HL8334MG

GaAlAs Laser Diode

ODE-208-057B (Z)
Rev.2
Jun. 13, 2006

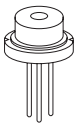
Description

The HL8334MG is a high-power 0.8 μm band GaAlAs laser diode with a TQW (triple quantum well) structure. It is suitable as a light source for optical disk memories, card readers and various other types of optical equipment.

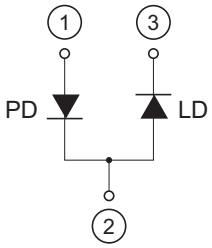
Features

- Infrared light output: λp = 820 to 840 nm
- High power:
  standard continuous operation at 40 mW (CW),
  pulsed operation at 50 mW
- Built-in monitor photodiode
- Single longitudinal mode

Package Type
• HL8334MG: MG



Internal Circuit



Absolute Maximum Ratings

(T_C = 25°C)

Item	Symbol	Ratings	Unit
Optical output power	P_O	40	mW
Pulse optical output power	$P_{O(pulse)}$	50 *	mW
LD reverse voltage	$V_{R(LD)}$	2	V
PD reverse voltage	$V_{R(PD)}$	30	V
Operating temperature	Topr	–10 to +60	°C
Storage temperature	Tstg	–40 to +85	°C

Note: Pulse condition : Pulse width = 1 μs, duty = 50%

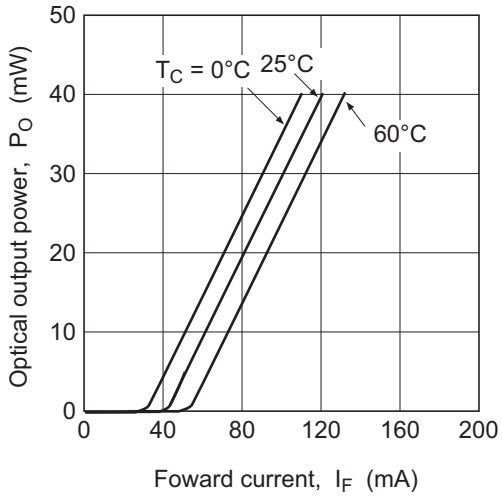
Optical and Electrical Characteristics

(T_C = 25°C)

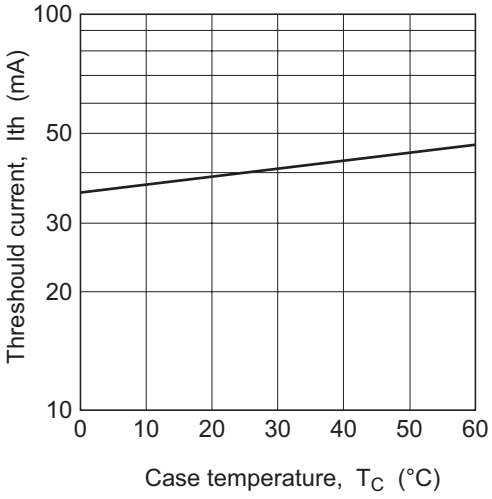
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	Ith	—	40	70	mA	—
Slope efficiency	ηs	0.4	0.5	0.9	mW/mA	24 (mW) / ($I_{(32mW)}$ – $I_{(8mW)}$)
Operating current	I_{OP}	—	120	160	mA	P_O = 40 mW
Beam divergence parallel to the junction	θ//	7	10	14	°	P_O = 40 mW, FWHM
Beam divergence perpendicular to the junction	θ⊥	18	22	32	°	P_O = 40 mW, FWHM
Astigmatism	A_S	—	5	—	μm	P_O = 4 mW, NA = 0.4
Lasing wavelength	λp	820	830	840	nm	P_O = 40 mW
Monitor current	I_S	0.08	0.20	0.40	mA	P_O = 40 mW, $V_{R(PD)}$ = 5 V

Typical Characteristic Curves

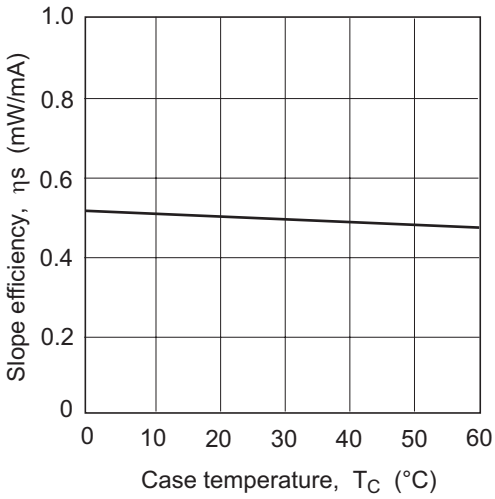
Optical Output Power vs. Foward Current



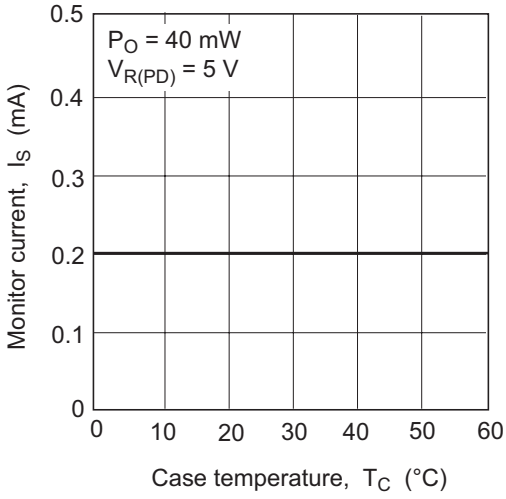
Threshold Current vs. Case Temperature



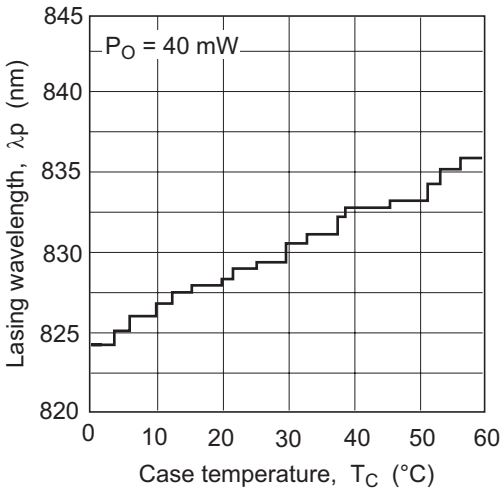
Slope Efficiency vs. Case Temperature



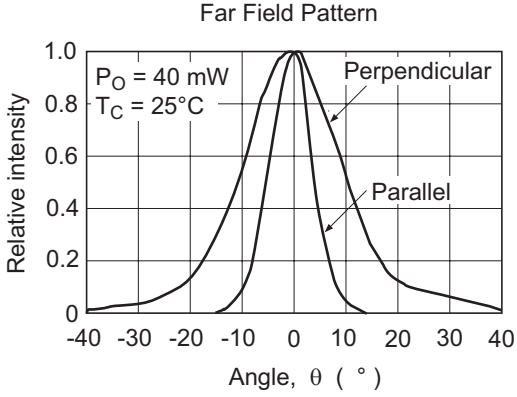
Monitor Current vs. Case Temprature



Lasing Wavelength vs. Case Temperature



Far Field Pattern



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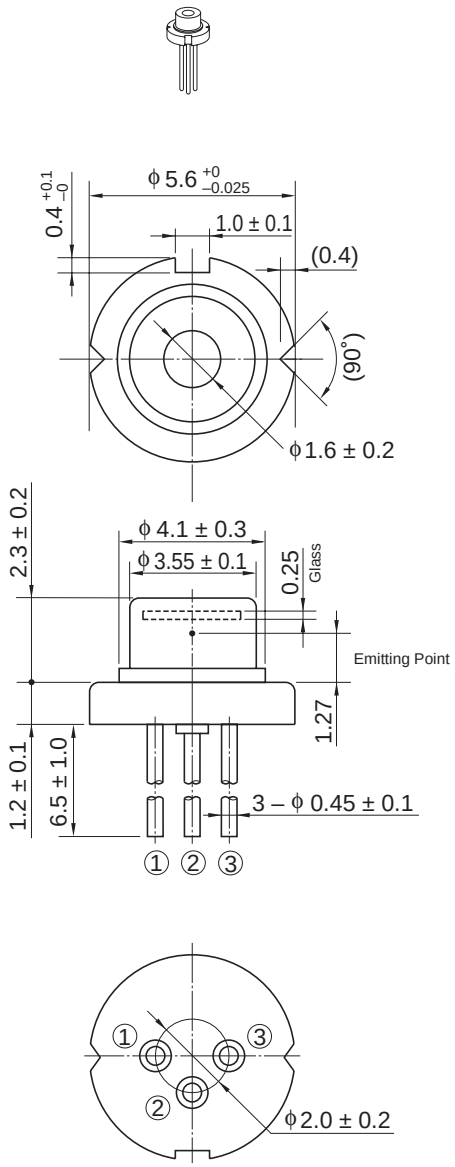
Package Dimensions

As of July, 2002

Unit: mm



OPJ Code	LD/MG
JEDEC	—
JEITA	—
Mass (reference value)	0.3 g

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Sales Offices

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