HL8343MG

GaAlAs Laser Diode

ODE2058-00 (M)
Rev.0
Aug. 01, 2008

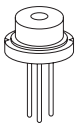
Description

The HL8343MG is 0.85 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.

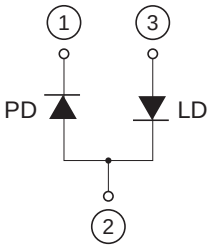
Features

- Infrared light output: λp = 852 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
• HL8343MG: 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

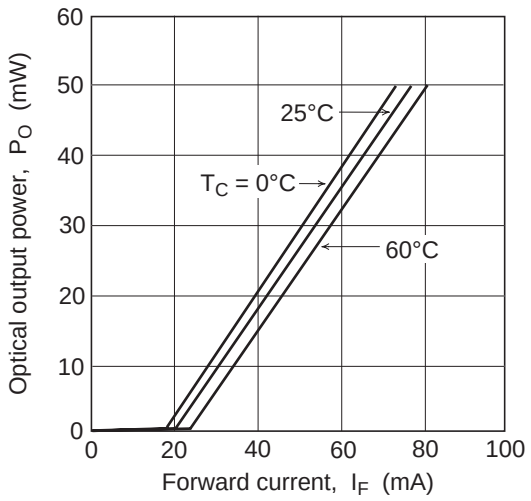
Optical and Electrical Characteristics

(T_C = 25°C)

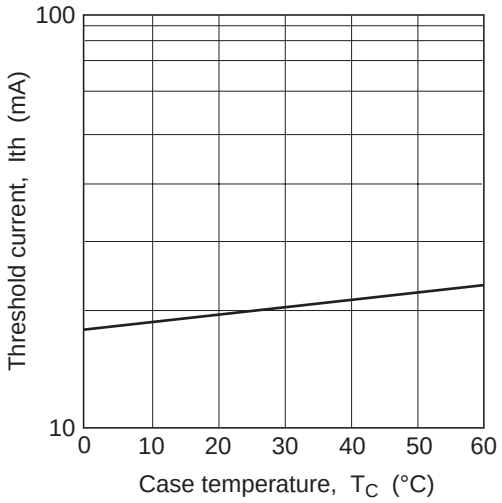
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	Ith	—	20	40	mA	—
Slope efficiency	ηs	0.7	0.9	—	mW/mA	30 (mW)/($I_{(40mW)}$ – $I_{(10mW)}$)
Operating current	I_{OP}	—	75	100	mA	P_O = 50 mW
Operating voltage	V_{OP}	—	1.9	2.4	V	P_O = 50 mW
Beam divergence parallel to the junction	θ//	6	9	12	°	P_O = 50 mW, FWHM
Beam divergence perpendicular to the junction	θ⊥	18	22	26	°	P_O = 50 mW, FWHM
Lasing wavelength	λp	848	852	856	nm	P_O = 50 mW
Monitor current	I_S	—	0.25	—	mA	P_O = 50 mW, $V_{R(PD)}$ = 5 V

Typical Characteristic Curves

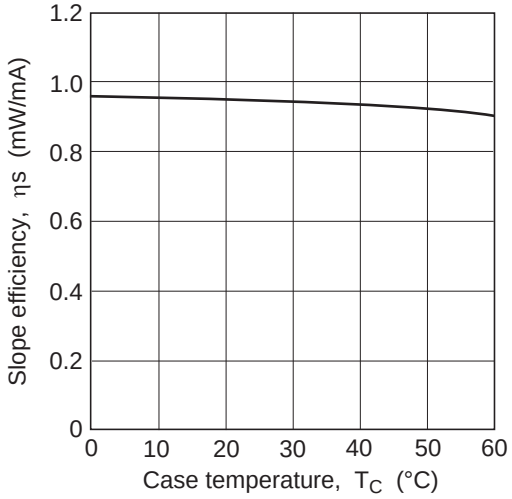
Opticai Output Power vs. Forward Current



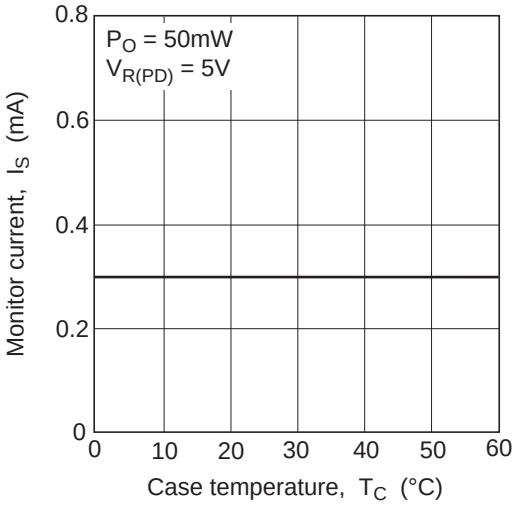
Threshold Current vs. Case Temperature



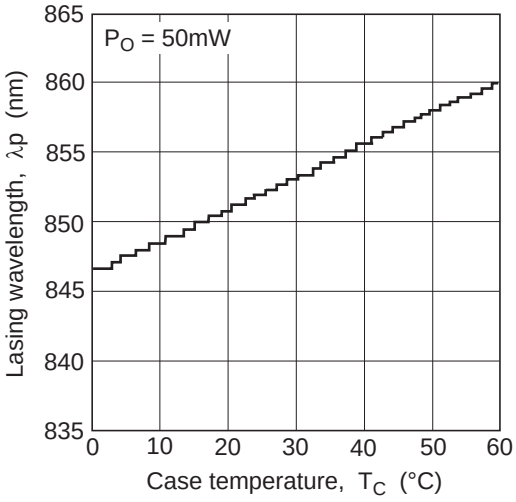
Slope Efficiency vs. Case Temperature



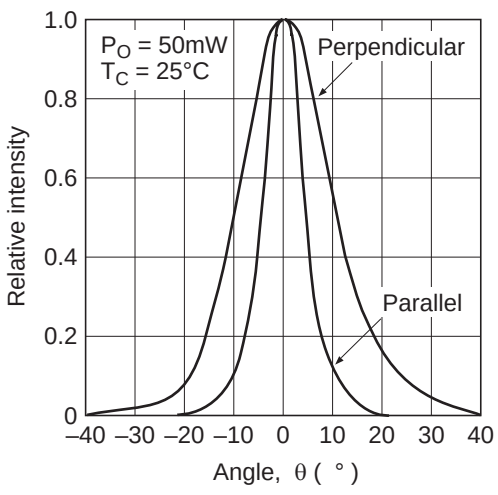
Monitor Current vs. Case Temperature



Lasing Wavelength vs. Case Temperature



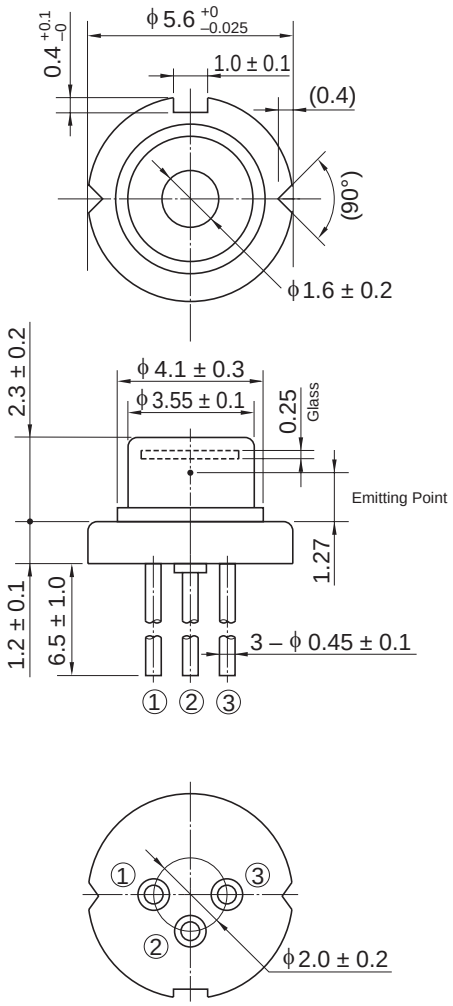
Far Feild Pattern



Package Dimensions

As of July, 2002

Unit: mm



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

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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.
   When disposing of the product, please follow the laws of your country and separate it from other waste such as industrial waste and household garbage.
3. Definition of items shown in this CAS is in accordance with that shown in Opto Device Databook issued by OPJ unless otherwise specified.

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