HL6339G/42G

633nm Lasing Laser Diode

opnext
Powered by HITACHI

ODE-208-1434C (Z)

Rev.3
Mar. 2005

Description

The HL6339G/42G is 0.63 μm band AlGaInP laser diode with a multi-quantum well (MQW) structure. Lasing wavelength of this laser is nearly equal to the wavelength of He-Ne gas laser. They are suitable as light sources for laser levelers, laser scanners and optical equipment for measurement.

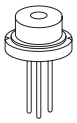
Application

- Measurement
- Laser analysis systems
- Laser scanner

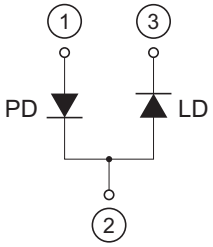
Features

- Optical output power : 5 mW (CW)
- Single longitudinal mode
- Visible light output : 633 nm Typ (nearly equal to He-Ne gas laser)
- Low operating current : 55 mA Typ
- Low operating voltage : 2.3 V Typ
- TM mode oscillation

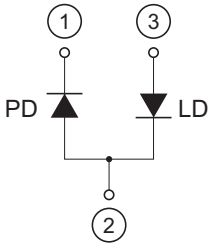
Package Type
• HL6339G/42G: G2



Internal Circuit
• HL6339G



Internal Circuit
• HL6342G



Absolute Maximum Ratings

(T_C = 25°C)

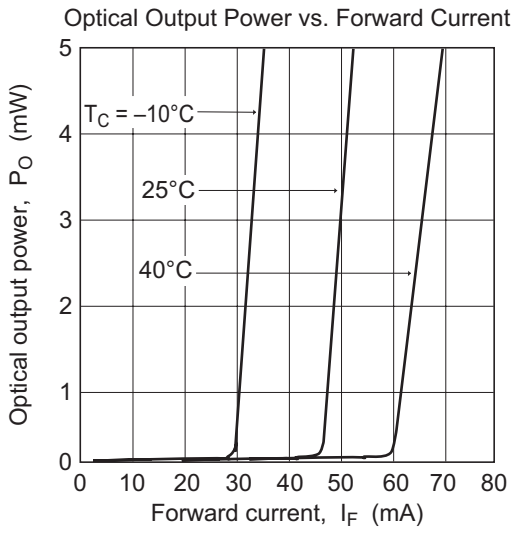
Item	Symbol	Value	Unit
Optical output power	P_O	5	mW
LD reverse voltage	$V_{R(LD)}$	2	V
PD reverse voltage	$V_{R(PD)}$	30	V
Operating temperature	Topr	–10 to +40	°C
Storage temperature	Tstg	–40 to +85	°C

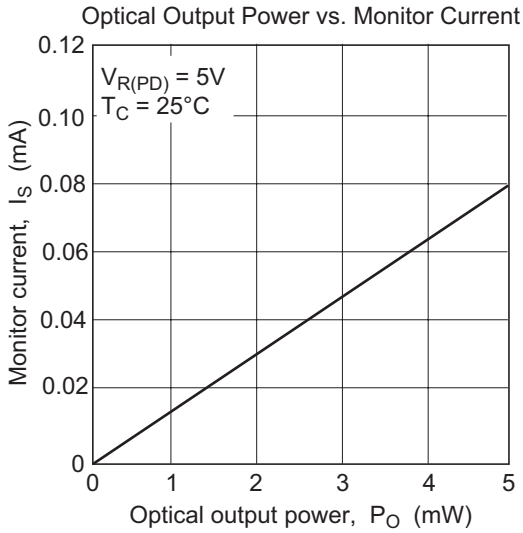
Optical and Electrical Characteristics

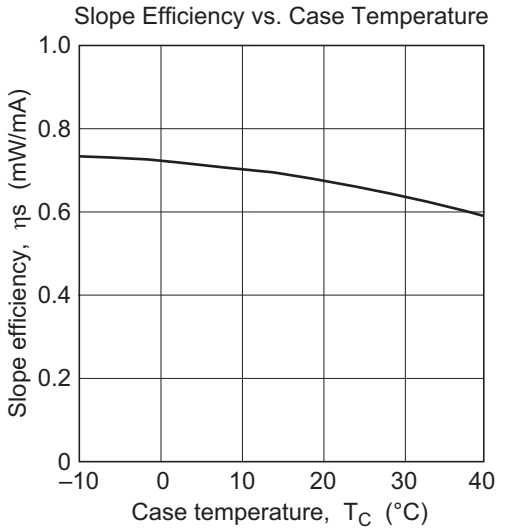
(T_C = 25°C)

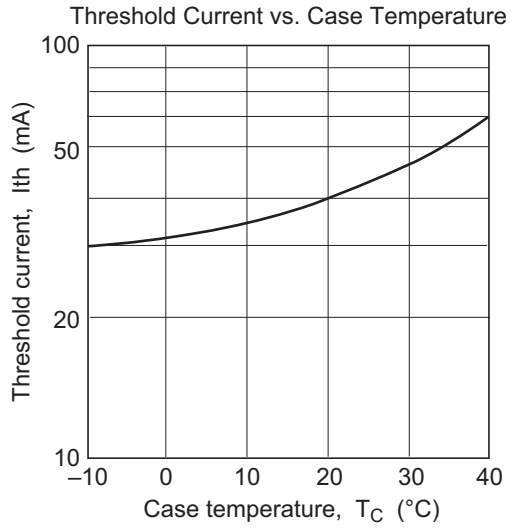
Item	Symbol	Min	Typ	Max	Unit	Test Condition
Optical output power	P_O	5	—	—	mW	—
Threshold current	Ith	—	45	60	mA	—
Operating current	I_{OP}	—	55	70	mA	P_O = 5 mW
Operating voltage	V_{OP}	—	2.3	2.7	V	P_O = 5 mW
Slope efficiency	ηs	0.40	0.65	0.90	mW/mA	3 (mW) / ($I_{(4mW)}$ – $I_{(1mW)}$)
Lasing wavelength	λp	630	633	635	nm	P_O = 5 mW
Beam divergence parallel to the junction	θ//	6	8	11	deg.	P_O = 5 mW
Beam divergence perpendicular to the junction	θ⊥	25	30	35	deg.	P_O = 5 mW
Monitor current	I_S	0.04	0.08	0.14	mA	P_O = 5 mW, $V_{R(PD)}$ = 5 V

Typical Characteristic Curves

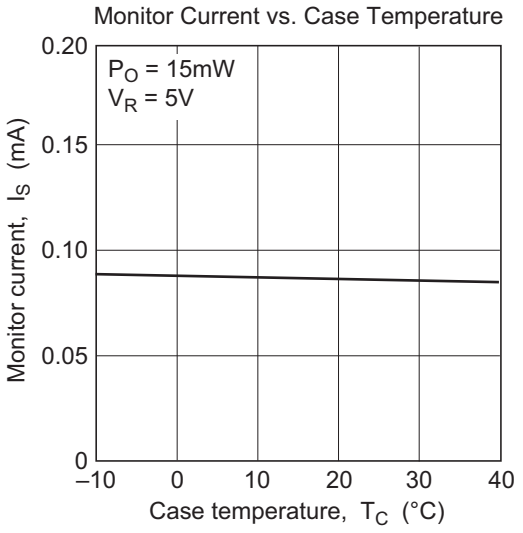


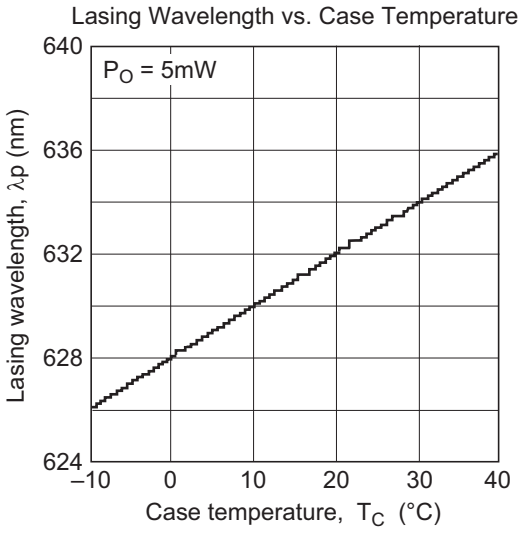


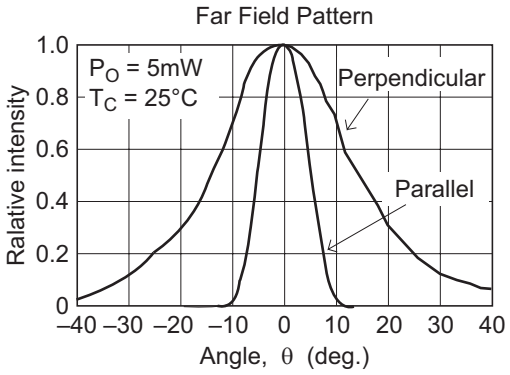


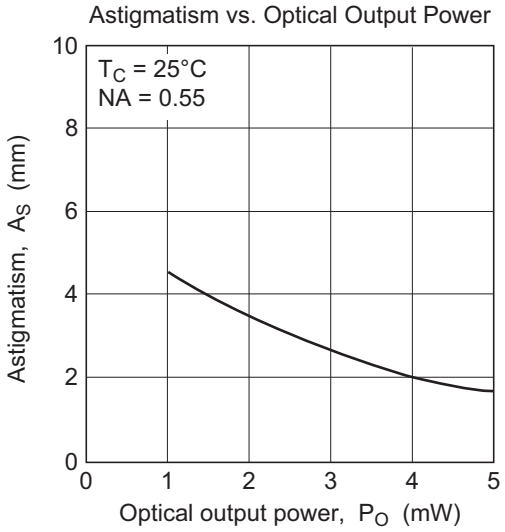


Typical Characteristic Curves (cont)

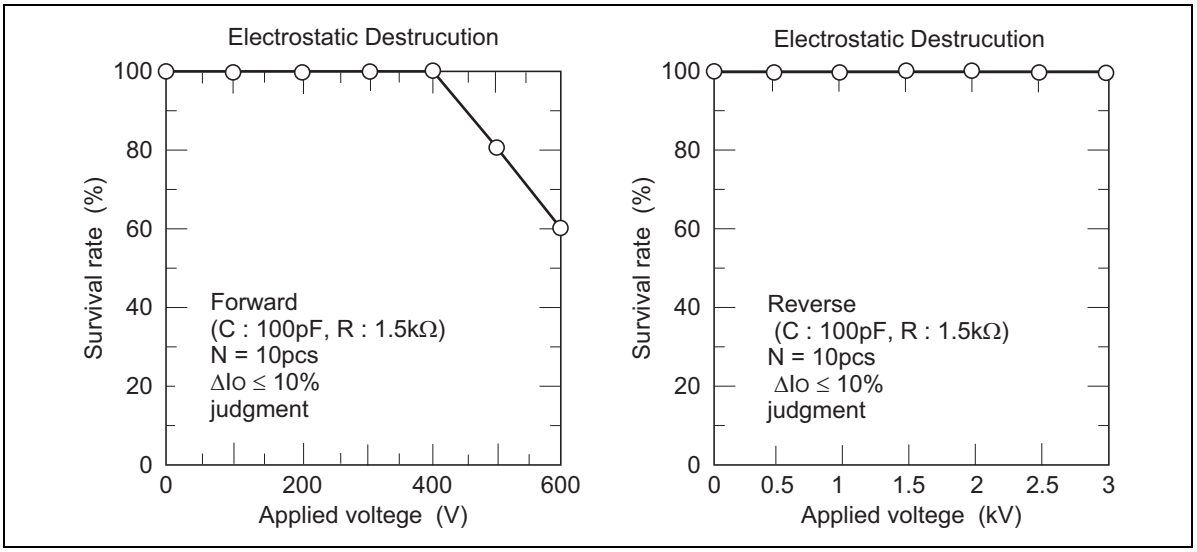






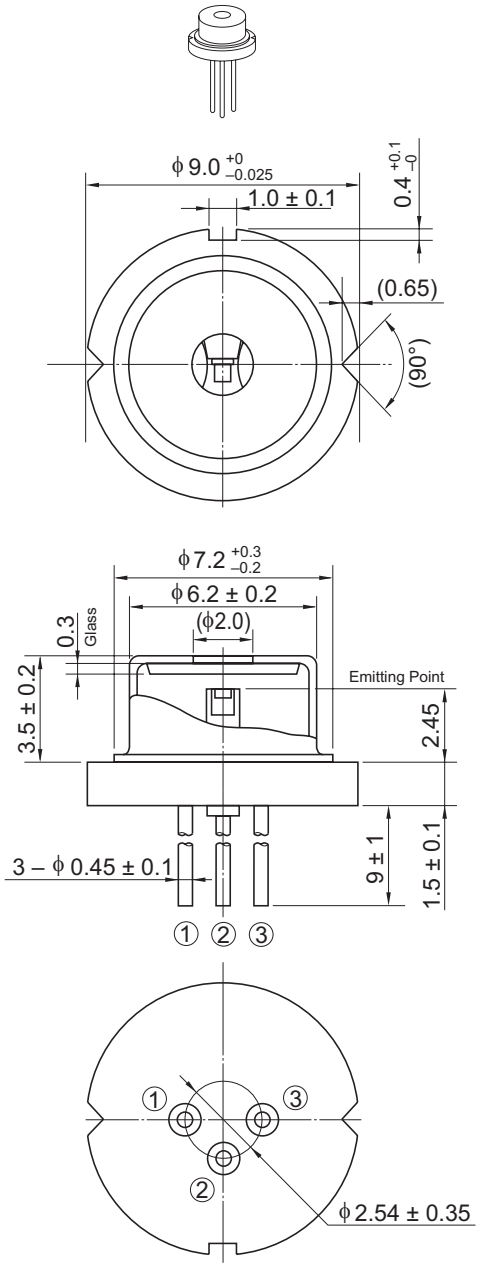


Typical Characteristic Curves (cont)



Package Dimensions

As of July, 2002
Unit: mm



OPJ Code	LD/G2
JEDEC	—
JEITA	—
Mass (reference value)	1.1 g

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