

HL6722G

AlGaInP Laser Diode

HITACHI

ADE-208-220C (Z)

4th Edition

Dec. 2000

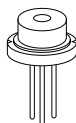
Description

The HL6722G is a 0.67 μm band AlGaInP index-guided laser diode with a multi-quantum well (MQW) structure. It is suitable as a light source for barcode scanner, and various other types of optical equipment. Hermetic sealing of the package assures high reliability.

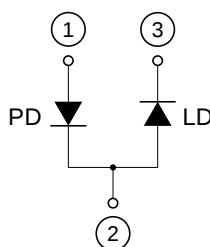
Features

- Visible light output at wavelengths up to 680 nm
- Continuous operating output: 5 mW CW
- Low voltage operation: 2.7 V Max
- Low current operation: 32 mA Typ
- Single longitudinal mode
- Built-in monitor photodiode

Package Type
• HL6722G: G2



Internal Circuit



Absolute Maximum Ratings (T_C = 25°C)

Item	Symbol	Rated Value	Unit
Optical output power	P _O	5	mW
Pulse optical output power	P _{O(pulse)}	6 *	mW
LD reverse voltage	V _{R(LD)}	2	V
PD reverse voltage	V _{R(PD)}	30	V
Operating temperature	Topr	−10 to +50	°C
Storage temperature	Tstg	−40 to +85	°C

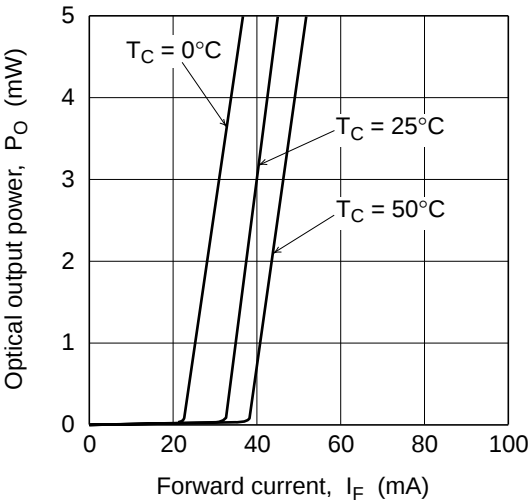
Note: Pulse condition : Pulse width ≤ 1 μs , duty ≤ 50%

Optical and Electrical Characteristics (T_C = 25°C)

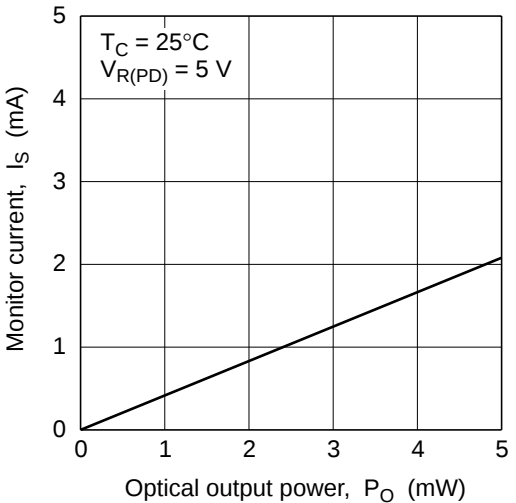
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical output power	P _O	5	—	—	mW	Kink free
Threshold current	I _{th}	20	32	55	mA	
LD operating current	I _{OP}	—	42	70	mA	P _O = 5 mW
LD operating voltage	V _{OP}	—	—	2.7	V	P _O = 5 mW
Slope efficiency	η _S	0.3	0.5	0.7	mW/mA	3 (mW) / (I _(4mW) − I _(1mW))
Beam divergence parallel to the junction	θ//	5	8	11	deg.	P _O = 5 mW
Beam divergence parpendicular to the junction	θ⊥	22	30	38	deg.	P _O = 5 mW
Astigmatism	A _S	—	8	—	μm	P _O = 5 mW, NA = 0.55
Lasing wavelength	λ _p	660	670	680	nm	P _O = 5 mW
Monitor current	I _S	1	2	3	mA	P _O = 5 mW, V _{R(PD)} = 5 V

Typical Characteristic Curves

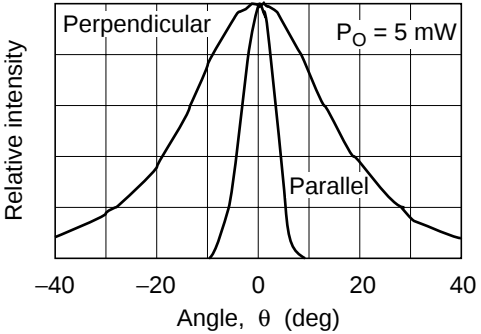
Optical Output Power vs. Forward Current



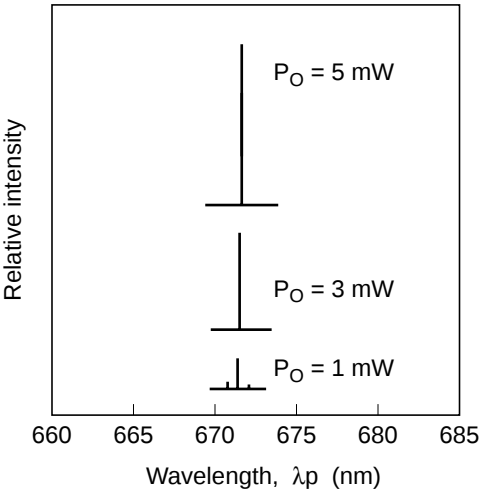
Monitor Current vs. Optical Output Power



Far Field Pattern

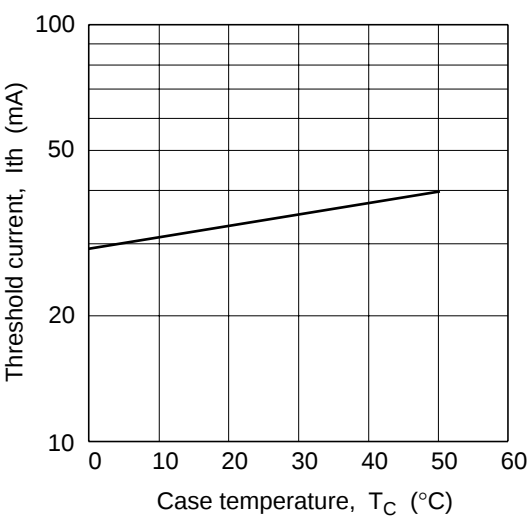


Lasing Spectrum

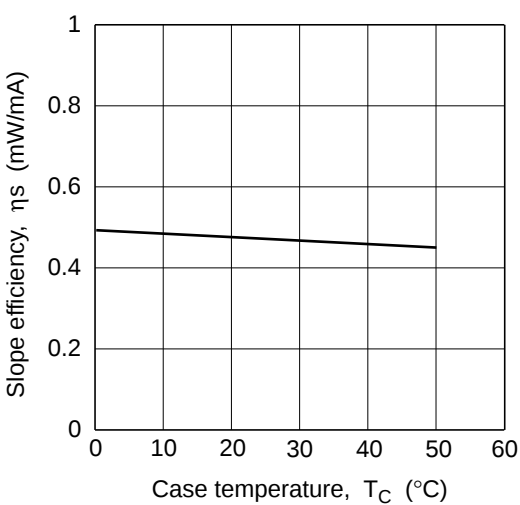


Typical Characteristic Curves (cont)

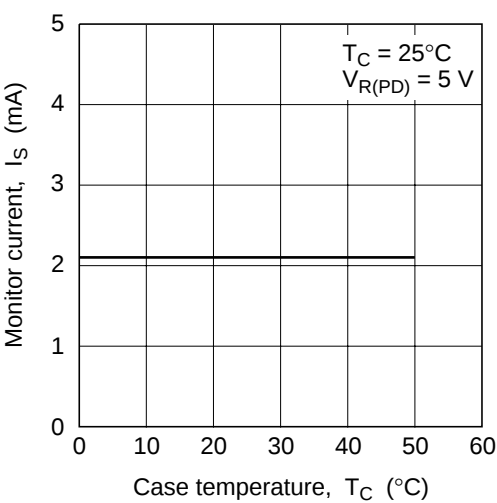
Threshold Current vs. Case Temperature



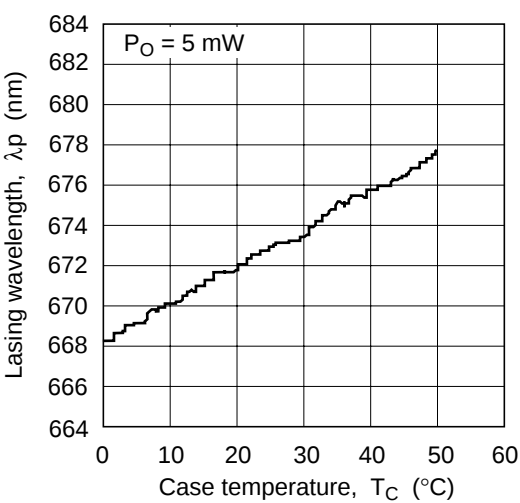
Slope Efficiency vs. Case Temperature



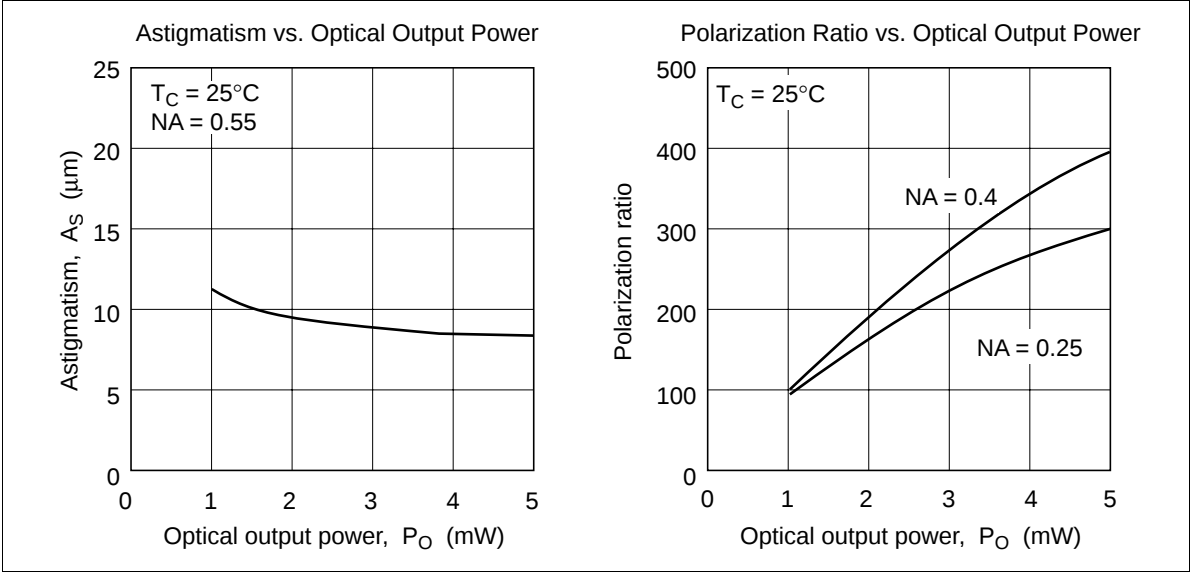
Monitor Current vs. Case Temperature



Wavelength vs. Case Temperature

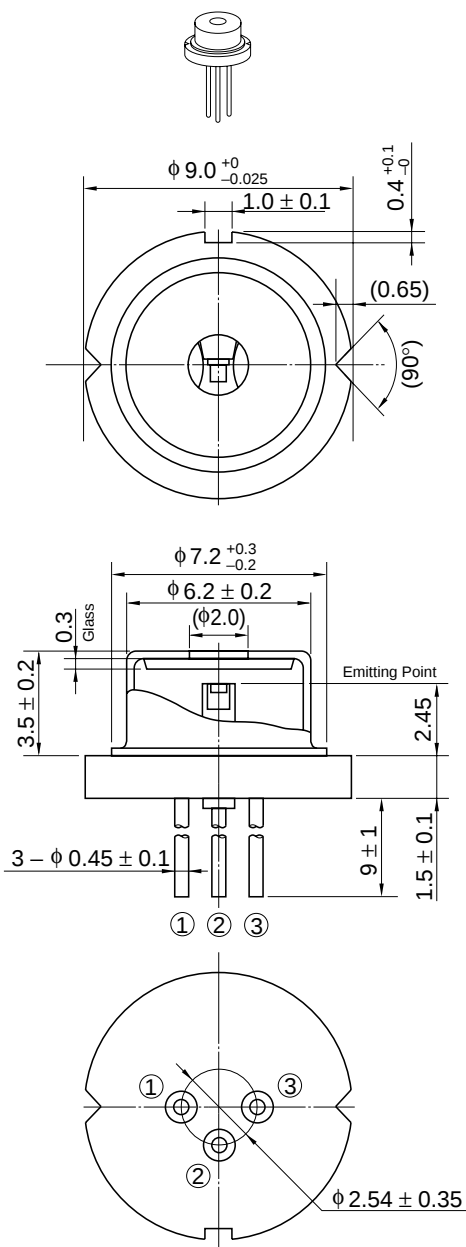


Typical Characteristic Curves (cont)



Package Dimensions

Unit: mm



Hitachi Code	LD/G2
JEDEC	—
EIAJ	—
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.

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