
HL6343G/44G

Circular Beam Low Operating Current



ODE-208-1528B (Z)

Rev.2
Sep 2003

Description

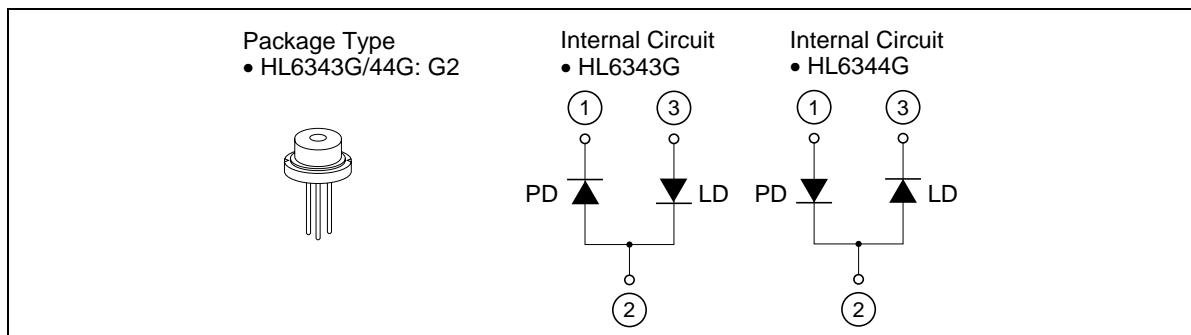
The HL6343G/44G are 0.63 μm band AlGaInP laser diodes can be operated with low operating current. These products were designed by self aligned refractive index (SRI) active layer structure. These are suitable as a light source for laser levelers, laser scanners and optical equipment for measurement.

Application

- Laser leveler
- Laser scanner
- 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 (almost circular beam)
- Operating temperature : +50°C
- TM mode oscillation



HL6343G/44G

Absolute Maximum Ratings

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

Item	Symbol	Value	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_{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 = 50%

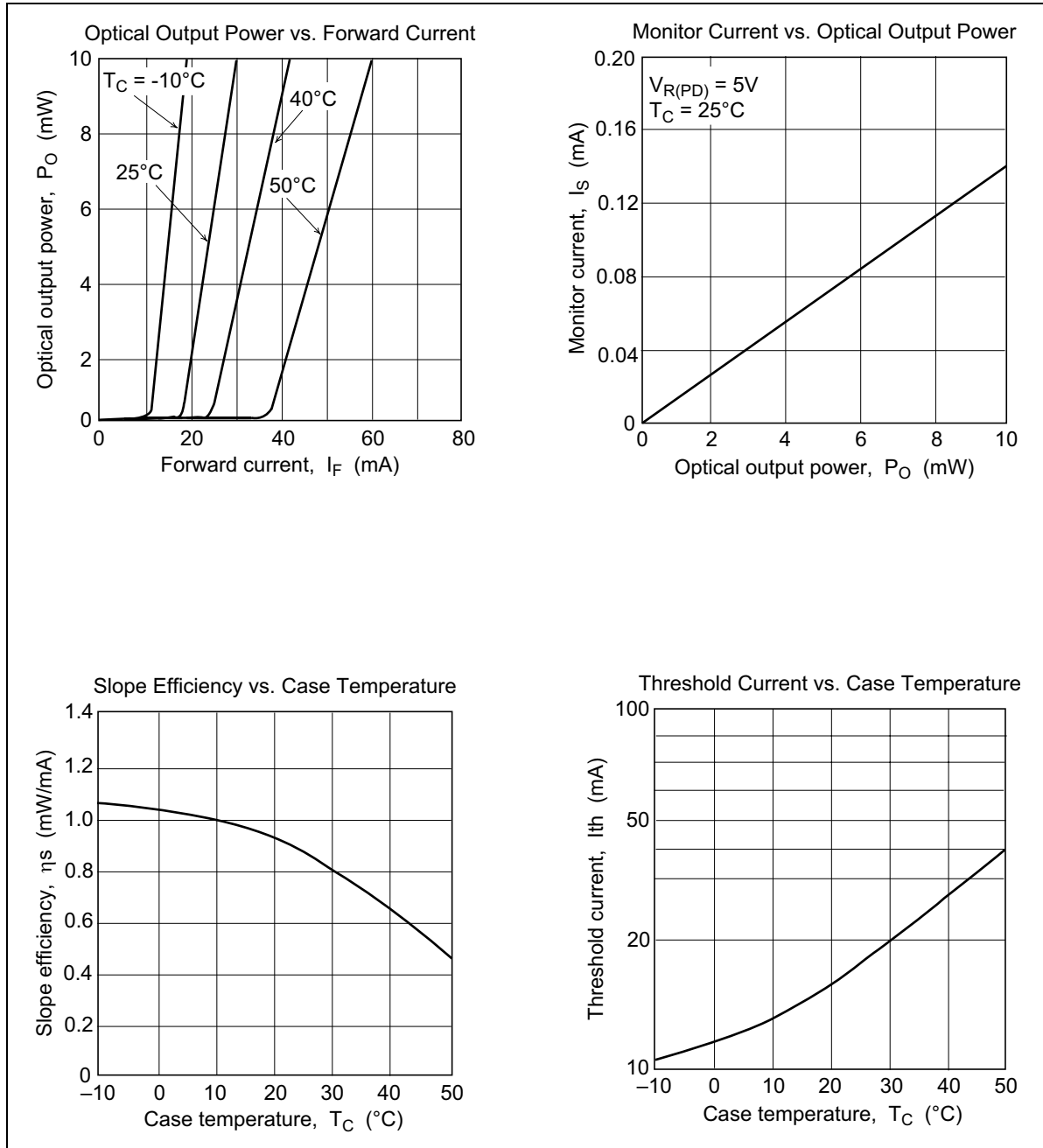
Optical and Electrical Characteristics

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

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Optical output power	P_O	10	—	—	mW	—
Threshold current	I_{th}	—	20	35	mA	—
Slope efficiency	η_s	0.5	0.8	1.2	mW/mA	$6 \text{ (mW)} / (I_{(8\text{mW})} - I_{(2\text{mW})})$
Operating current	I_{OP}	—	35	45	mA	$P_O = 10 \text{ mW}$
Operating voltage	V_{OP}	—	2.4	2.7	V	$P_O = 10 \text{ mW}$
Lasing wavelength	λ_p	630	635	640	nm	$P_O = 10 \text{ mW}$
Beam divergence parallel to the junction	$\theta_{//}$	—	17	25	deg.	$P_O = 10 \text{ mW}$
Beam divergence perpendicular to the junction	θ_{\perp}	—	20	25	deg.	$P_O = 10 \text{ mW}$
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	$P_O = 10 \text{ mW}$, $V_{R(\text{PD})} = 5 \text{ V}$

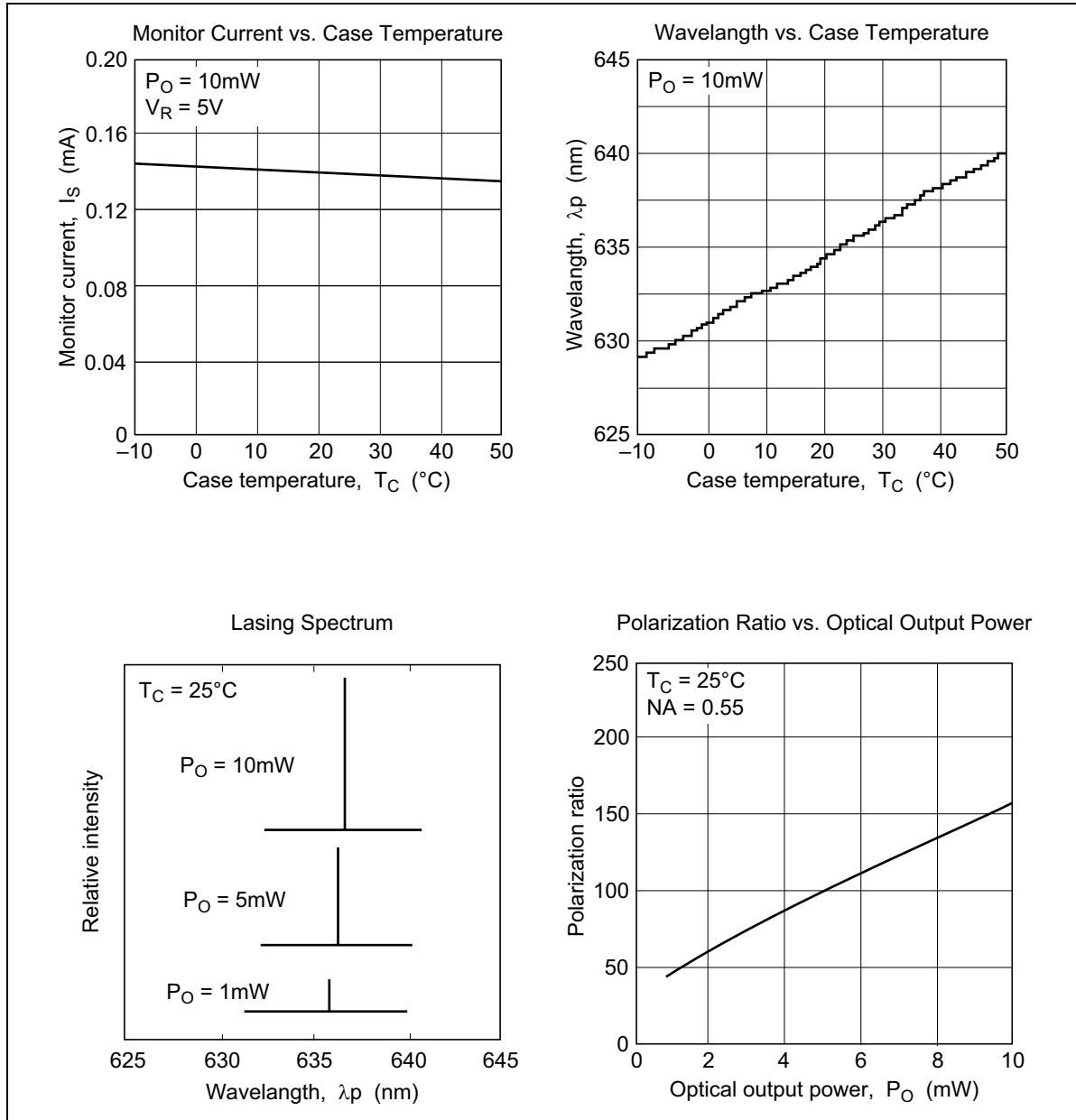
- Notes:
1. Care must be taken in laser diodes handling to prevent optical damage caused by forward surges as well as by ESD.
 2. The wavefront performance is not guaranteed.
 3. The beam has 12 deg offset against the package reference plane. Please take account it mounted on a board.

Typical Characteristics Curves

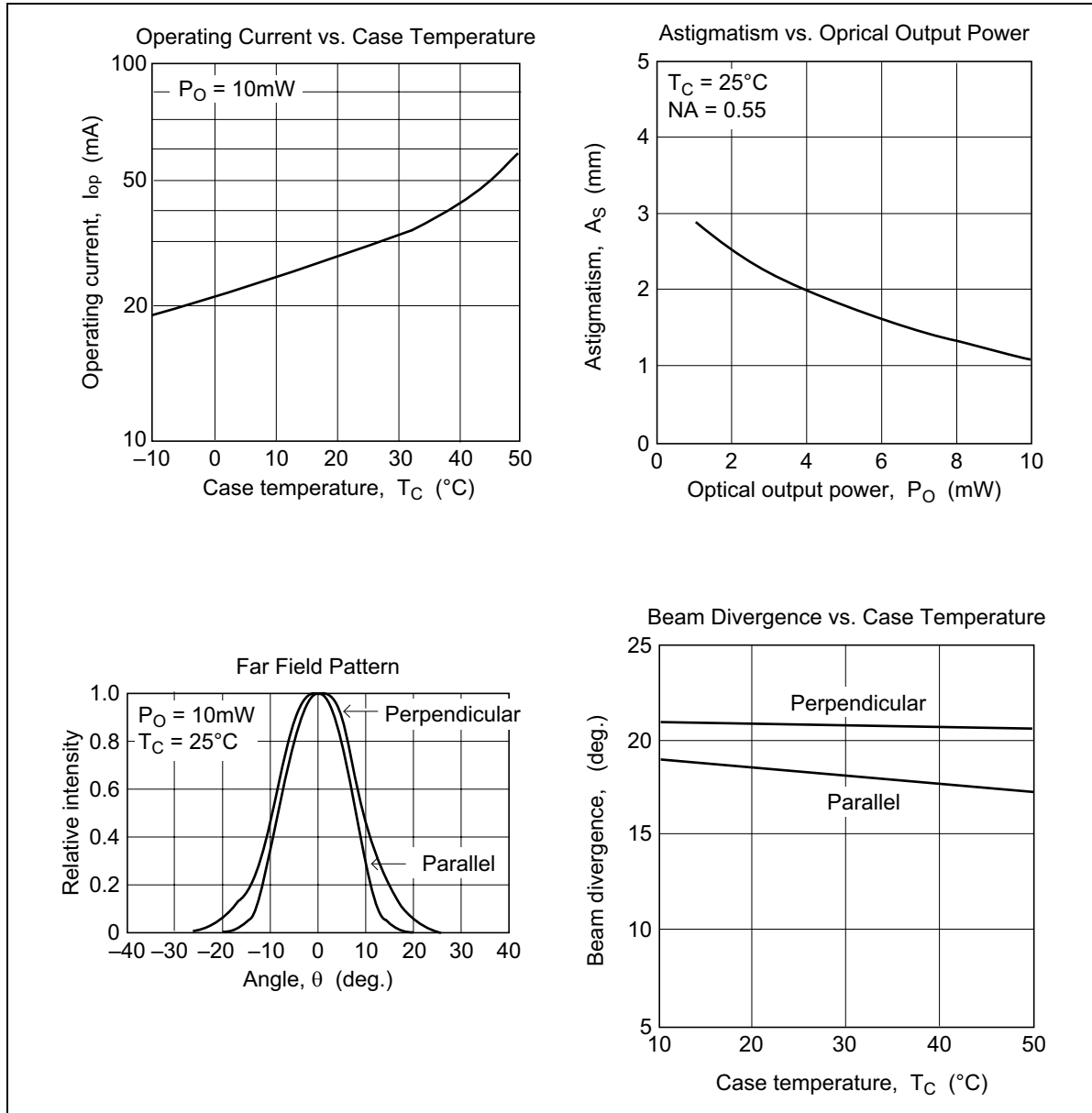


HL6343G/44G

Typical Characteristics Curves (cont)

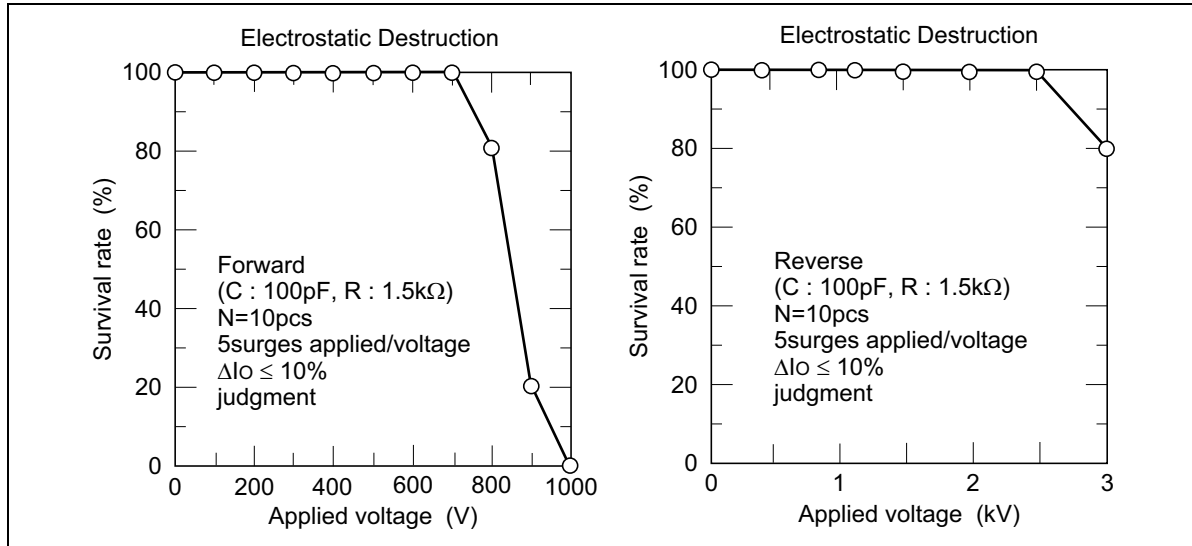


Typical Characteristics Curves (cont)



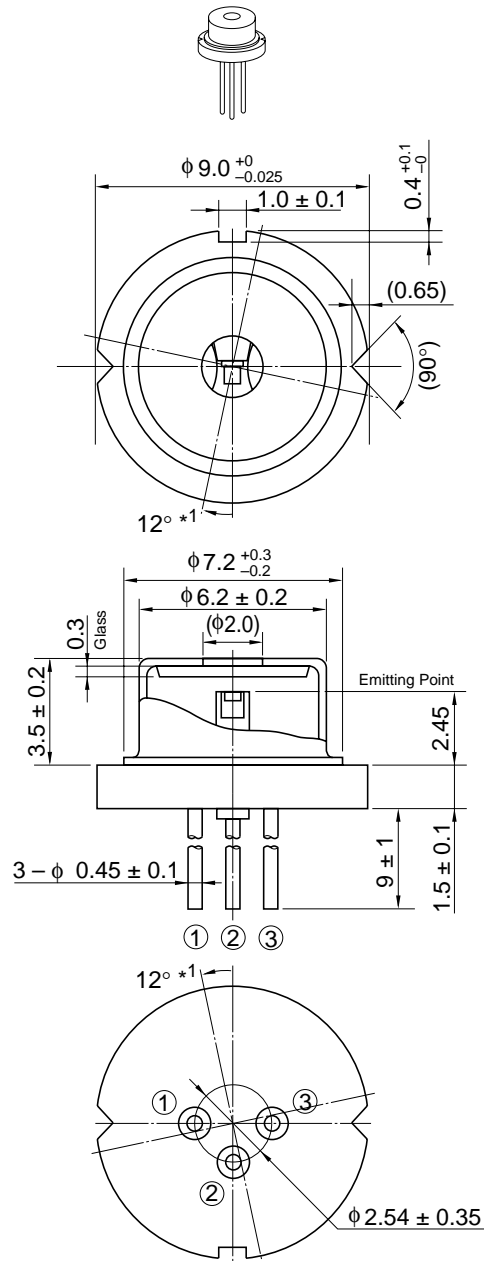
HL6343G/44G

Typical Characteristics 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

HL6343G/44G

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

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