

# HL6340MG/41MG

## Circular Beam Low Operating Current

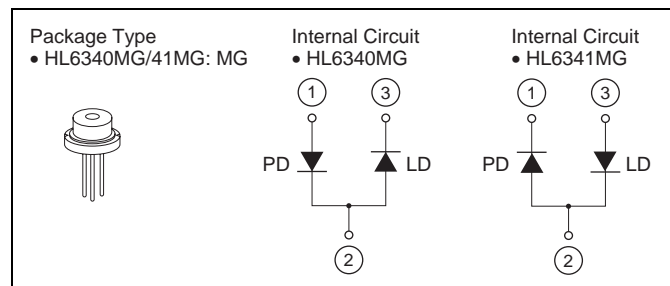
ODE-208-035 (Z)  
Rev.0  
Jul. 01, 2005

### Description

The HL6340MG/41MG are 0.63  $\mu\text{m}$  band AlGaInP laser diodes can be operated with low operating current. These products were designed by self aligned refractive index (SRI) active layer structure. These are suitable as a light source for laser levelers, laser scanners and optical equipment for measurement.

### Features

- Optical output power : 5 mW CW
- Single longitudinal mode
- Visible light power : 635 nm Typ
- Low operating current : 25 mA Typ
- Low aspect ratio : 1.2 Typ
- Operating temperature : +50°C
- TM mode oscillation



### Absolute Maximum Ratings

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

| Item                       | Symbol                | Ratings    | Unit             |
|----------------------------|-----------------------|------------|------------------|
| Optical output power       | $P_O$                 | 5          | mW               |
| Pulse optical output power | $P_{O(\text{pulse})}$ | 6 *        | 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 | $^\circ\text{C}$ |

Note: Pulse condition : Pulse width  $\leq 1 \mu\text{s}$ , duty  $\leq 50\%$

### Optical and Electrical Characteristics

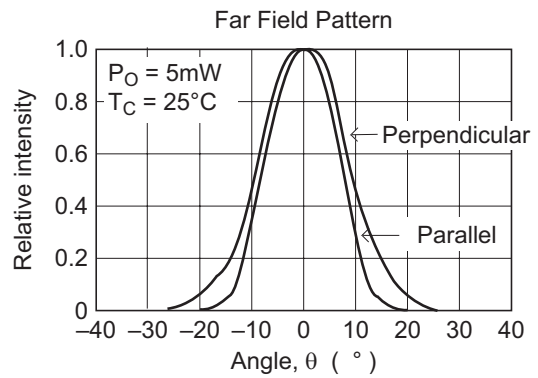
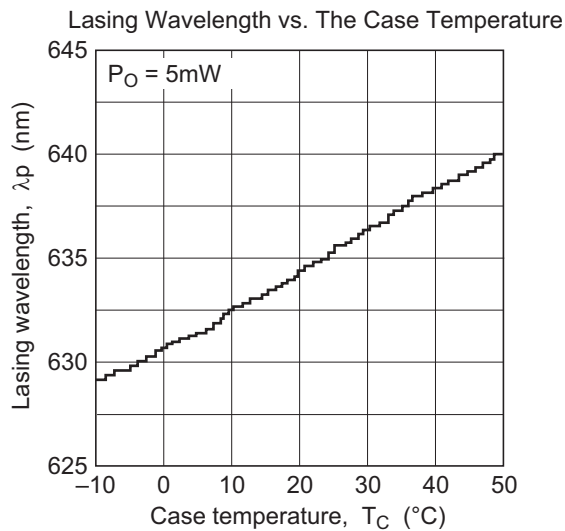
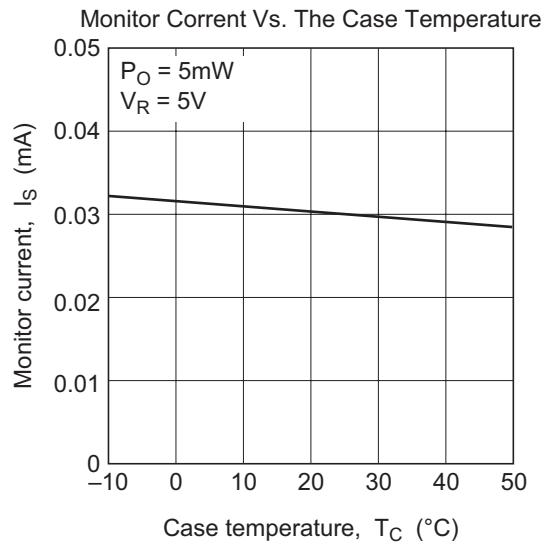
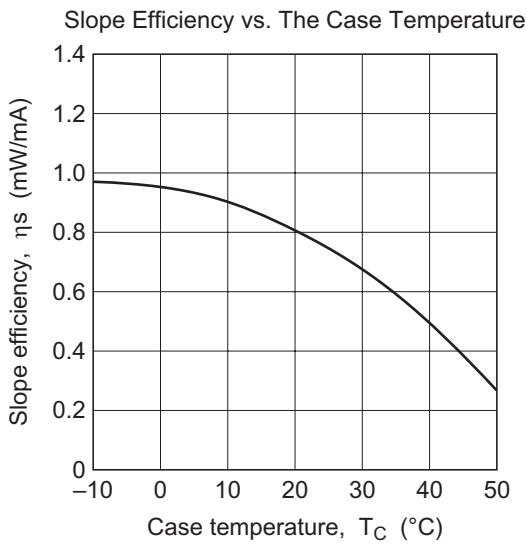
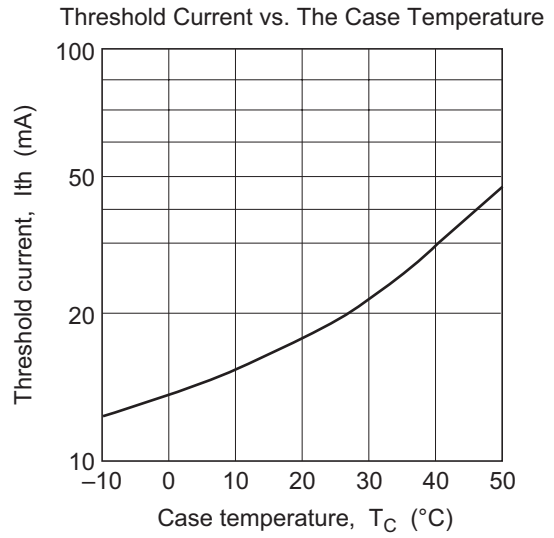
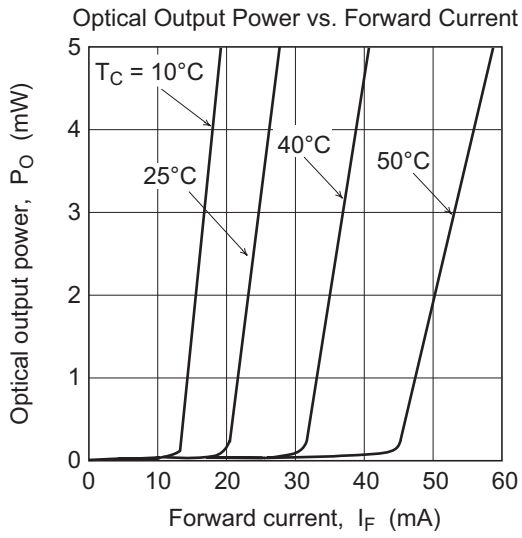
( $T_C = 25^\circ\text{C}$ )

| Item  | Symbol                       | Min  | Typ  | Max  | Unit     | Test Conditions  |
|---|------------------------------|------|------|------|----------|--|
| Threshold current                             | $I_{th}$                     | —    | 20   | 30   | mA       | —  |
| Slope efficiency                              | $\eta_S$                     | 0.5  | 0.8  | 1.1  | mW/mA    | $3 \text{ (mW)} / (I_{(4\text{mW})} - I_{(1\text{mW})})$ |
| Operating current                             | $I_{OP}$                     | —    | 25   | 40   | mA       | $P_O = 5 \text{ mW}$                                     |
| Operating voltage                             | $V_{OP}$                     | —    | 2.4  | 2.7  | V        | $P_O = 5 \text{ mW}$                                     |
| Lasing wavelength                             | $\lambda_p$                  | 630  | 635  | 640  | nm       | $P_O = 5 \text{ mW}$                                     |
| Beam divergence parallel to the junction      | $\theta_{//}$                | 13   | 17   | 25   | $^\circ$ | $P_O = 5 \text{ mW}$                                     |
| Beam divergence perpendicular to the junction | $\theta_{\perp}$             | 16   | 20   | 25   | $^\circ$ | $P_O = 5 \text{ mW}$                                     |
| Aspect ratio                                  | $\theta_{\perp}/\theta_{//}$ | —    | 1.2  | 1.5  | —        | $P_O = 5 \text{ mW}$                                     |
| Monitor current                               | $I_S$                        | 0.01 | 0.03 | 0.06 | mA       | $P_O = 5 \text{ mW}, V_{R(\text{PD})} = 5 \text{ V}$     |

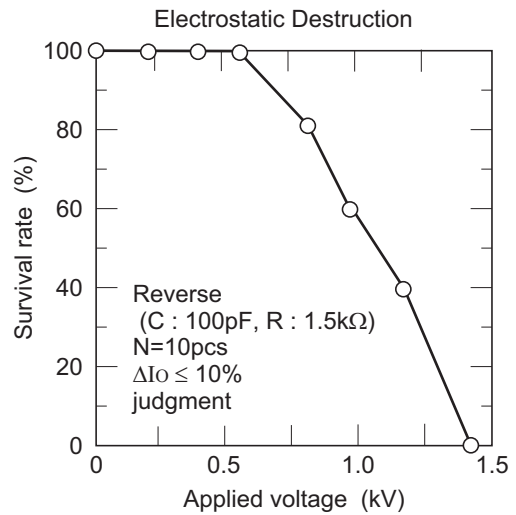
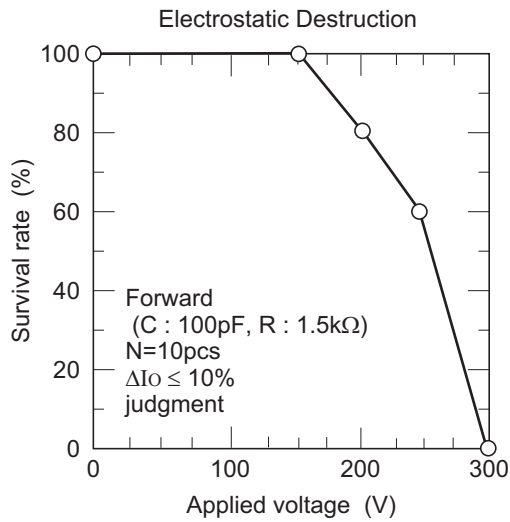
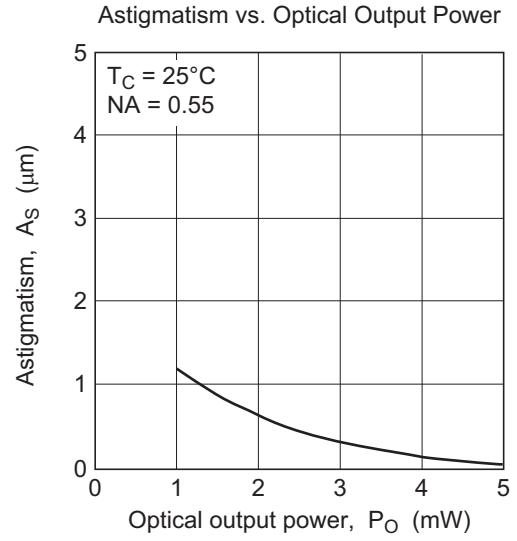
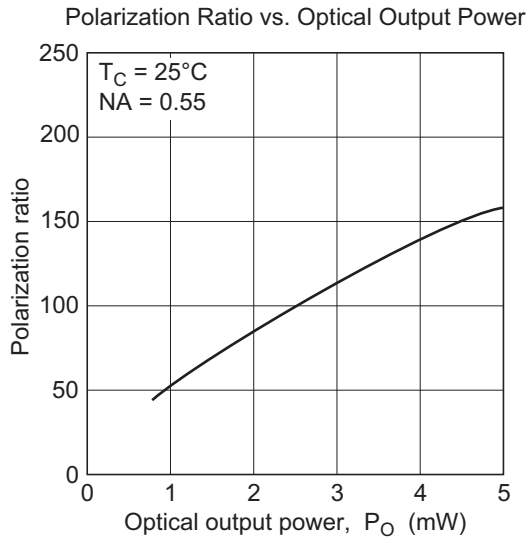
Notes: 1. Care must be taken in laser diodes handling to prevent optical damage caused by forward surges as well as by ESD.

2. The beam has 12 deg offset against the package reference plane. Please take account it mounted on a board.

Typical Characteristic Curves

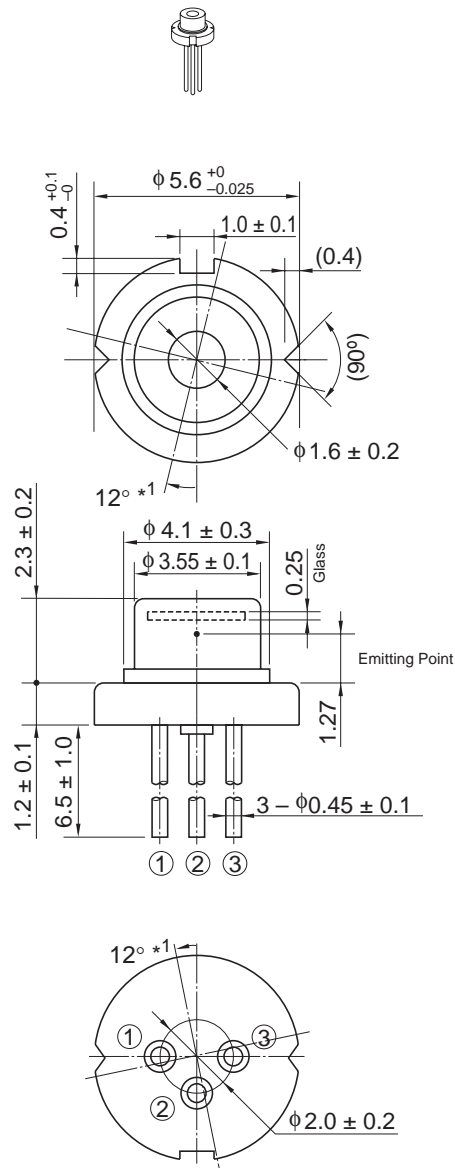


Typical Characteristic Curves (cont.)



Package Dimensions

Unit: mm



Note: 1. The beam has 12 deg offset against the package reference plane.  
Please take account it mounted on a board.

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

## Cautions

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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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