

# HL6343G/44G

## Circular Beam Low Operating Current

ODE2020-00 (M)

Rev.0

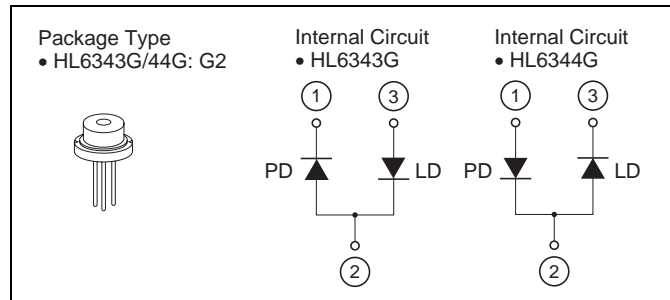
Aug. 01, 2008

### Description

The HL6343G/44G 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: 10 mW CW
- Single longitudinal mode
- Visible light output: 635 nm Typ
- Low operating current: 35 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	$P_O$	10	mW
Pulse optical output power	$P_{O(\text{Pulse})}$	12 *	mW
LD reverse voltage	$V_{R(\text{LD})}$	2	V
PD reverse voltage	$V_{R(\text{PD})}$	30	V
Operating temperature	$T_{\text{opr}}$	-10 to +50	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-40 to +85	$^\circ\text{C}$

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

### Optical and Electrical Characteristics

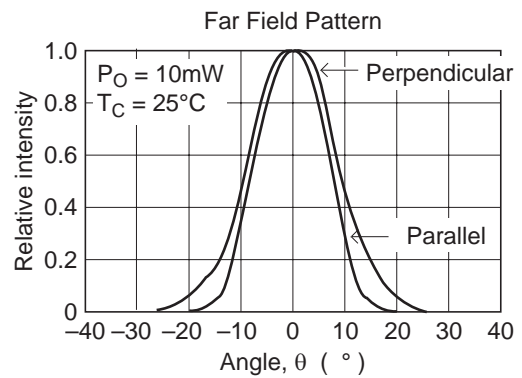
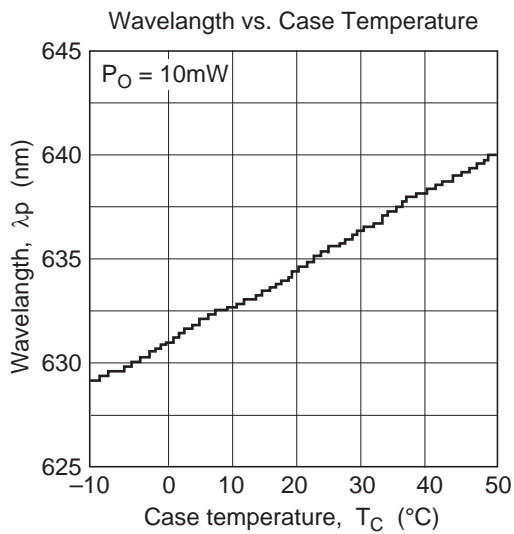
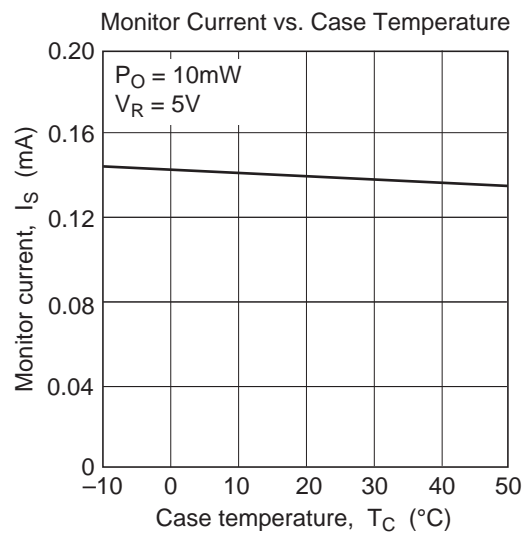
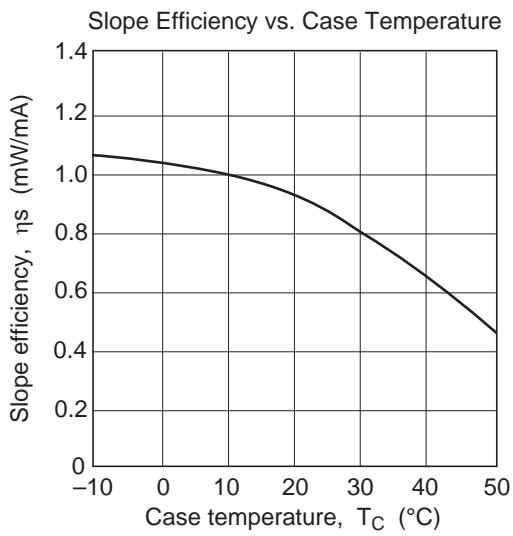
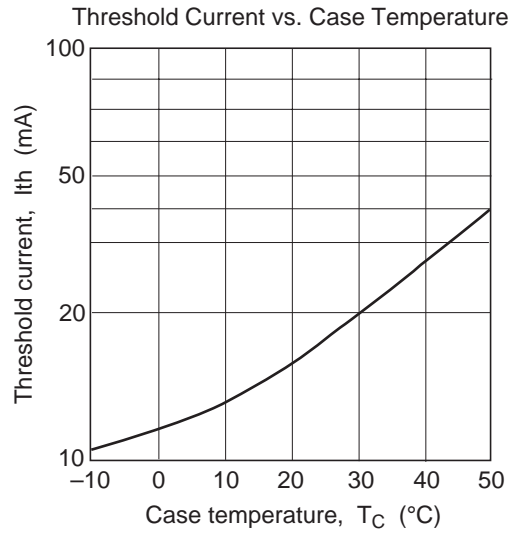
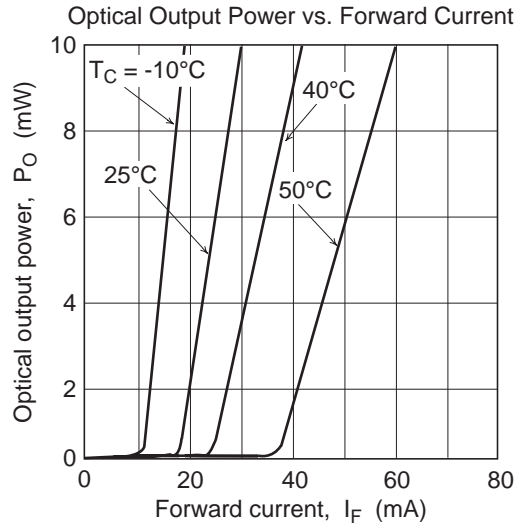
( $T_C = 25^\circ\text{C}$ )

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	$I_{\text{th}}$	—	20	35	mA	—
Slope efficiency	$\eta_S$	0.5	0.8	1.2	mW/mA	$6 \text{ (mW)} / (I_{(8\text{mW})} - I_{(2\text{mW})})$
Operating current	$I_{\text{OP}}$	—	35	45	mA	$P_O = 10 \text{ mW}$
Operating voltage	$V_{\text{OP}}$	—	2.4	2.7	V	$P_O = 10 \text{ mW}$
Lasing wavelength	$\lambda_p$	630	635	640	nm	$P_O = 10 \text{ mW}$
Beam divergence parallel to the junction	$\theta_{//}$	13	17	25	$^\circ$	$P_O = 10 \text{ mW}$
Beam divergence perpendicular to the junction	$\theta_{\perp}$	13	20	25	$^\circ$	$P_O = 10 \text{ mW}$
Aspect ratio	$\theta_{\perp}/\theta_{//}$	—	1.2	1.5	—	$P_O = 10 \text{ mW}$
Monitor current	$I_S$	0.06	0.14	0.24	mA	$P_O = 10 \text{ mW}, V_{R(\text{PD})} = 5 \text{ V}$

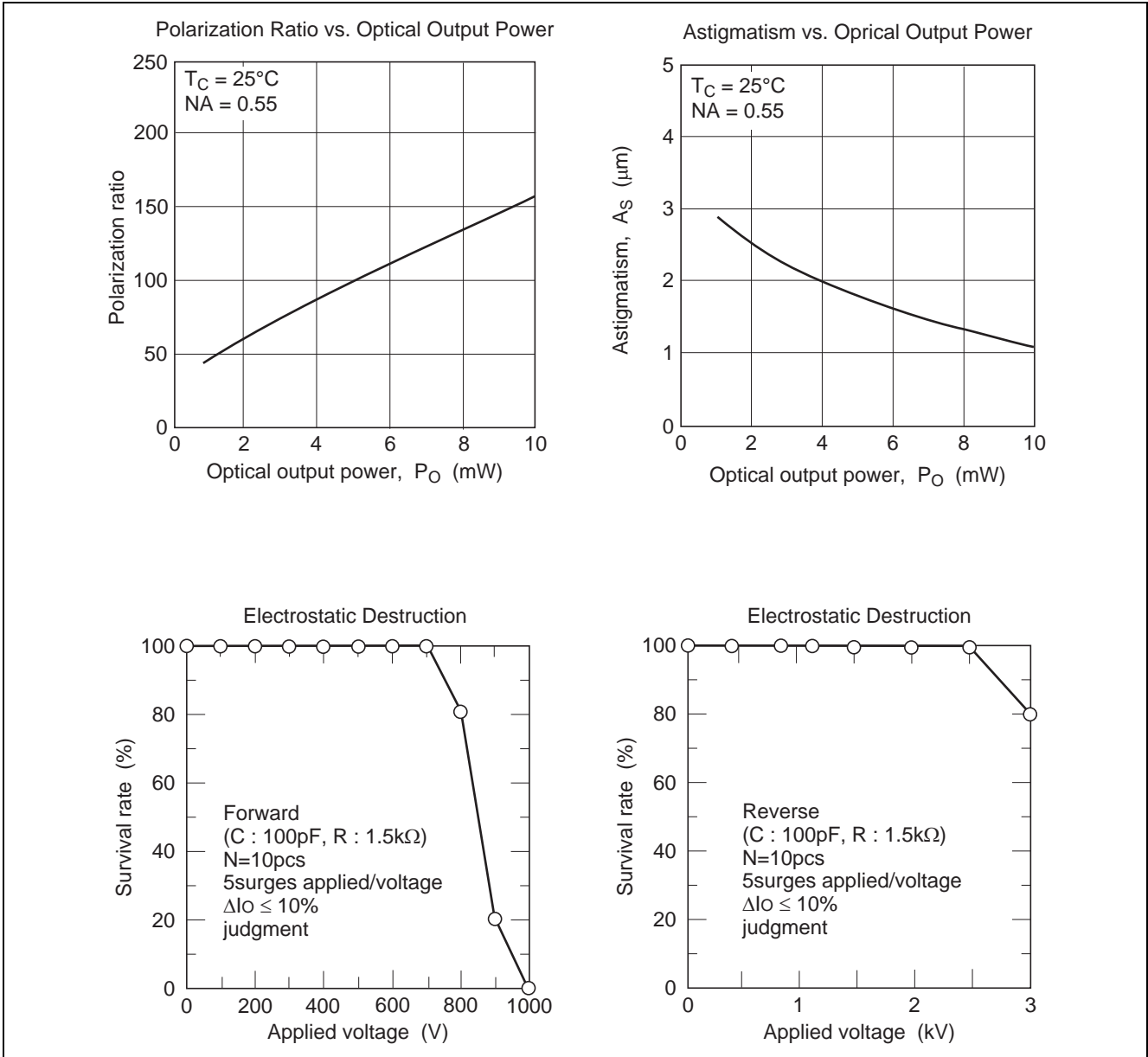
Notes: 1. Care must be taken in laser diodes handling to prevent optical damage caused by forward surges as well as by ESD.

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

Typical Characteristic Curves

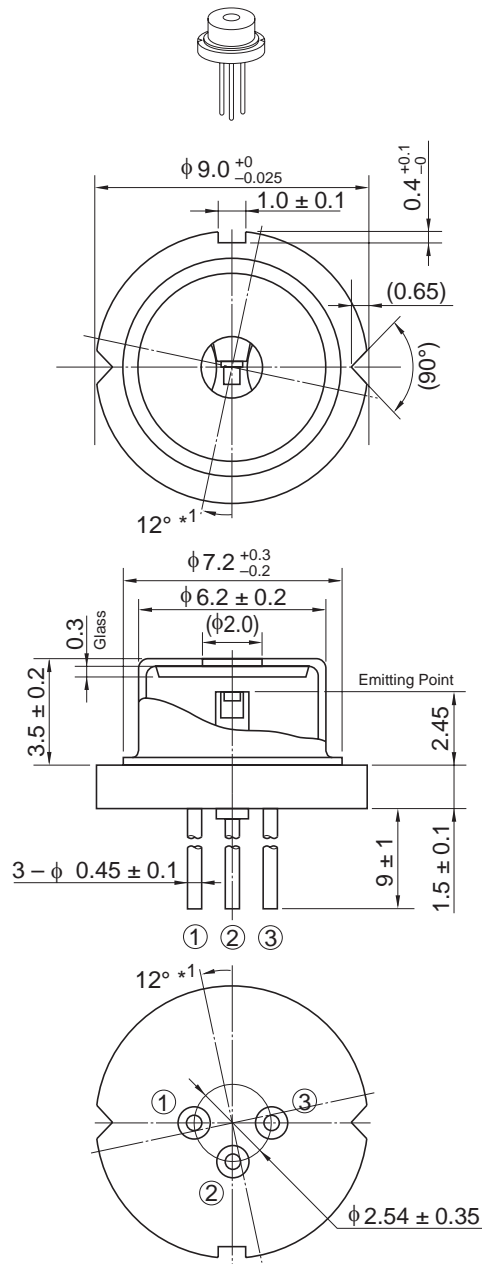


Typical Characteristic Curves (cont.)



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

## Cautions

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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.
2. This product contains gallium arsenide (GaAs), which may seriously endanger your health even at very low doses. Please avoid treatment which may create GaAs powder or gas, such as disassembly or performing chemical experiments, when you handle the product.  
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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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