

HL6312G/13G

AlGaInP Laser Diodes

ODE2008-00 (M)

Rev.0

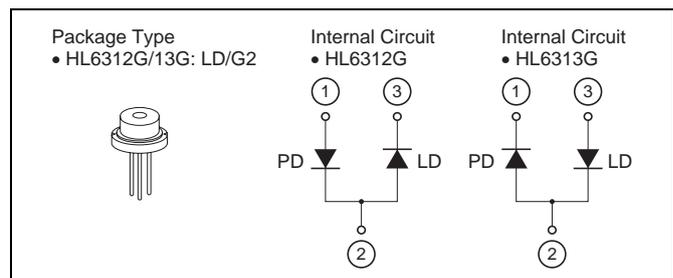
Aug. 01, 2008

Description

The HL6312G/13G are 0.63 μm band AlGaInP laser diodes with a multi-quantum well (MQW) structure. Wavelength is equal to He-Ne Gas laser. They are suitable as light sources in bar code readers, laser levelers and various other types of optical equipment. Hermetic sealing of the package achieves high reliability.

Features

- Visible light output: $\lambda_p = 635 \text{ nm Typ}$
- Single longitudinal mode
- Optical output power: 5 mW CW
- Low Operating voltage: 2.7 V Max
- Built-in photodiode for monitoring laser output
- TM mode oscillation



Absolute Maximum Ratings

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

Item	Symbol	Ratings	Unit
Optical output power	P_O	5	mW
Pulse optical output power	$P_{O(\text{pulse})}$	6 *	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 +50	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$

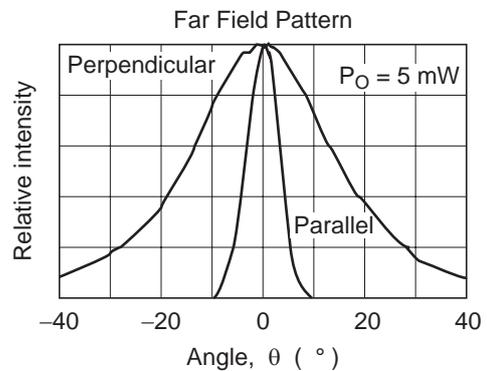
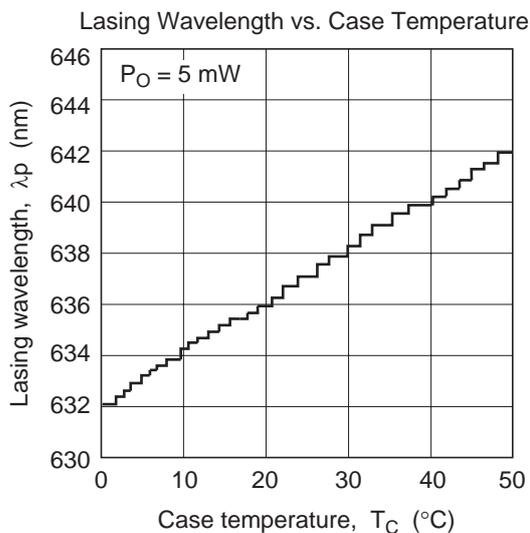
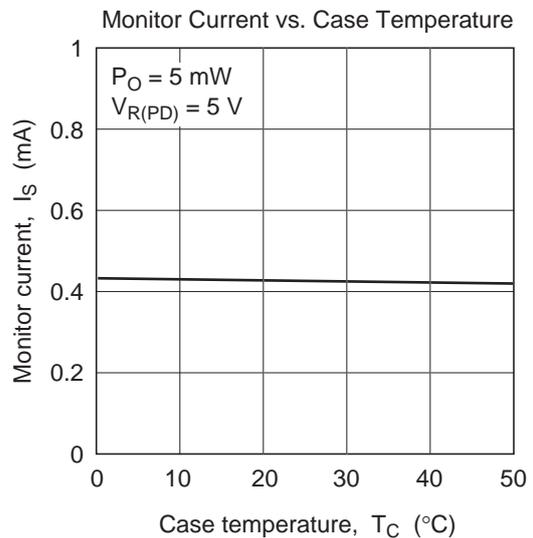
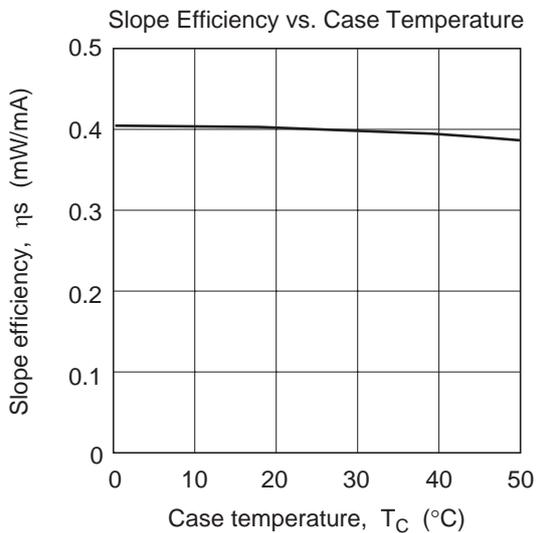
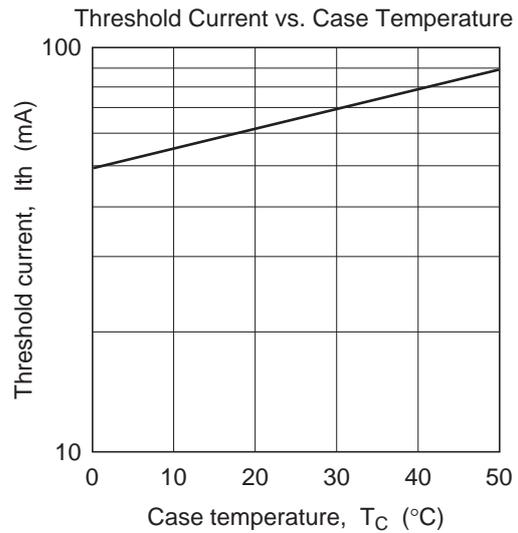
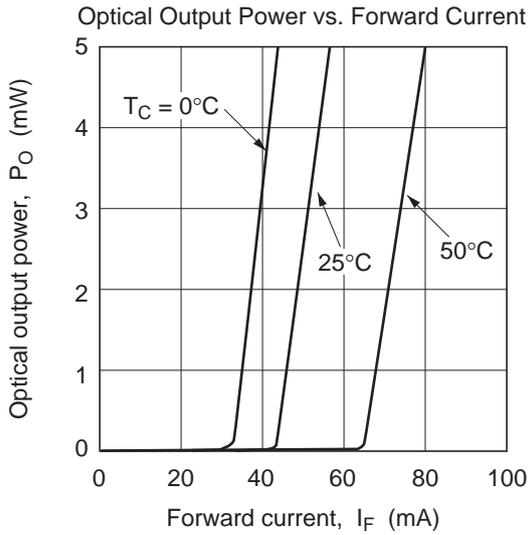
Note: Pulse condition : Pulse width $\leq 1 \mu\text{s}$, duty $\leq 50\%$

Optical and Electrical Characteristics

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

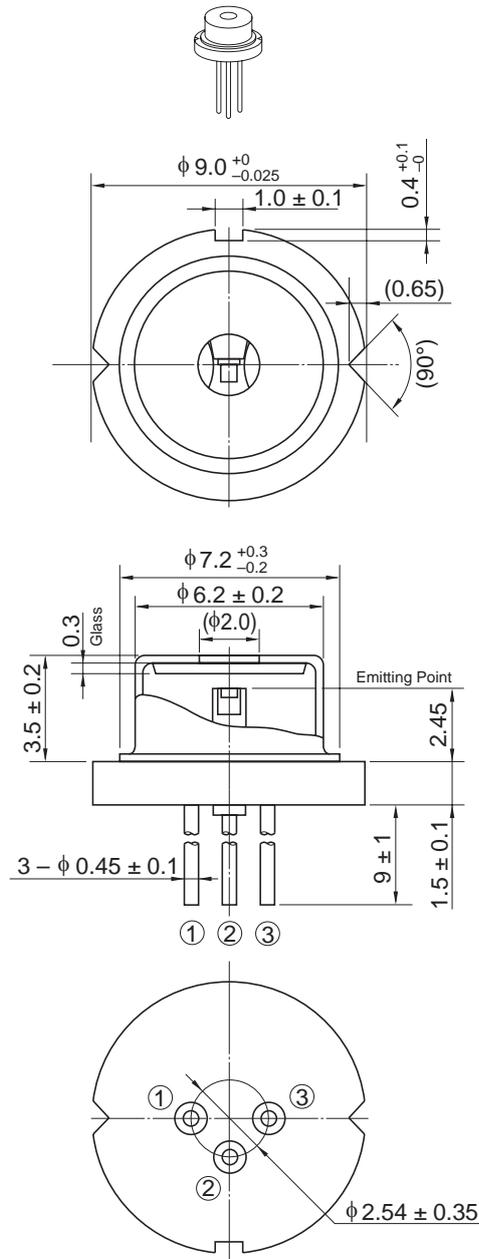
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	I_{th}	20	45	70	mA	—
Operating current	I_{OP}	—	55	85	mA	$P_O = 5 \text{ mW}$
Operating voltage	V_{OP}	—	—	2.7	V	$P_O = 5 \text{ mW}$
Beam divergence parallel to the junction	$\theta_{//}$	5	8	11	$^\circ$	$P_O = 5 \text{ mW}$
Beam divergence perpendicular to the junction	θ_{\perp}	25	31	37	$^\circ$	$P_O = 5 \text{ mW}$
Astigmatism	A_s	—	8	—	μm	$P_O = 5 \text{ mW}$, $NA = 0.55$
Lasing wavelength	λ_p	625	635	640	nm	$P_O = 5 \text{ mW}$
Monitor current	I_s	0.2	0.4	0.8	mA	$P_O = 5 \text{ mW}$, $V_{R(\text{PD})} = 5 \text{ V}$

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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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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