

# HL7852G

## GaAlAs Laser Diode

ODE-208-063A (Z)

Rev.1

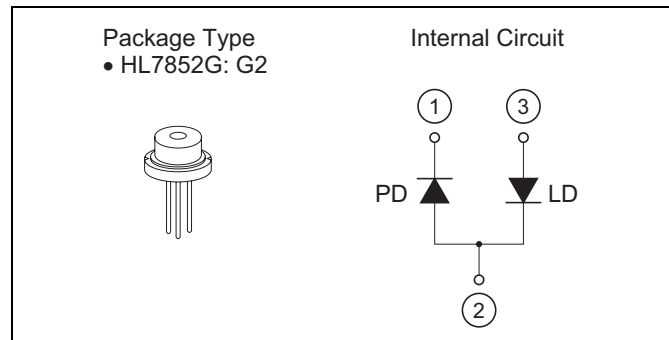
Dec. 04, 2006

### Description

The HL7852G is a high-power 0.78  $\mu\text{m}$  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	$^\circ\text{C}$

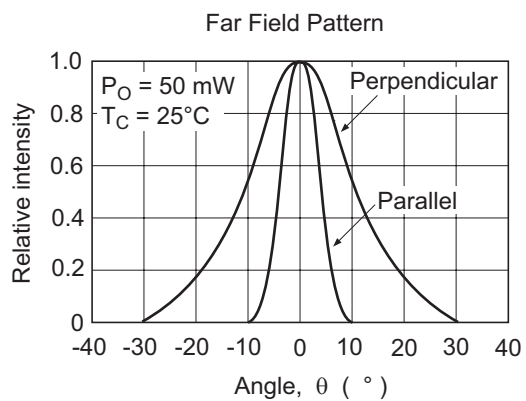
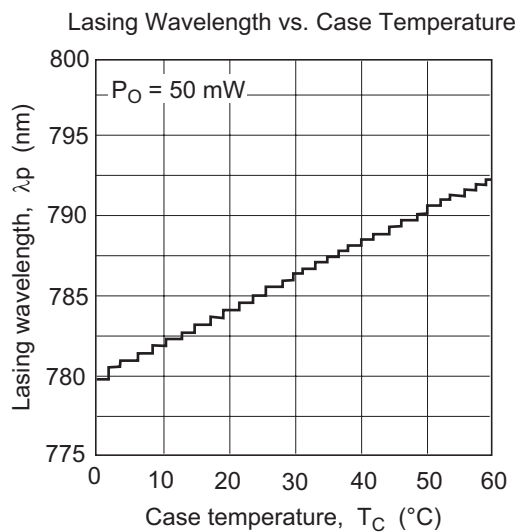
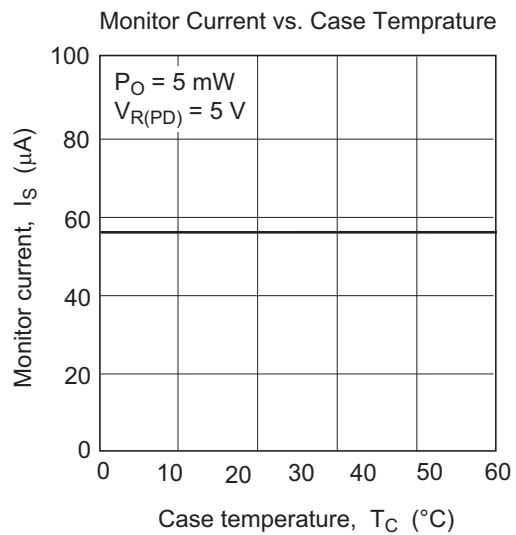
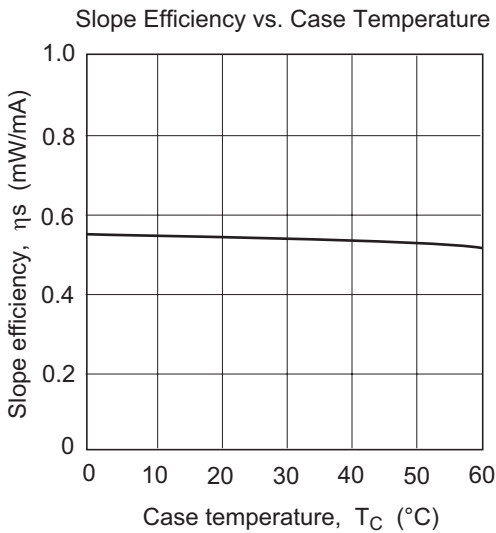
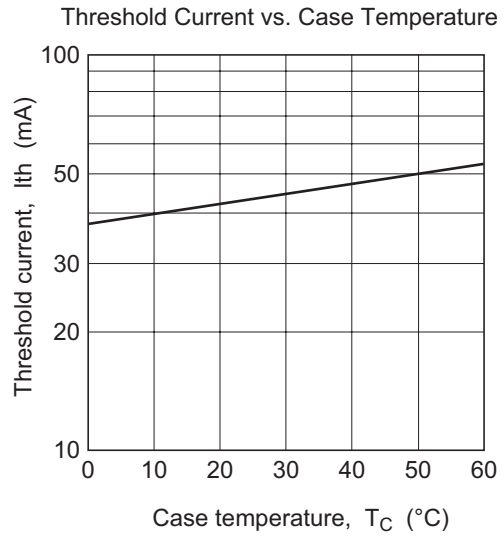
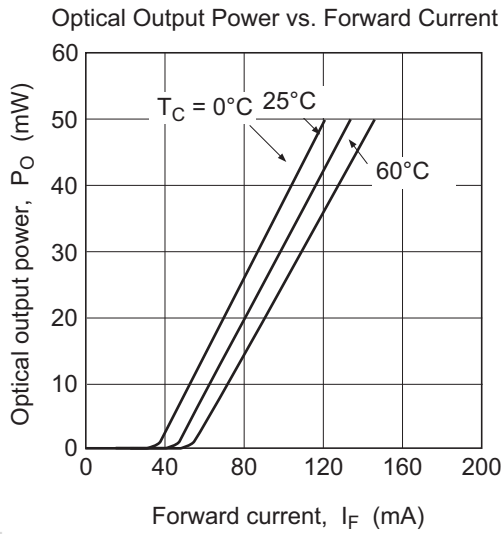
Note: Maximum 50% duty cycle, maximum 1  $\mu\text{s}$  pulse width.

### Optical and Electrical Characteristics

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

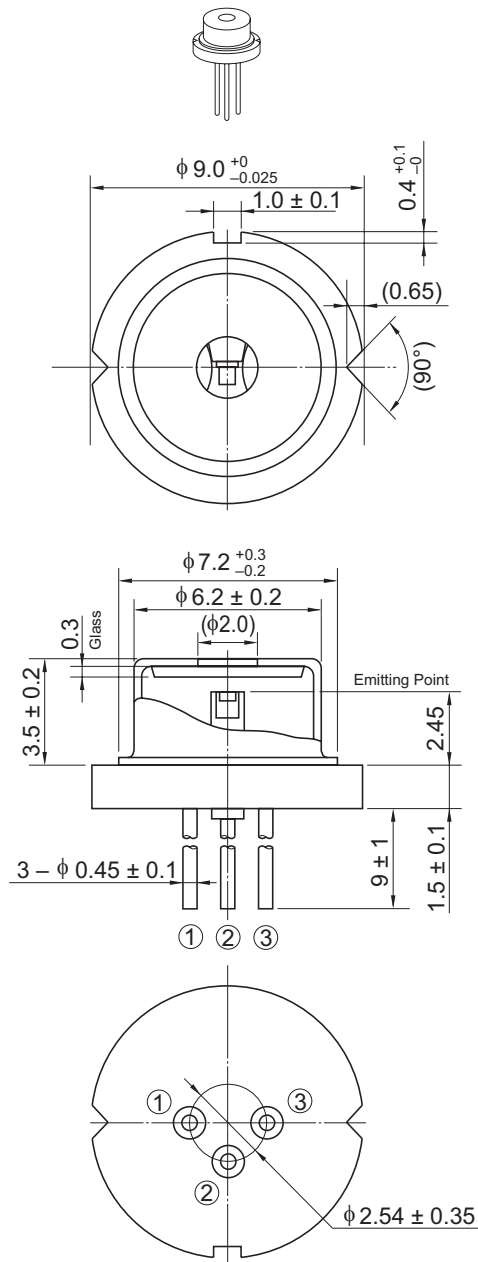
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	$I_{th}$	—	45	70	mA	
Slope efficiency	$\eta_s$	0.35	0.55	0.7	mW/mA	$40 \text{ (mW)} / (I_{(45\text{mW})} - I_{(5\text{mW})})$
LD Operating current	$I_{OP}$	—	135	165	mA	$P_O = 50 \text{ mW}$
LD Operating voltage	$V_{OP}$	—	2.3	2.7	V	$P_O = 50 \text{ mW}$
Lasing wavelength	$\lambda_p$	775	785	795	nm	$P_O = 50 \text{ mW}$
Beam divergence (parallel)	$\theta_{//}$	8	9.5	12	$^\circ$	$P_O = 50 \text{ mW}$ , FWHM
Beam divergence (perpendicular)	$\theta_{\perp}$	18	23	28	$^\circ$	$P_O = 50 \text{ mW}$ , FWHM
Monitor current	$I_s$	25	45	150	$\mu\text{A}$	$P_O = 5 \text{ mW}$ , $V_{R(\text{PD})} = 5 \text{ V}$
Astigmatism	$A_s$	—	5	—	$\mu\text{m}$	$P_O = 5 \text{ mW}$ , $NA = 0.4$

Typical Characteristic Curves



Package Dimensions

Unit: mm



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

## Cautions

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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.

## Sales Offices



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