
HL6722G

AlGaInP Laser Diode

HITACHI

ADE-208-220C (Z)

4th Edition
Dec. 2000

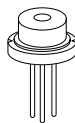
Description

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.

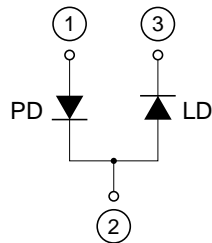
Features

- 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



HL6722G

Absolute Maximum Ratings

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

Item	Symbol	Rated Value	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	$^\circ\text{C}$

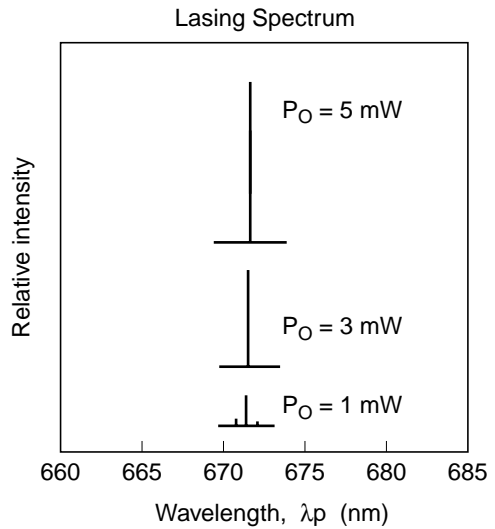
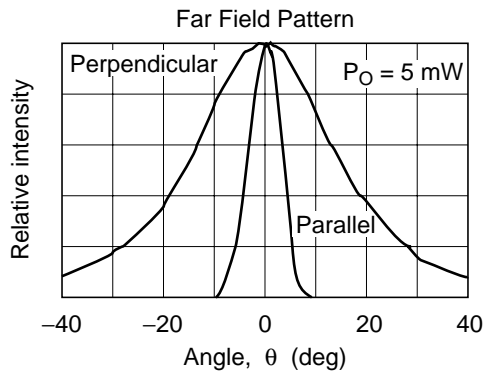
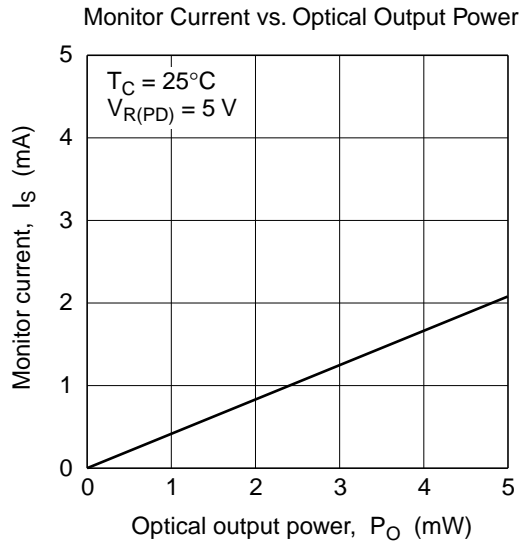
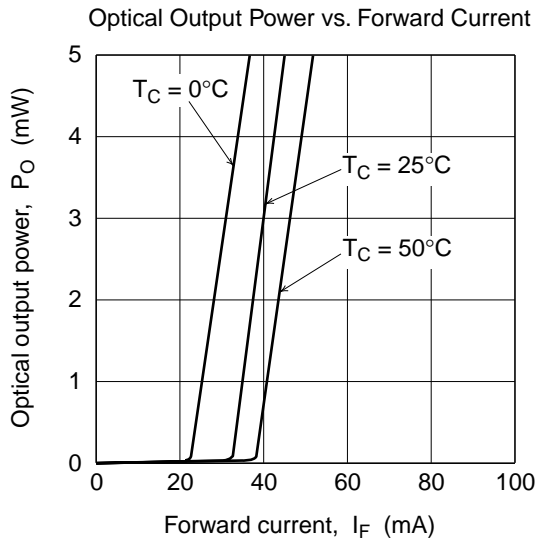
Note: Pulse condition : Pulse width $\leq 1 \mu\text{s}$, duty $\leq 50\%$

Optical and Electrical Characteristics

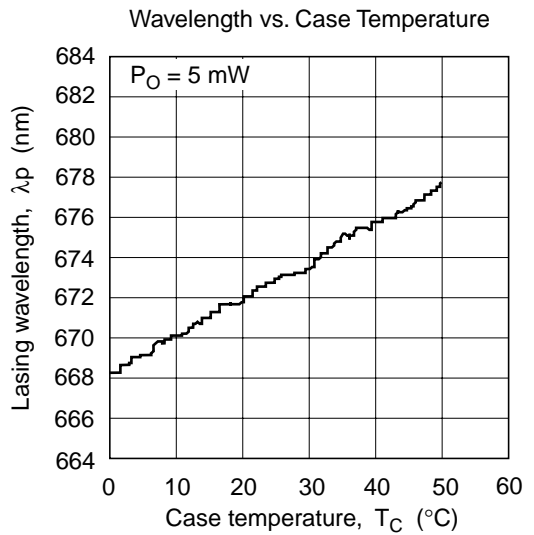
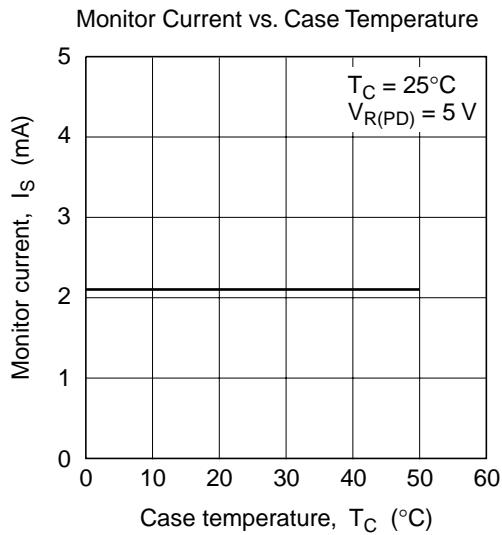
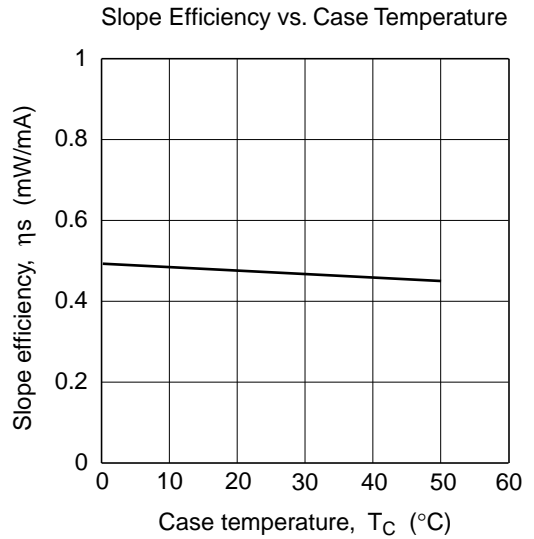
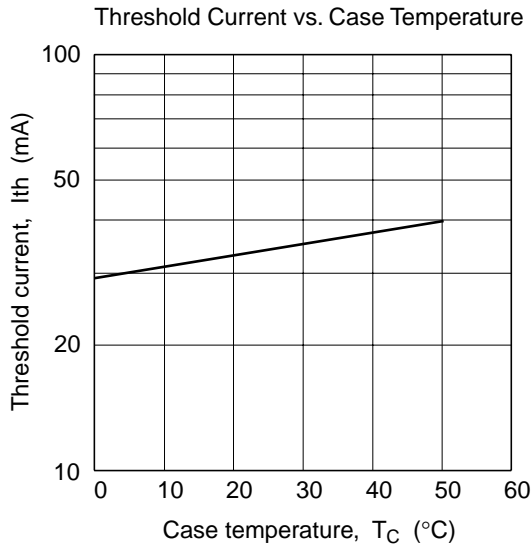
($T_c = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
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	$P_o = 5 \text{ mW}$
LD operating voltage	V_{op}	—	—	2.7	V	$P_o = 5 \text{ mW}$
Slope efficiency	η_s	0.3	0.5	0.7	mW/mA	$3 \text{ (mW)} / (I_{(4\text{mW})} - I_{(1\text{mW})})$
Beam divergence parallel to the junction	$\theta_{//}$	5	8	11	deg.	$P_o = 5 \text{ mW}$
Beam divergence parpendicular to the junction	θ_{\perp}	22	30	38	deg.	$P_o = 5 \text{ mW}$
Astigmatism	A_s	—	8	—	μm	$P_o = 5 \text{ mW}$, $NA = 0.55$
Lasing wavelength	λ_p	660	670	680	nm	$P_o = 5 \text{ mW}$
Monitor current	I_s	1	2	3	mA	$P_o = 5 \text{ mW}$, $V_{R(\text{PD})} = 5 \text{ V}$

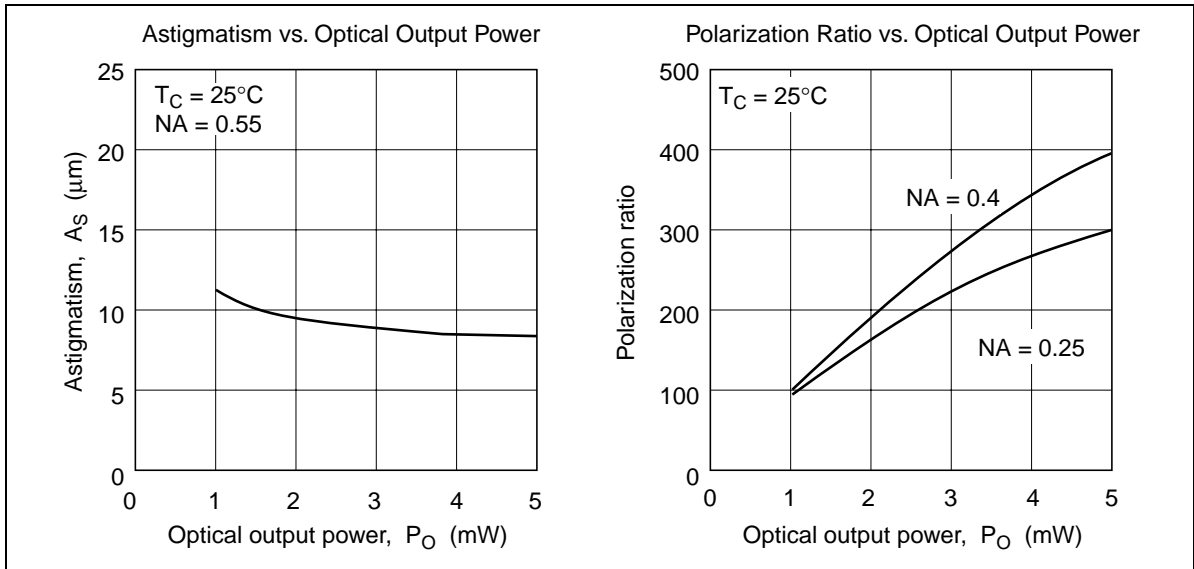
Typical Characteristic Curves



Typical Characteristic Curves (cont)



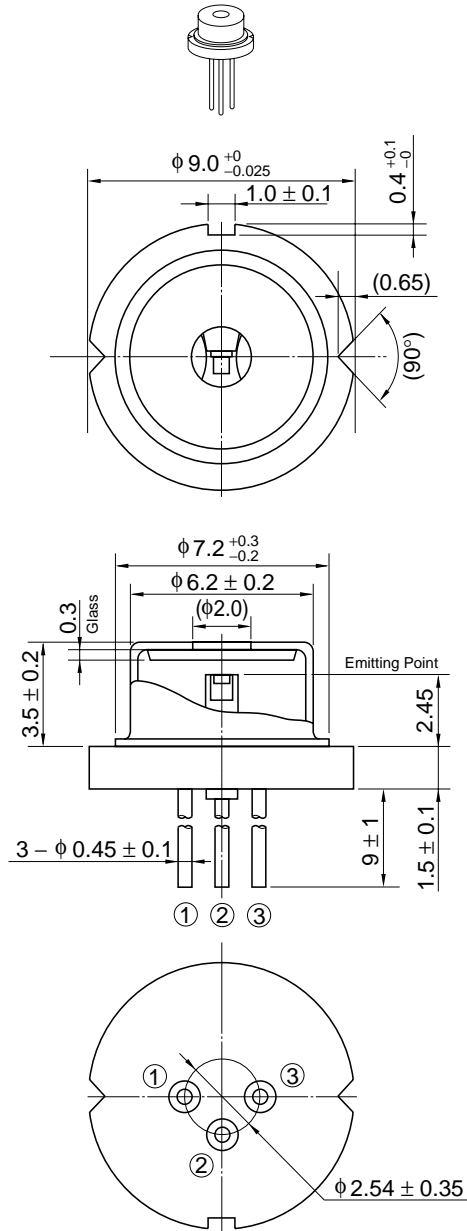
Typical Characteristic Curves (cont)



HL6722G

Package Dimensions

As of January, 2001
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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