HL6722G

AlGaInP Laser Diode

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ODE-208-220D (Z)

Rev.4
Jan. 2003

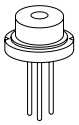
Description

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 bercode scanner, and various other types of optical equipment. Hermetic sealing of the package assures high reliability.

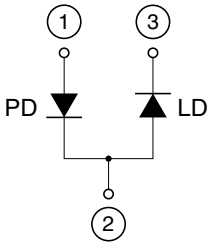
Features

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

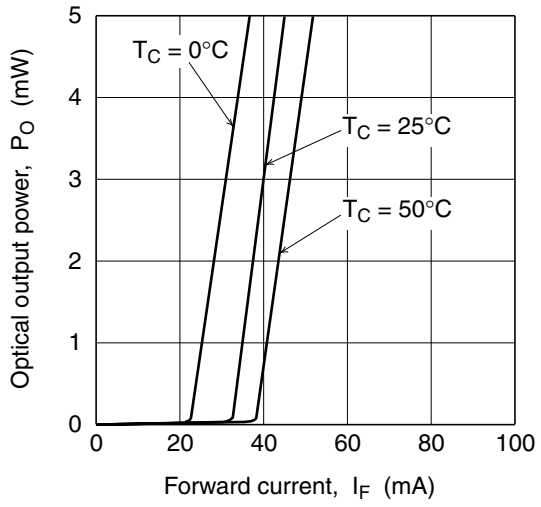
Optical and Electrical Characteristics

(T_C = 25°C)

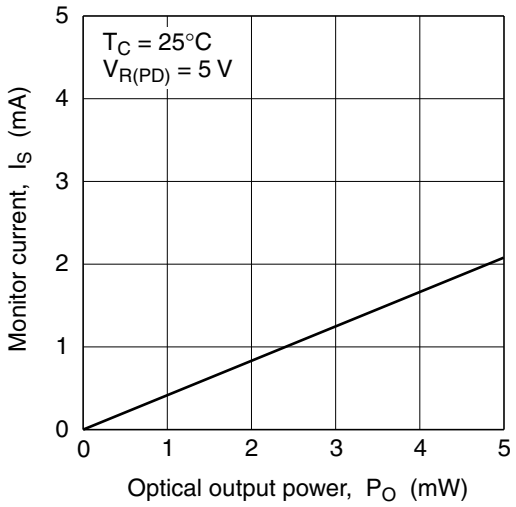
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical output power	P_O	5	—	—	mW	—
Threshold current	Ith	20	32	55	mA	—
LD operating current	I_{OP}	—	42	70	mA	P_O = 5 mW
LD operating voltage	V_{OP}	—	—	2.7	V	P_O = 5 mW
Slope efficiency	ηs	0.3	0.5	0.7	mW/mA	3 (mW) / ($I_{(4mW)} – I_{(1mW)}$)
Beam divergence 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	λp	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

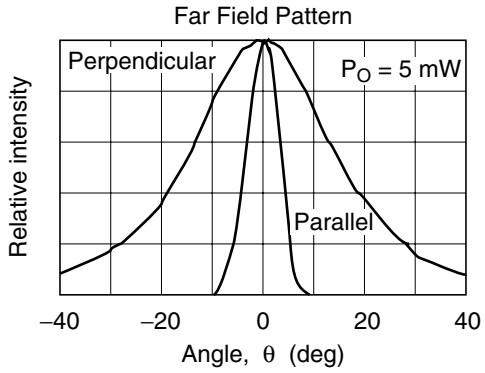
Optical Output Power vs. Forward Current



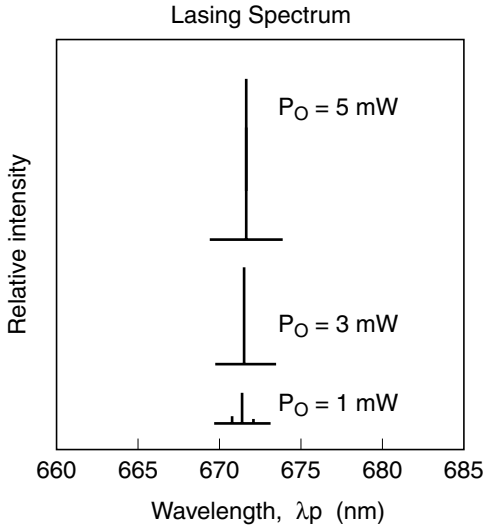
Monitor Current vs. Optical Output Power



Far Field Pattern



Lasing Spectrum



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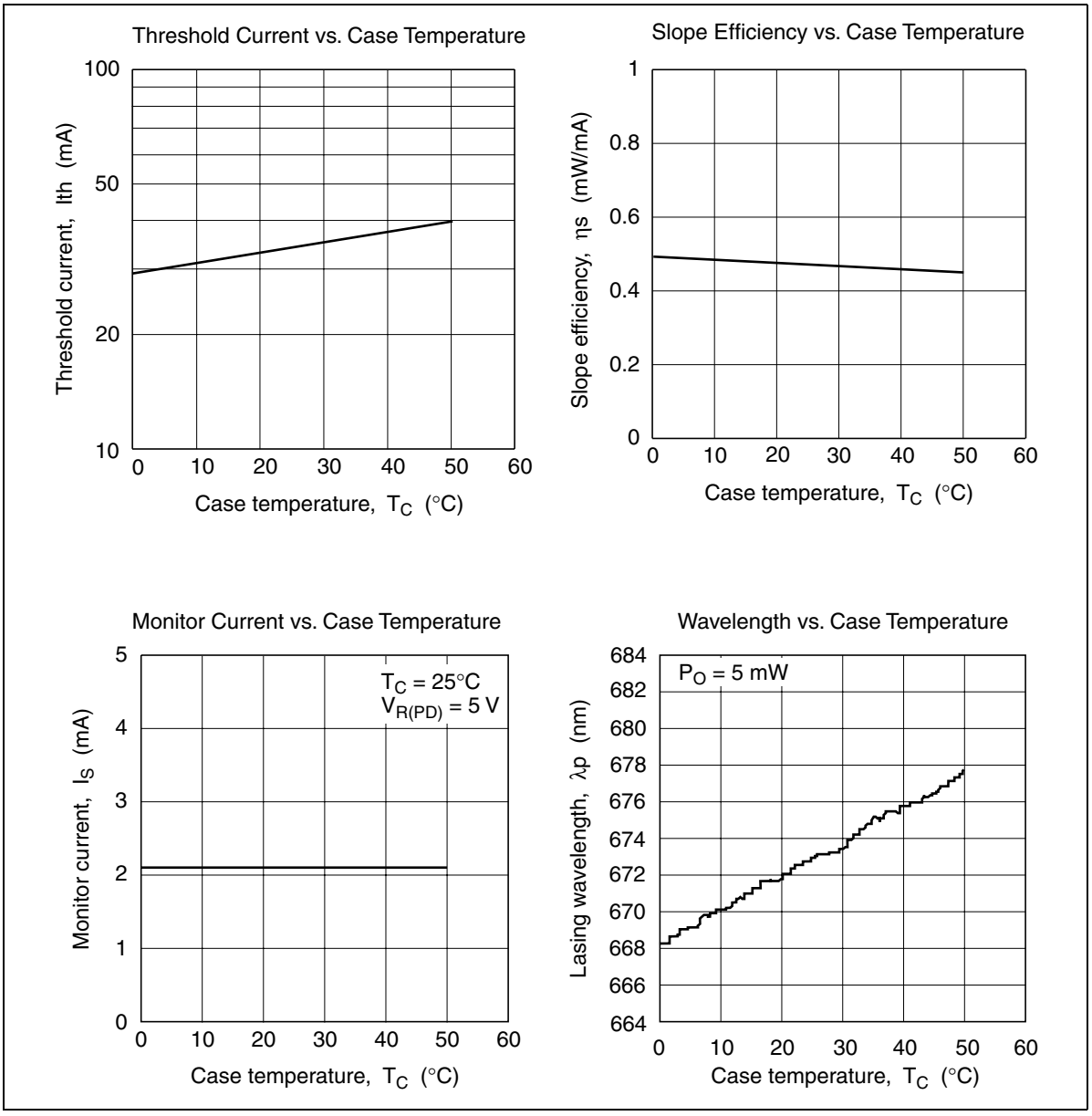
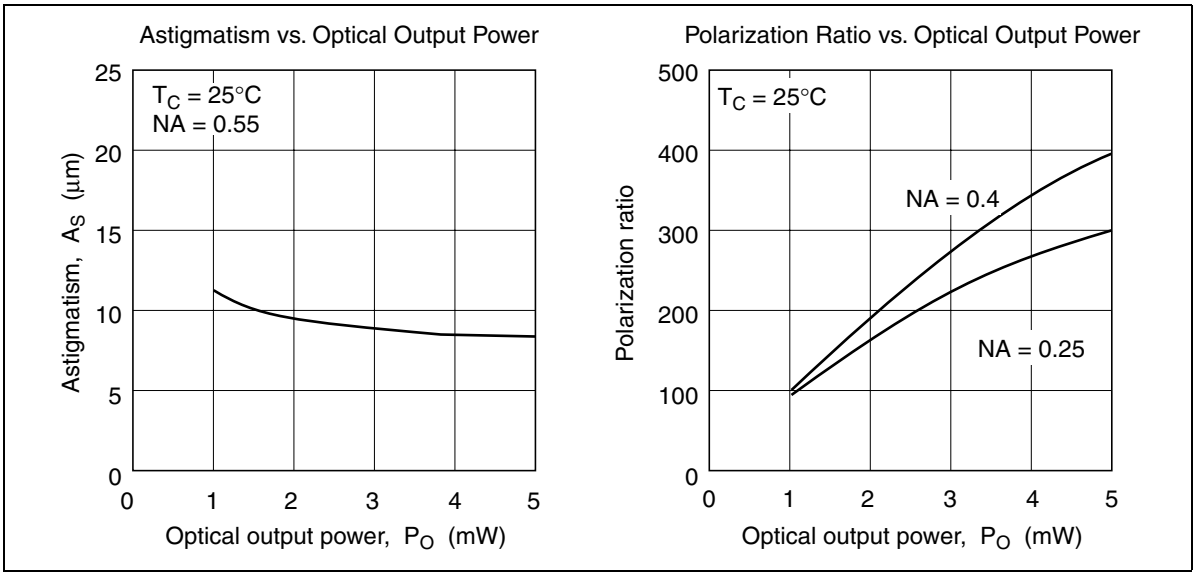
Typical Characteristic Curves (cont)



Typical Characteristic Curves (cont)



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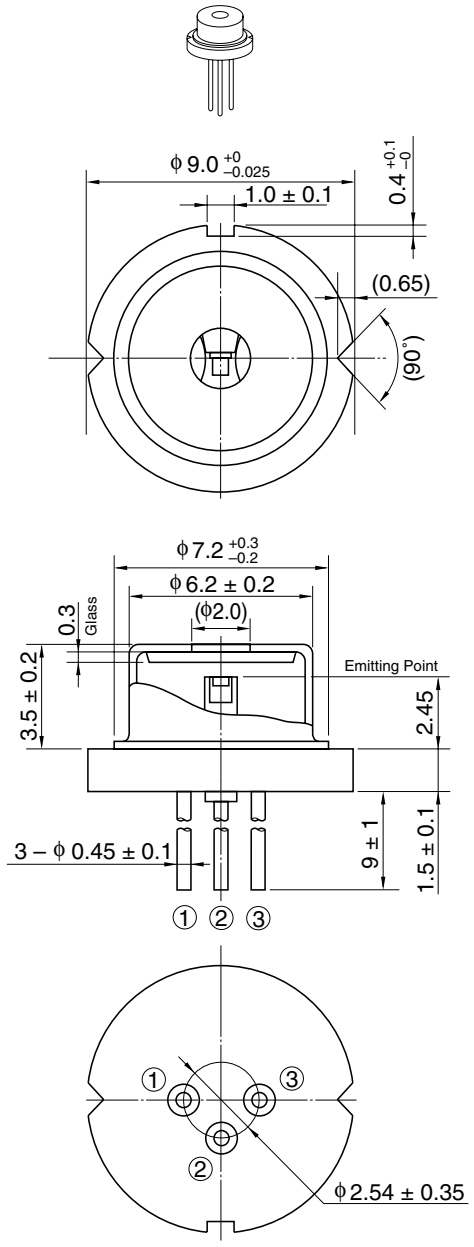
Package Dimensions

As of July, 2002

Unit: mm



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

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