HL8338MG

GaAlAs Laser Diode

ODE-208-066A (Z)
Rev.1
May 24, 2007

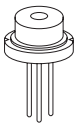
Description

The HL8338MG is 0.83 μm band GaAlAs laser diode with a multi-quantum well(MQW) structure. It is suitable as a light source for sensor applications and various other types of optical equipment.

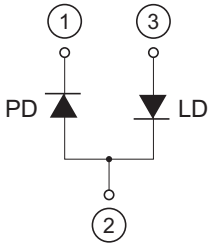
Features

- Infrared light output: λp = 830 nm Typ
- Optical output power: 50 mW (CW)
- Low operating current: 75 mA Typ
- Low operating voltage: 1.9 V Typ
- Built-in monitor photodiode
- Single longitudinal mode

Package Type
• HL8338MG: MG



Internal Circuit



Absolute Maximum Ratings

(T_C = 25°C)

Item	Symbol	Ratings	Unit
Optical output power	P_O	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

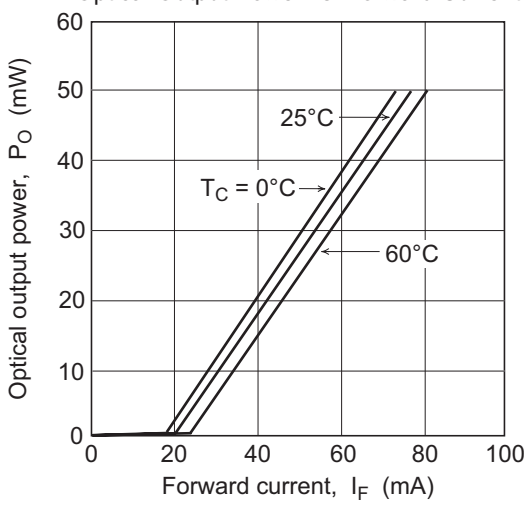
Optical and Electrical Characteristics

(T_C = 25°C)

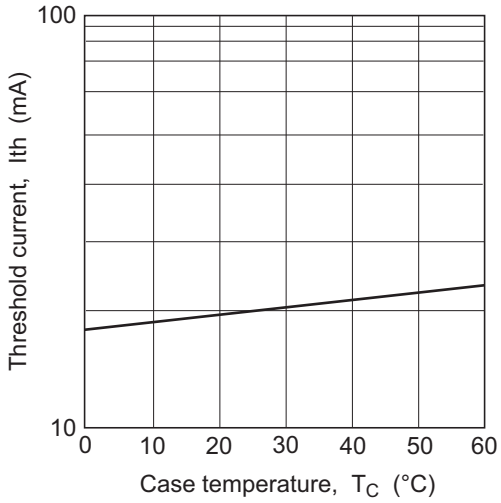
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	Ith	—	20	40	mA	—
Slope efficiency	ηs	0.7	0.9	—	mW/mA	30 (mW)/($I_{(40mW)}$ – $I_{(10mW)}$)
Operating current	I_{OP}	—	75	100	mA	P_O = 50 mW
Operating voltage	V_{OP}	—	1.9	2.4	V	P_O = 50 mW
Beam divergence parallel to the junction	θ//	6	9	12	°	P_O = 50 mW, FWHM
Beam divergence perpendicular to the junction	θ⊥	18	22	26	°	P_O = 50 mW, FWHM
Lasing wavelength	λp	820	830	840	nm	P_O = 50 mW
Monitor current	I_S	—	0.25	—	mA	P_O = 50 mW, $V_{R(PD)}$ = 5 V

Typical Characteristic Curves

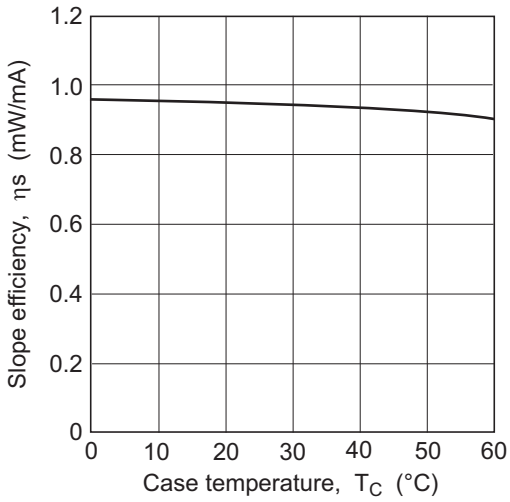
Opticai Output Power vs. Forward Current



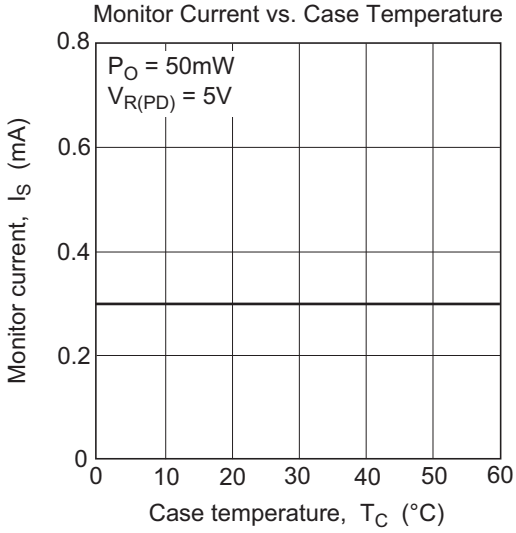
Threshold Current vs. Case Temperature



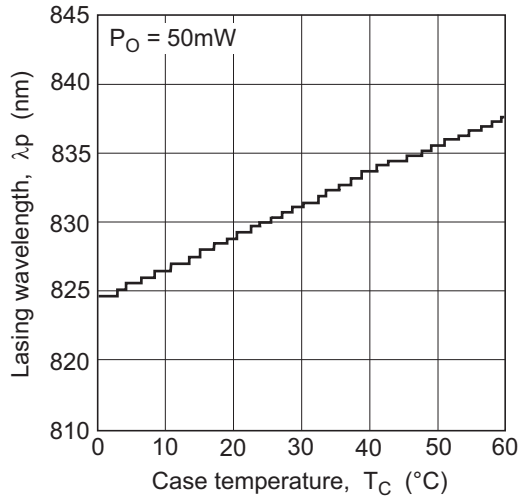
Slope Efficiency vs. Case Temperature



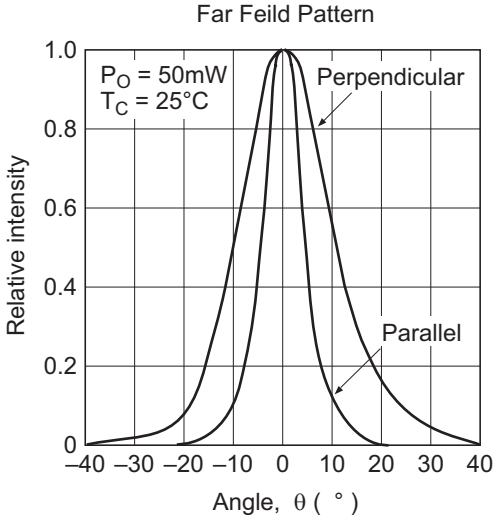
Monitor Current vs. Case Temperature



Lasing Wavelength vs. Case Temperature



Far Feild Pattern

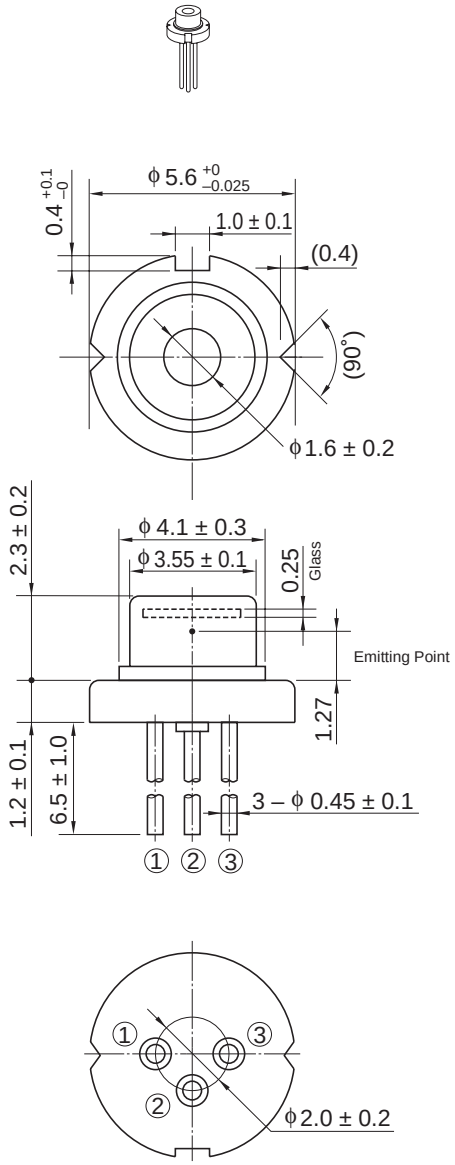


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Package Dimensions

As of July, 2002

Unit: mm



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

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Cautions

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Sales Offices

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