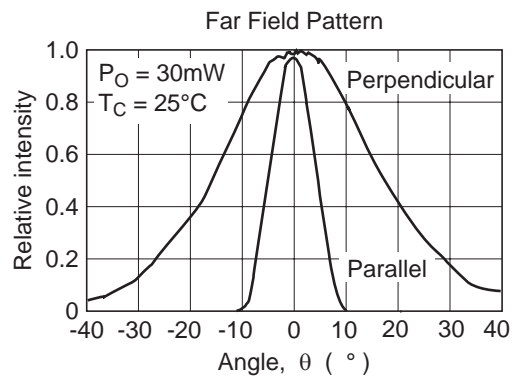
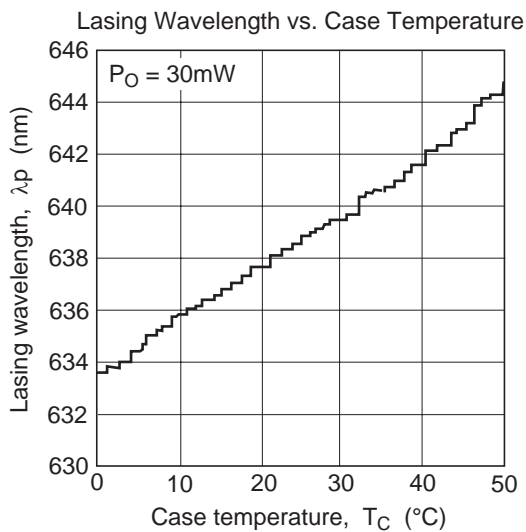
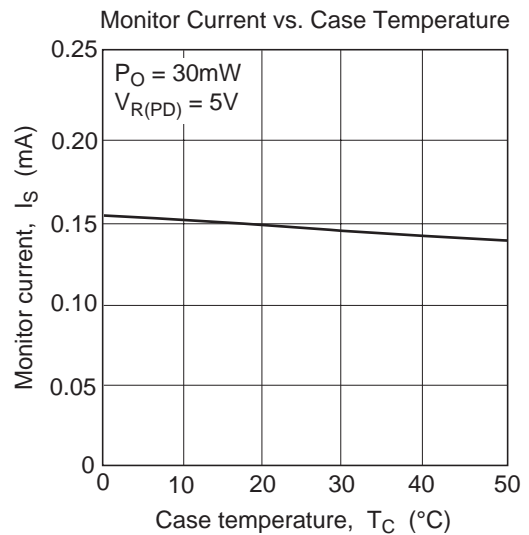
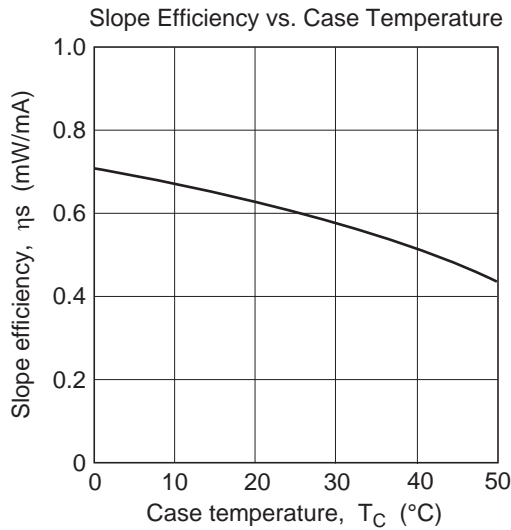
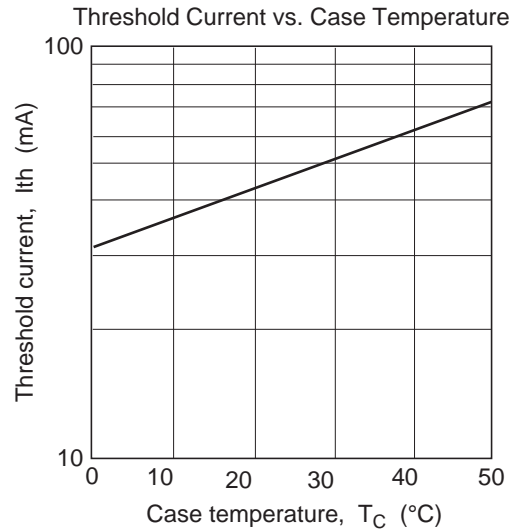
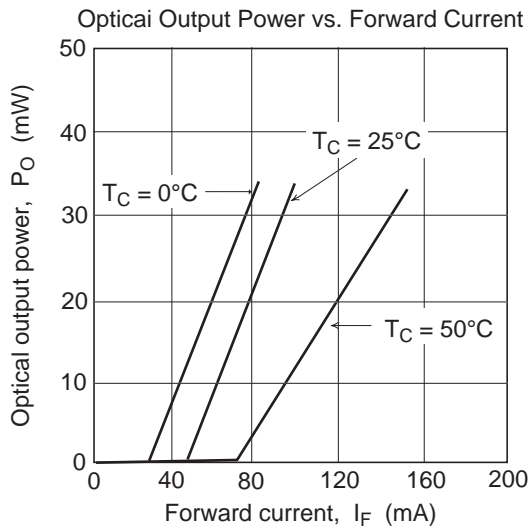
2. Pulse condition : Pulse width  $p_w = 100$  ns , duty = 20%

### Optical and Electrical Characteristics

( $T_C = 25^\circ\text{C}$ )

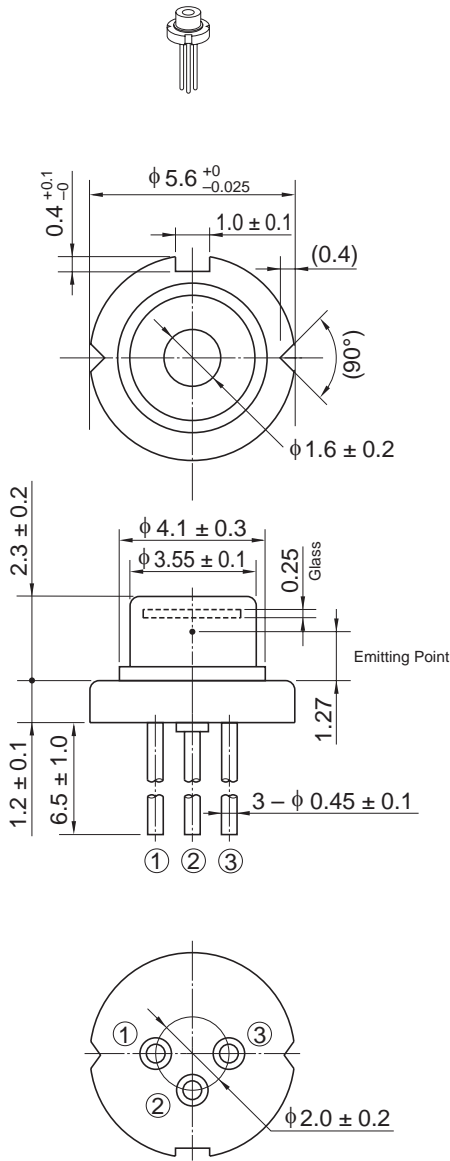
| Item  | Symbol           | Min  | Typ  | Max  | Unit     | Test Condition   |
|---|------------------|------|------|------|----------|--|
| Threshold current                             | $I_{th}$         | 30   | 45   | 65   | mA       | —  |
| Slope efficiency                              | $\eta_s$         | 0.4  | 0.6  | 0.9  | mW/mA    | $18(\text{mW}) / (I_{(24\text{mW})} - I_{(6\text{mW})})$ |
| Operating current                             | $I_{OP}$         | —    | 95   | 130  | mA       | $P_O = 30$ mW  |
| Operating voltage                             | $V_{OP}$         | —    | 2.3  | 2.8  | V        | $P_O = 30$ mW  |
| Beam divergence parallel to the junction      | $\theta_{//}$    | 7    | 8.5  | 11   | $^\circ$ | $P_O = 30$ mW  |
| Beam divergence perpendicular to the junction | $\theta_{\perp}$ | 26   | 30   | 34   | $^\circ$ | $P_O = 30$ mW  |
| Lasing wavelength                             | $\lambda_p$      | 635  | 639  | 642  | nm       | $P_O = 30$ mW  |
| Monitor current                               | $I_s$            | 0.05 | 0.15 | 0.25 | mA       | $P_O = 30$ mW, $V_{R(\text{PD})} = 5$ V                  |

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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3. Definition of items shown in this CAS is in accordance with that shown in Opto Device Databook issued by OPJ unless otherwise specified.

## Sales Offices



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