

HL6333MG/34MG

Low Operating Current Visible Laser Diode

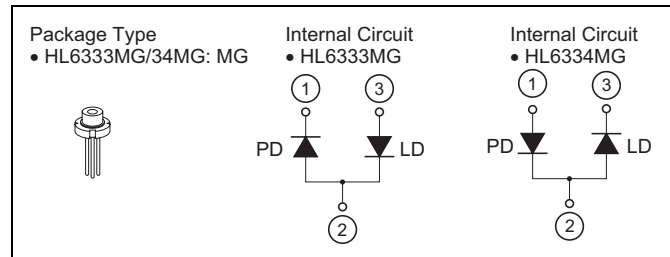
ODE-208-033A (Z)
Rev.1
Oct. 21, 2005

Description

The HL6333MG/34MG are 0.63 μm band AlGaInP 10mW laser diodes with a multi-quantum well (MQW) structure. They are suitable as light sources for laser levelers, laser scanners and optical equipment for measurement.

Features

- Visible light output: $\lambda_p = 635 \text{ nm Typ}$
- Single longitudinal mode
- Optical output power: 10 mW CW
- Low operating current : 55 mA Typ
- Low Operating voltage: 2.4 V Max
- Operating temperature : +50°C
- TM mode oscillation



Absolute Maximum Ratings

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

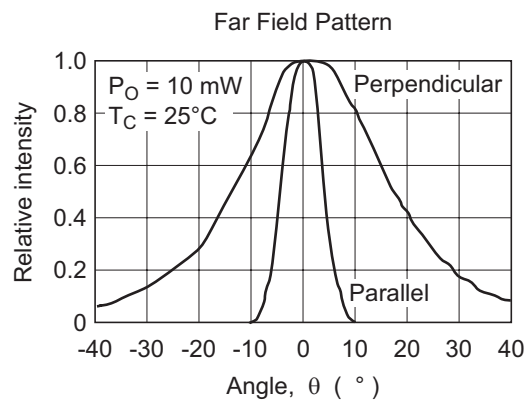
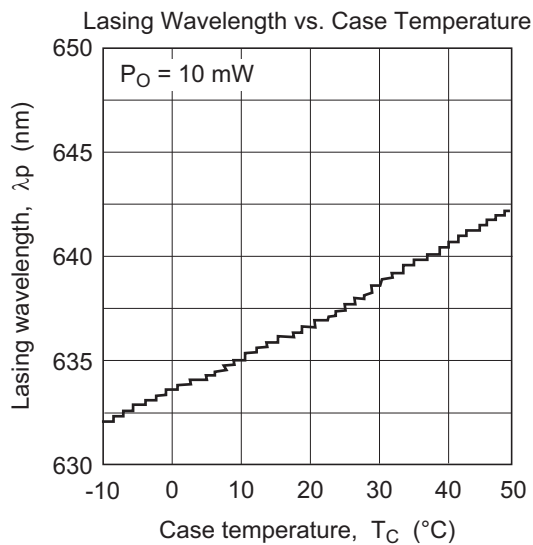
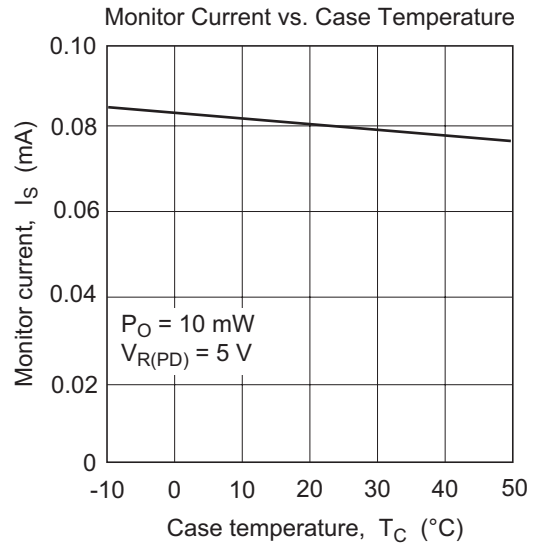
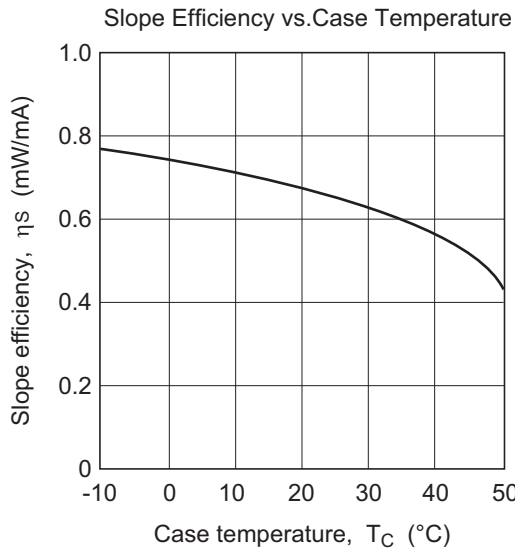
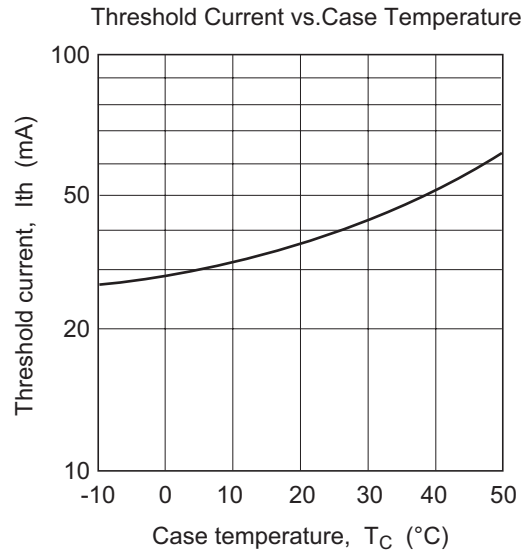
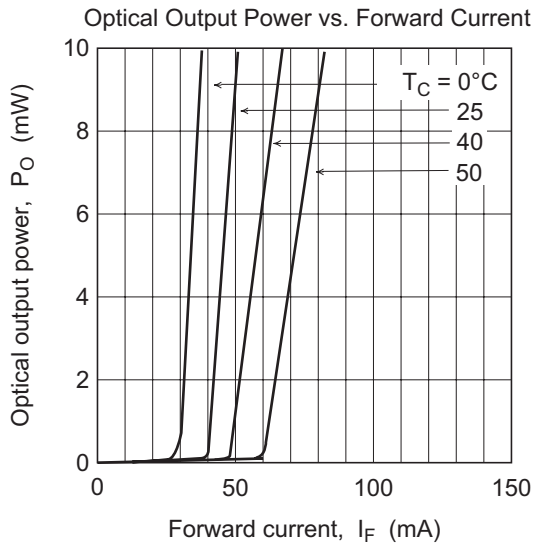
| Item | Symbol | Ratings | Unit |
|-----------------------|-------------|------------|------------------|
| Optical output power | P_O | 10 | mW |
| LD reverse voltage | $V_{R(LD)}$ | 2 | V |
| PD reverse voltage | $V_{R(PD)}$ | 30 | V |
| Operating temperature | T_{opr} | -10 to +50 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -40 to +85 | $^\circ\text{C}$ |

Optical and Electrical Characteristics

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

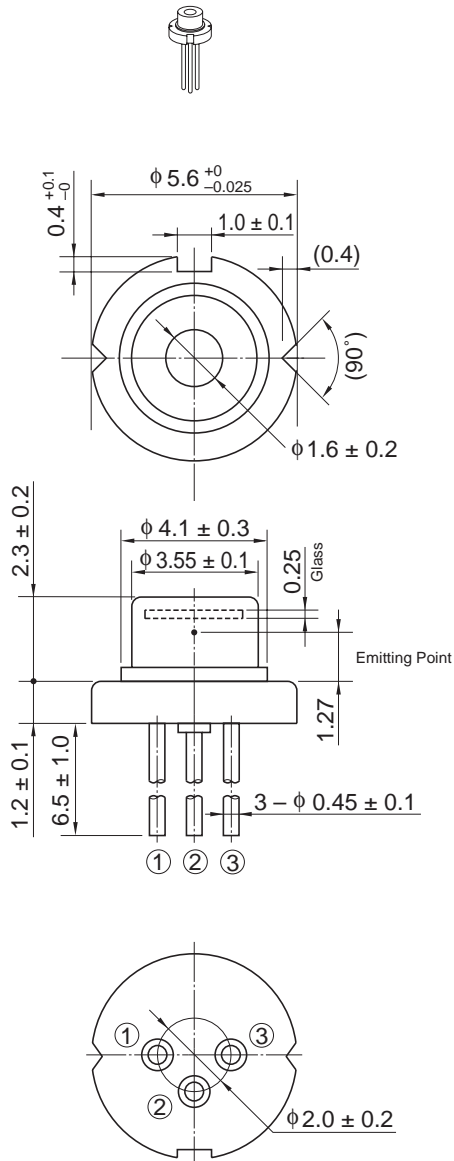
| Item | Symbol | Min | Typ | Max | Unit | Test Conditions |
|---|------------------|------|------|------|----------|--|
| Threshold current | I_{th} | — | 40 | 60 | mA | — |
| Operating current | I_{op} | — | 55 | 75 | mA | $P_O = 10 \text{ mW}$ |
| Operating voltage | V_{OP} | — | 2.2 | 2.4 | V | $P_O = 10 \text{ mW}$ |
| Slope efficiency | η_s | 0.40 | 0.65 | 0.90 | mW/mA | $6 \text{ (mW)} / (I_{(8mW)} - I_{(2mW)})$ |
| Beam divergence parallel to the junction | $\theta_{//}$ | 6 | 8 | 11 | $^\circ$ | $P_O = 10 \text{ mW}$ |
| Beam divergence perpendicular to the junction | θ_{\perp} | 25 | 31 | 36 | $^\circ$ | $P_O = 10 \text{ mW}$ |
| Lasing wavelength | λ_p | 630 | 635 | 640 | nm | $P_O = 10 \text{ mW}$ |
| Monitor current | I_s | 0.04 | 0.08 | 0.16 | mA | $P_O = 10 \text{ mW}, V_{R(PD)} = 5 \text{ V}$ |

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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When disposing of the product, please follow the laws of your country and separate it from other waste such as industrial waste and household garbage.
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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