

HL7851G

GaAlAs Laser Diode

ODE2049-00 (M)

Rev.0

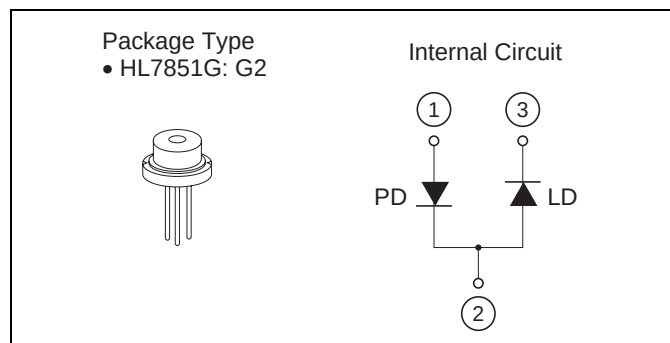
Aug. 01, 2008

Description

The HL7851G 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: $\lambda_p = 785 \text{ nm}$ Typ
- Small beam ellipticity: 9.5:23
- High output power: 50 mW (CW)
- Built-in monitor photodiode



Absolute Maximum Ratings

($T_C = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Optical output power	P_O	50	mW
Pulse optical output power	$P_{O(\text{pulse})}$	60 *	mW
LD reverse voltage	$V_{R(\text{LD})}$	2	V
PD reverse voltage	$V_{R(\text{PD})}$	30	V
Operating temperature	T_{opr}	-10 to +60	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$

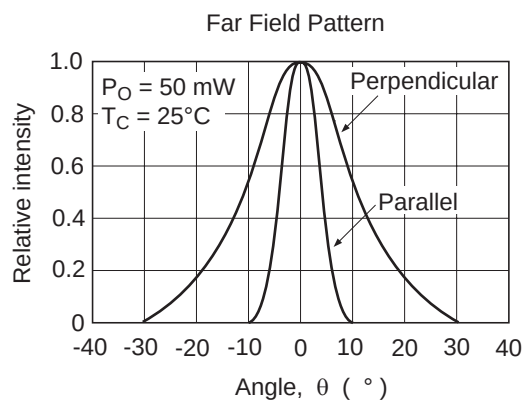
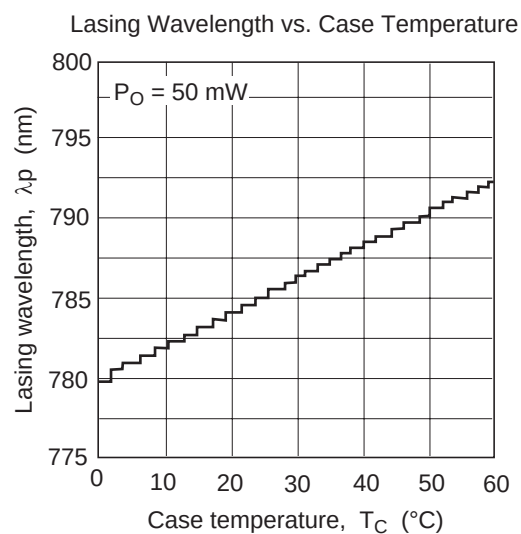
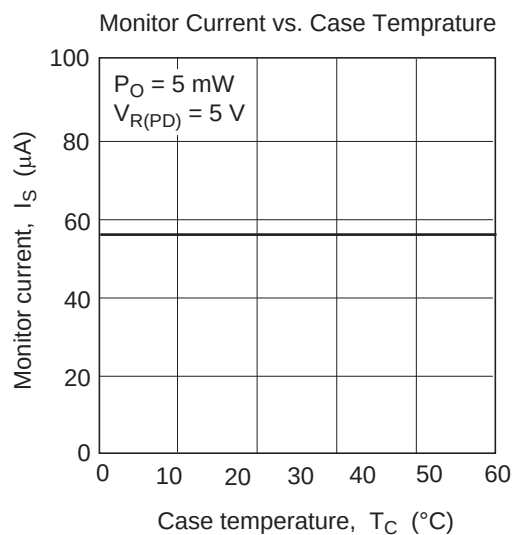
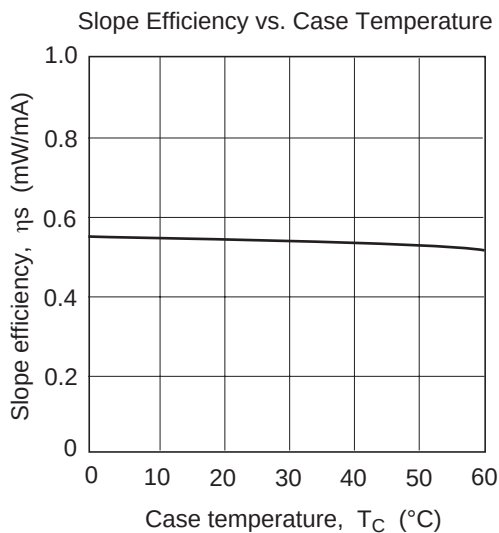
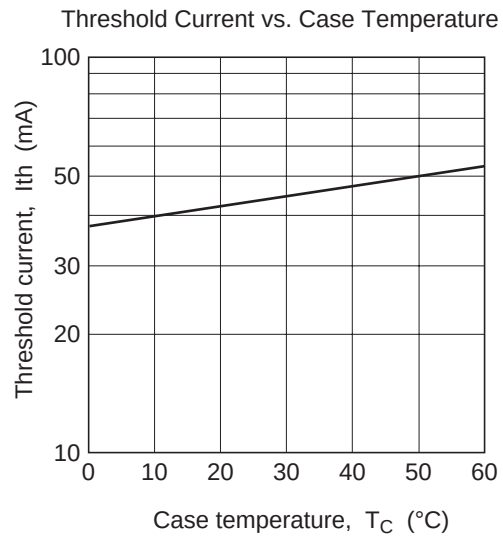
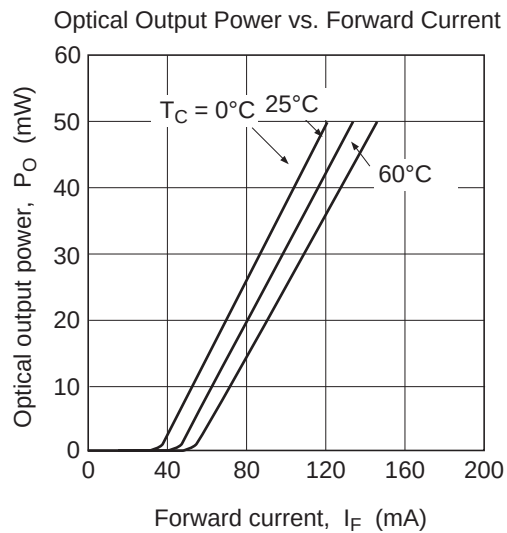
Note: Maximum 50% duty cycle, maximum 1 μs pulse width.

Optical and Electrical Characteristics

($T_C = 25^\circ\text{C}$)

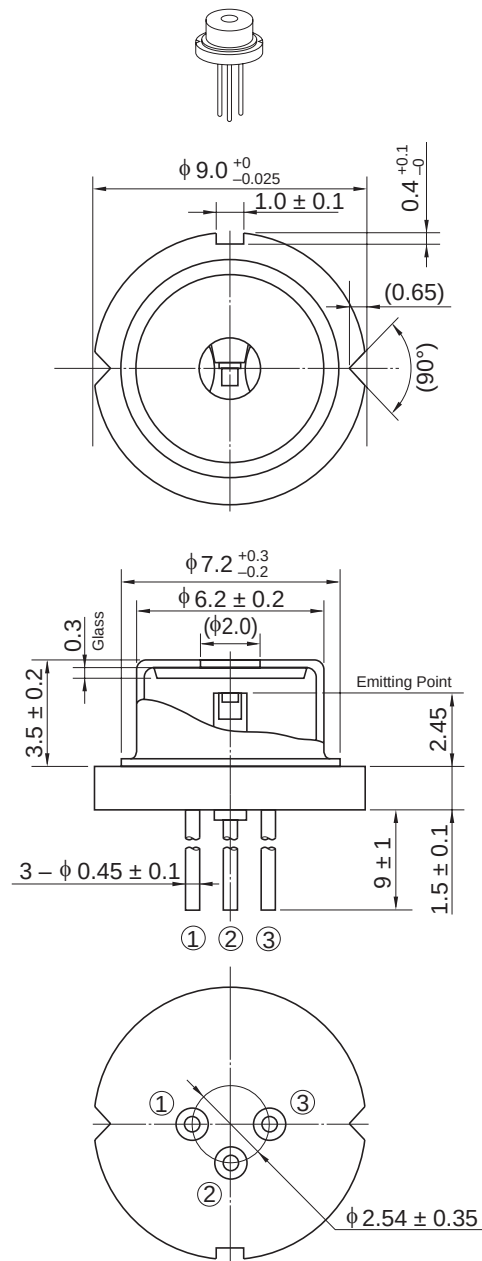
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	I_{th}	—	45	70	mA	
Slope efficiency	η_s	0.35	0.55	0.7	mW/mA	$40 \text{ (mW)} / (I_{(45\text{mW})} - I_{(5\text{mW})})$
LD Operating current	I_{OP}	—	135	165	mA	$P_O = 50 \text{ mW}$
LD Operating voltage	V_{OP}	—	2.3	2.7	V	$P_O = 50 \text{ mW}$
Lasing wavelength	λ_p	775	785	795	nm	$P_O = 50 \text{ mW}$
Beam divergence parallel to the junction	$\theta_{//}$	8	9.5	12	$^\circ$	$P_O = 50 \text{ mW}$, FWHM
Beam divergence perpendicular to the junction	$\theta_{\perp}$	18	23	28	$^\circ$	$P_O = 50 \text{ mW}$, FWHM
Monitor current	I_S	30	45	150	μA	$P_O = 5 \text{ mW}$, $V_{R(\text{PD})} = 5 \text{ V}$
Astigmatism	A_S	—	5	—	μm	$P_O = 5 \text{ mW}$, $NA = 0.4$

Typical Characteristic Curves



Package Dimensions

As of July, 2002
Unit: mm



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

Cautions

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5. This product is not designed to be radiation resistant.
6. No one is permitted to reproduce or duplicate, in any form, the whole or part of this document without written approval from OPJ.
7. Contact our sales office for any questions regarding this document or OPJ products.

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.

Sales Offices



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