HL7852G

GaAlAs Laser Diode

ODE2050-00 (M)
Rev.0
Aug. 01, 2008

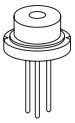
Description

The HL7852G is a high-power 0.78 μm band GaAlAs laser diode with a multi-quantum well (MQW) structure. It is suitable as a light source for optical disk memories, levelers and various other types of optical equipment. Hermetic sealing of the package assures high reliability.

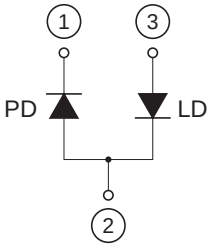
Features

- Visible light output: λp = 785 nm Typ
- Small beam ellipticity: 9.5:23
- High output power: 50 mW (CW)
- Built-in monitor photodiode

Package Type
• HL7852G: G2



Internal Circuit



Absolute Maximum Ratings

(T_C = 25°C)

Item	Symbol	Ratings	Unit
Optical output power	P_O	50	mW
Pulse optical output power	$P_{O(pulse)}$	60 *	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: Maximum 50% duty cycle, maximum 1 μs pulse width.

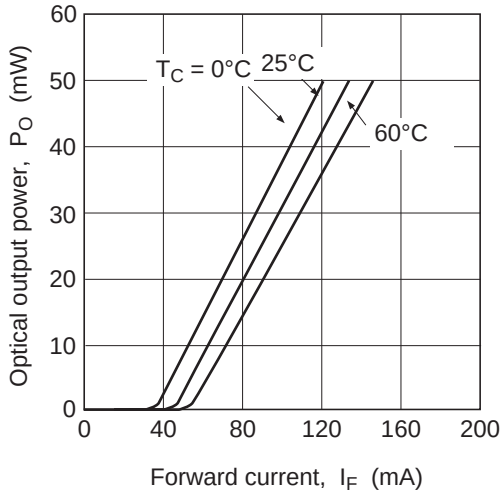
Optical and Electrical Characteristics

(T_C = 25°C)

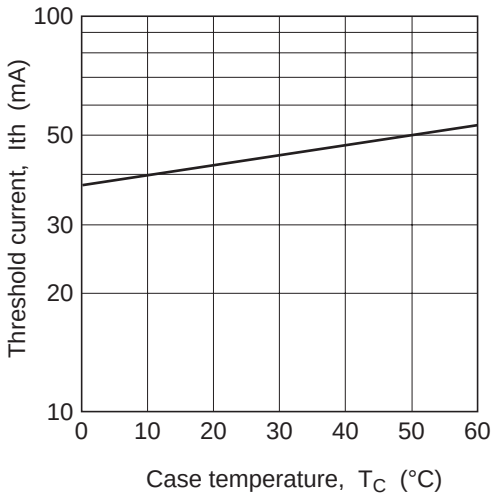
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	Ith	—	45	70	mA	
Slope efficiency	ηs	0.35	0.55	0.7	mW/mA	40 (mW) / ($I_{(45mW)}$ – $I_{(5mW)}$)
LD Operating current	I_{OP}	—	135	165	mA	P_O = 50 mW
LD Operating voltage	V_{OP}	—	2.3	2.7	V	P_O = 50 mW
Lasing wavelength	λp	775	785	795	nm	P_O = 50 mW
Beam divergence parallel to the junction	θ//	8	9.5	12	°	P_O = 50 mW, FWHM
Beam divergence perpendicular to the junction	θ⊥	18	23	28	°	P_O = 50 mW, FWHM
Monitor current	I_S	25	45	150	μA	P_O = 5 mW, $V_{R(PD)}$ = 5 V
Astigmatism	A_S	—	5	—	μm	P_O = 5 mW, NA = 0.4

Typical Characteristic Curves

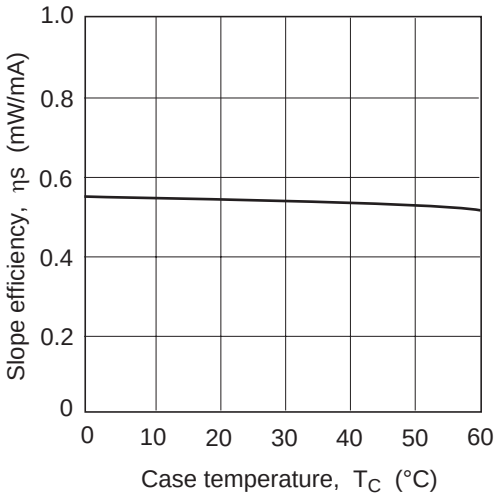
Optical Output Power vs. Forward Current



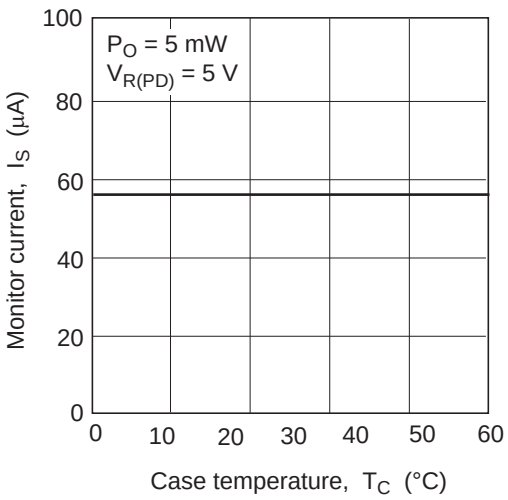
Threshold Current vs. Case Temperature



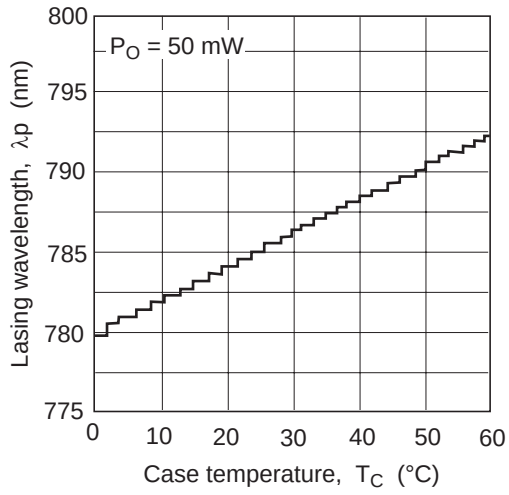
Slope Efficiency vs. Case Temperature



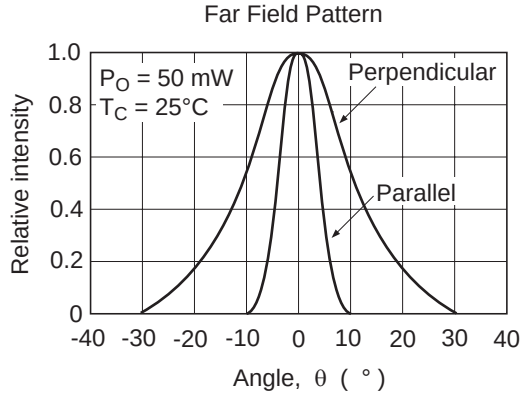
Monitor Current vs. Case Temprature



Lasing Wavelength vs. Case Temperature



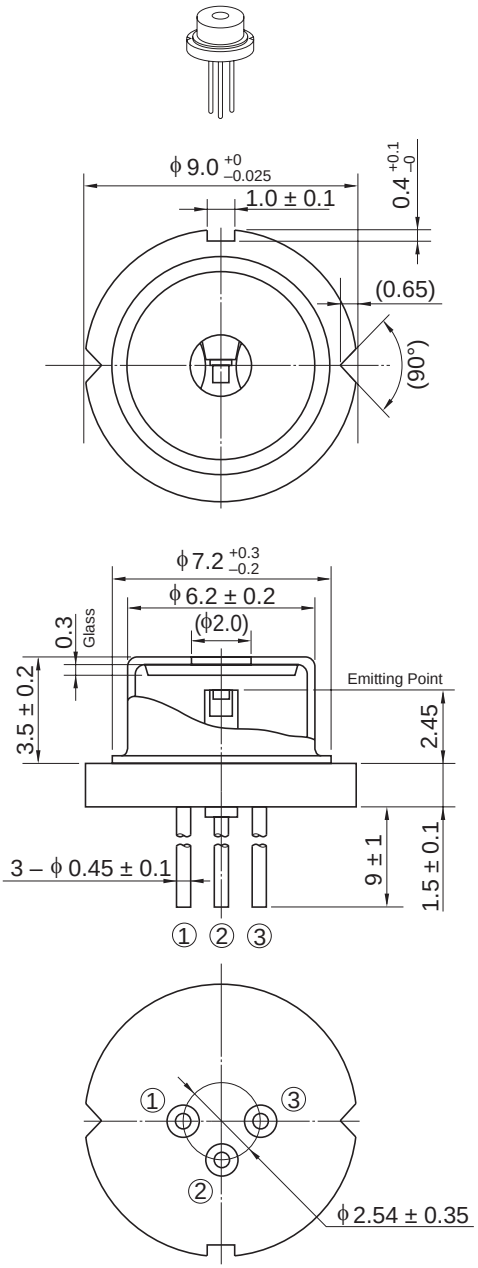
Far Field Pattern



Package Dimensions

As of July, 2002

Unit: mm



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

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   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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