

HL6335G/36G

Circular Beam Low Operating Current

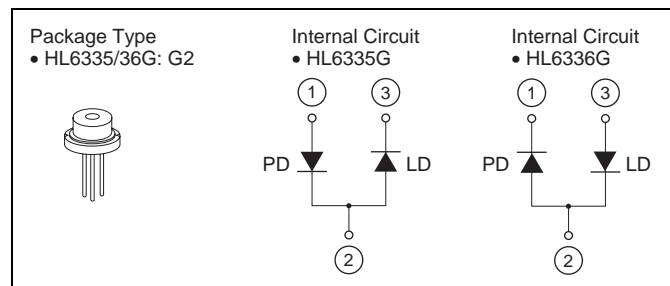
ODE-208-034 (Z)
Rev.0
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Description

The HL6335/36G are 0.63 μm 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

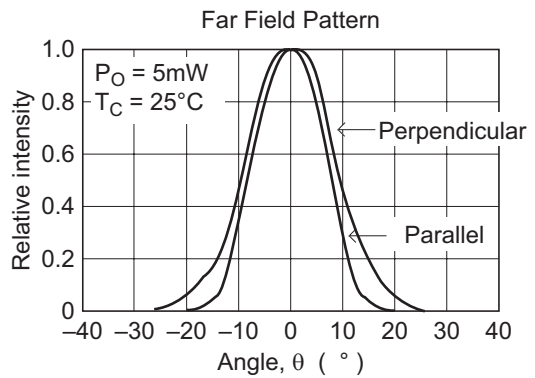
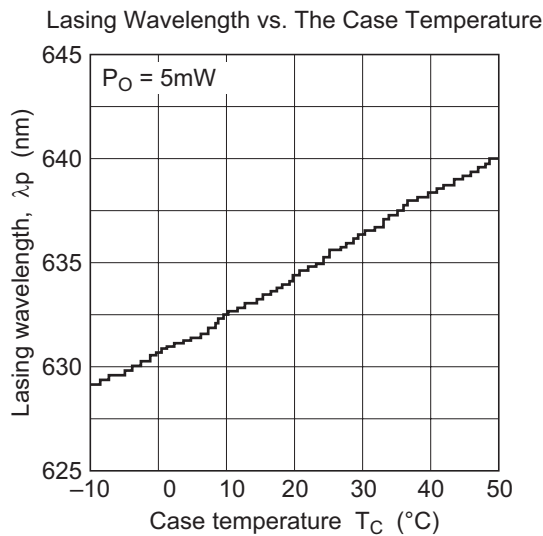
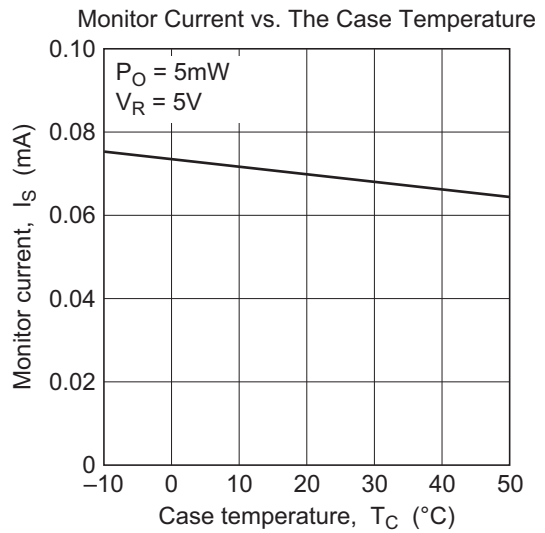
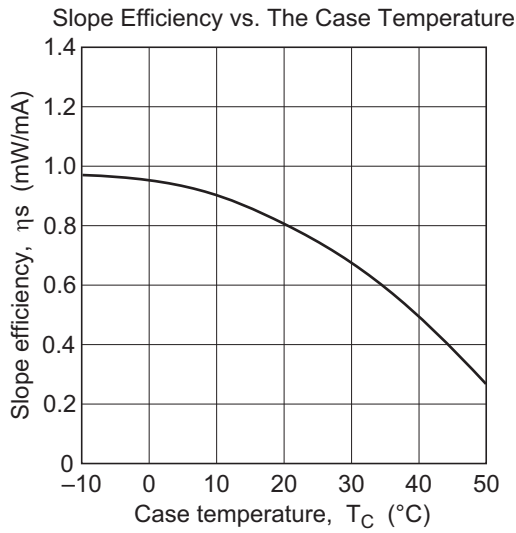
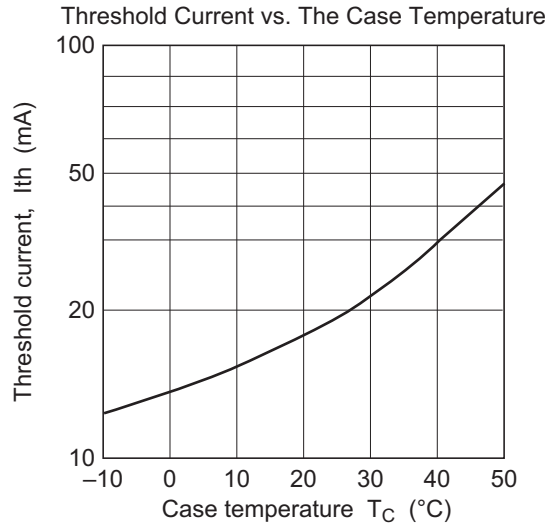
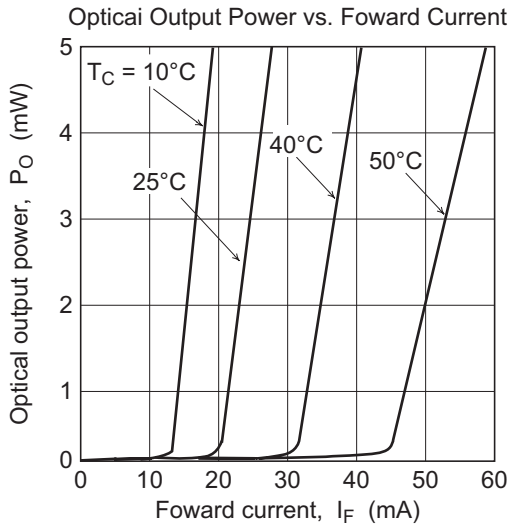
($T_C = 25^\circ\text{C}$)

| Item | Symbol | Min | Typ | Max | Unit | Test Conditions |
|---|------------------------------|------|------|------|----------|--|
| Threshold current | I_{th} | — | 20 | 30 | mA | — |
| Slope efficiency | η_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 | λ_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 | θ_{\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 | 0.03 | 0.07 | 0.12 | mA | $P_O = 5 \text{ mW}, V_{R(\text{PD})} = 5 \text{ V}$ |

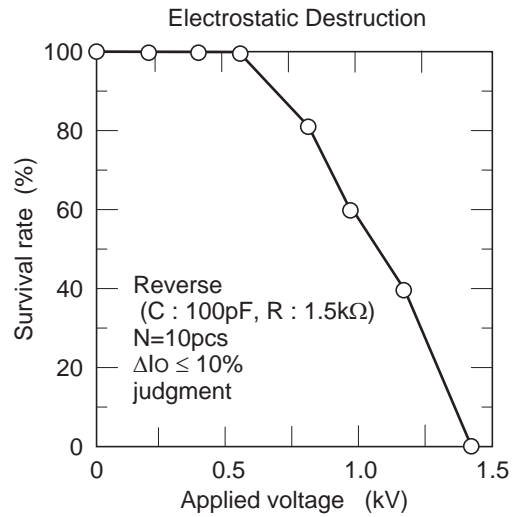
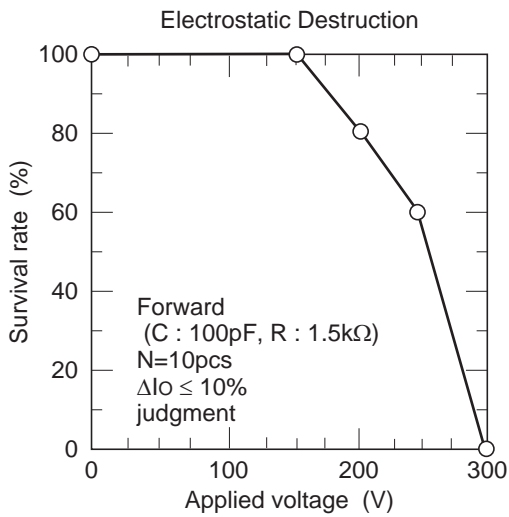
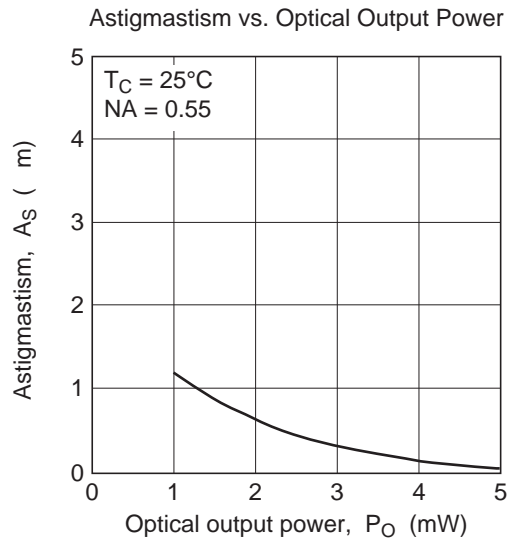
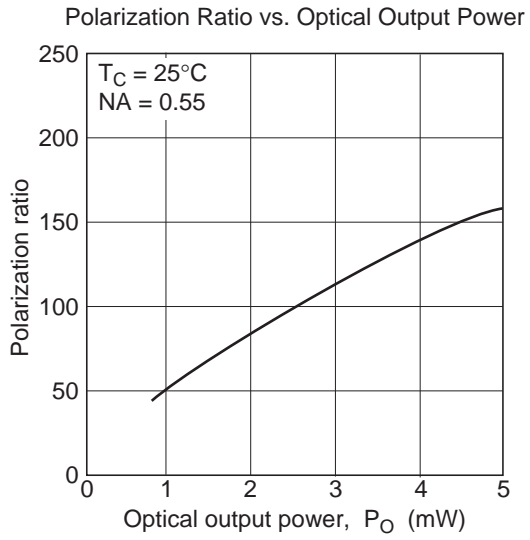
Notes: 1. Care must be taken in laser diodes handling to prevent optical damage caused by forward surges as well as by ESD.

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

Typical Characteristic Curves

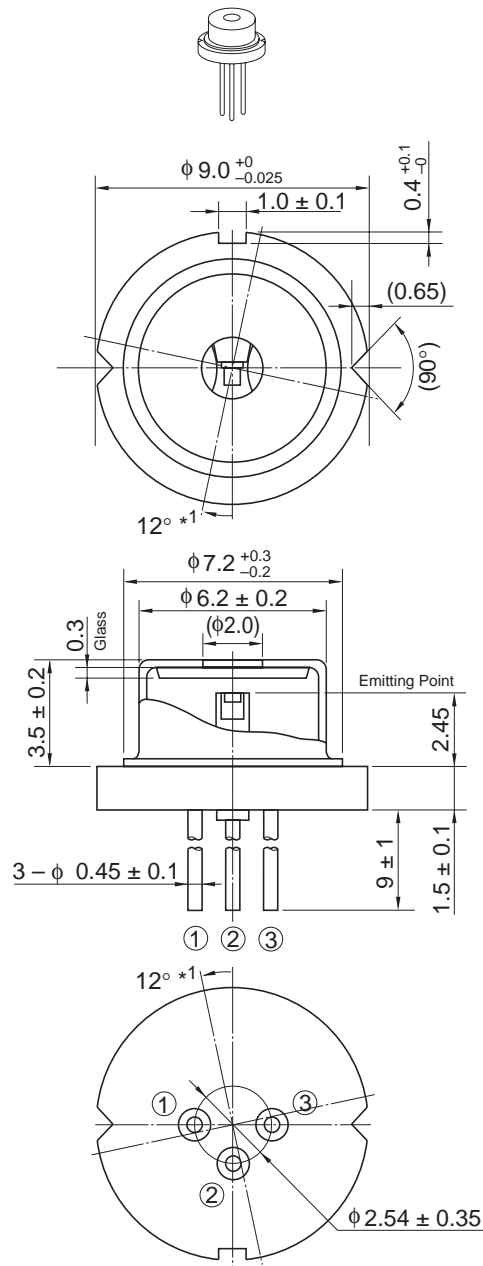


Typical Characteristic Curves (cont.)



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/G2 |
| JEDEC | — |
| JEITA | — |
| Mass (reference value) | 1.1 g |

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1. The laser light is harmful to human body especially to eye no matter what directly or indirectly. The laser beam shall be observed or adjusted through infrared camera or equivalent.
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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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