

HL6385DG

Visible High Power Laser Diode

ODE-2001-00 (M)

Rev.0

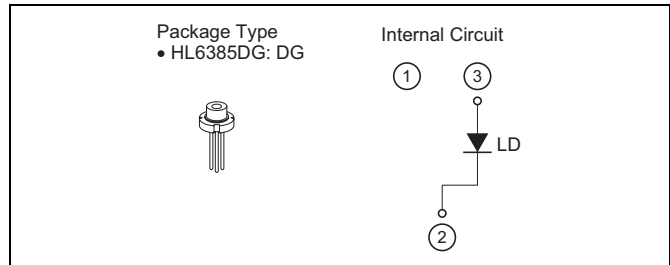
Apr. 03, 2008

Description

The HL6385DG is 0.64 μm band AlGaInP laser diodes with a multi-quantum well (MQW) structure. It is suitable as light sources for laser display and various other types of optical equipment.

Features

- Visible light output: 642 nm Typ
- Single longitudinal mode
- Optical output power: 150 mW CW
- Operating temperature: +40°C
- TE mode oscillation
- Small package: $\phi 5.6\text{mm}$



Absolute Maximum Ratings

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

| Item | Symbol | Ratings | Unit |
|-----------------------|-------------|------------|------------------|
| Optical output power | P_O | 150 | mW |
| LD reverse voltage | $V_{R(LD)}$ | 2 | V |
| Operating temperature | T_{opr} | -10 to +40 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -40 to +85 | $^\circ\text{C}$ |

Note: Operating Temperature is defined by Case Temperature " T_C ". High increase in temperature of LD chip itself is expected during operation due to high current density.

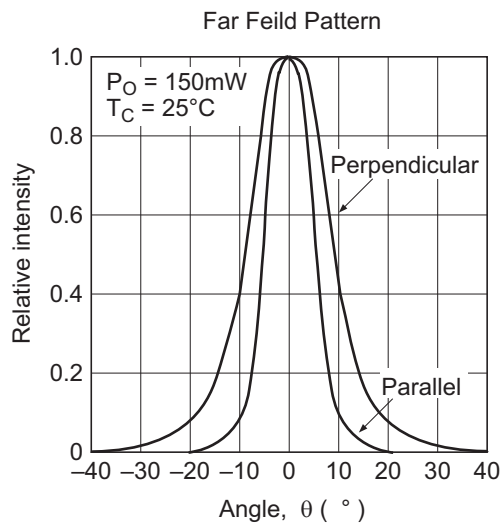
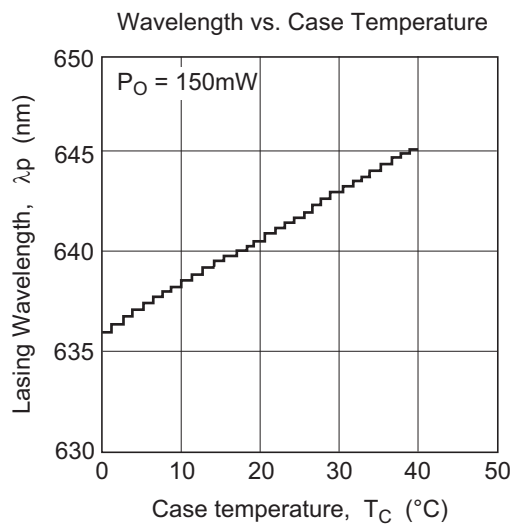
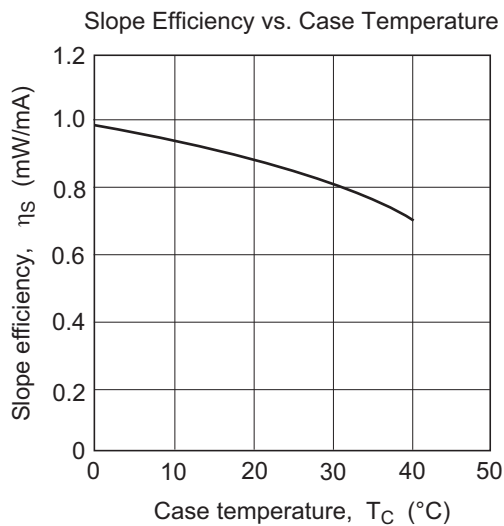
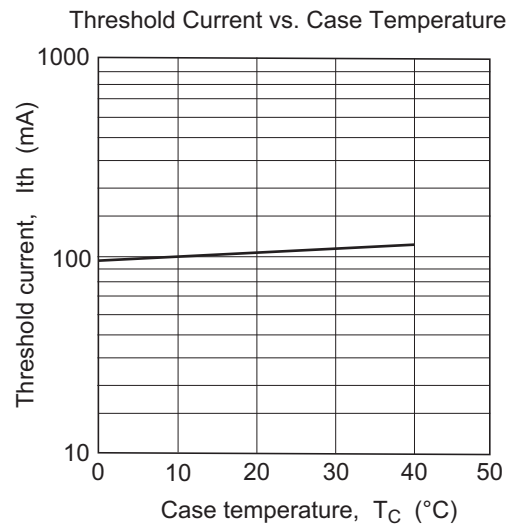
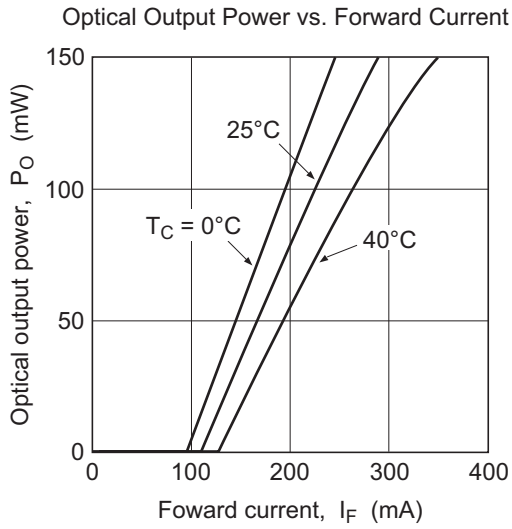
Thus, without proper heat dissipation, it is observed that no specific output power is achieved or it results to LD degradation. It is advised that sufficient measure of heat dissipation should be taken so that LD's maximum operating temperature is not exceeded during actual operation.

Optical and Electrical Characteristics

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

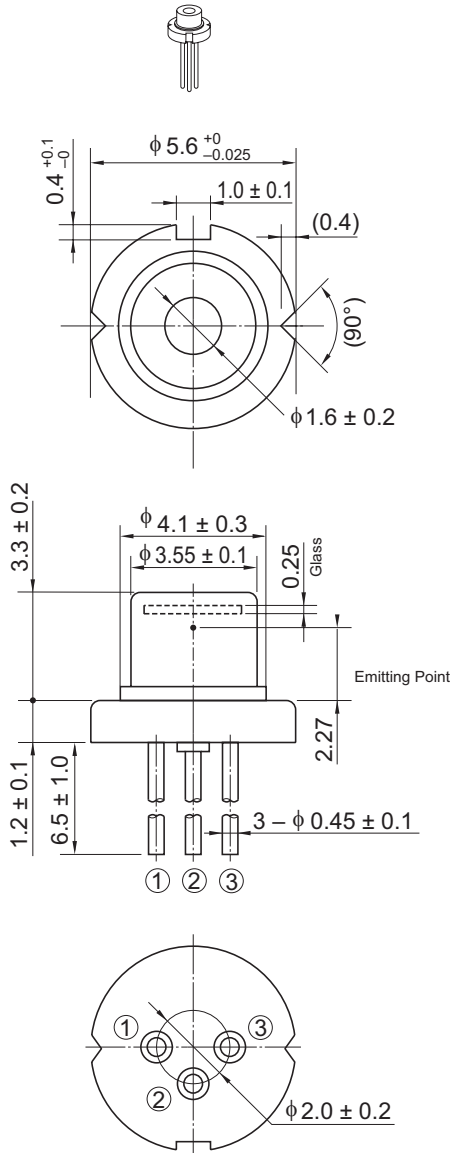
| Item | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|------------------|-----|-----|-----|----------|-----------------------|
| Threshold current | I_{th} | — | 110 | 140 | mA | — |
| Operating current | I_{OP} | — | 280 | 350 | mA | $P_O = 150\text{ mW}$ |
| Operating voltage | V_{OP} | — | 2.6 | 3.0 | V | $P_O = 150\text{ mW}$ |
| Beam divergence parallel to the junction | $\theta_{//}$ | 6 | 9 | 13 | $^\circ$ | $P_O = 150\text{ mW}$ |
| Beam divergence perpendicular to the junction | θ_{\perp} | 13 | 17 | 22 | $^\circ$ | $P_O = 150\text{ mW}$ |
| Lasing wavelength | λ_p | 635 | 642 | 647 | nm | $P_O = 150\text{ mW}$ |

Typical Characteristic Curves



Package Dimensions

As of May, 2006
 Preliminary
 Unit: mm



| | |
|------------------------|-------|
| OPJ Code | LD/DG |
| JEDEC | — |
| JEITA | — |
| Mass (reference value) | 0.35g |

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Sales Offices



Opnext Japan, Inc.

Takagi Bldg., 3F, 1-3-9, Iwamoto-cho, Chiyoda-ku, Tokyo 101-0032 Japan
Tel: (03) 3865-5591

For the detail of Opnext, Inc., see the following homepage:

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