HL6722G

AlGaInP Laser Diode

HITACHI

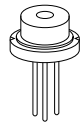
Description

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.

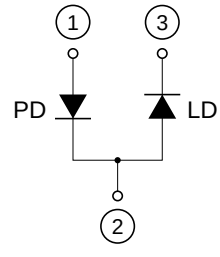
Features

- Visible light output at wavelengths up to 680 nm
- 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*[1]	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

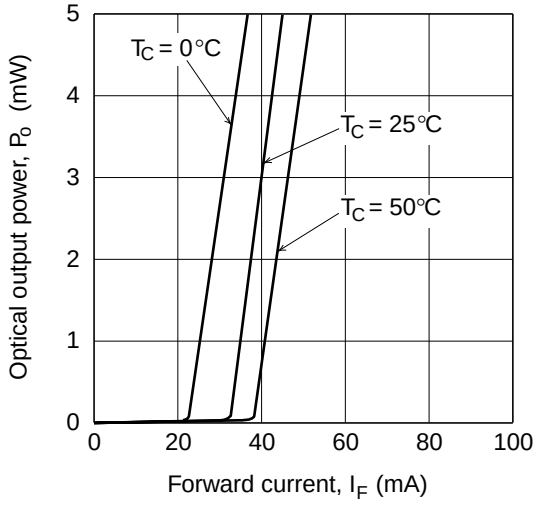
Note: 1. Maximum 50% duty cycle, maximum 1 µs pulse width

Optical and Electrical Characteristics (T_C = 25°C)

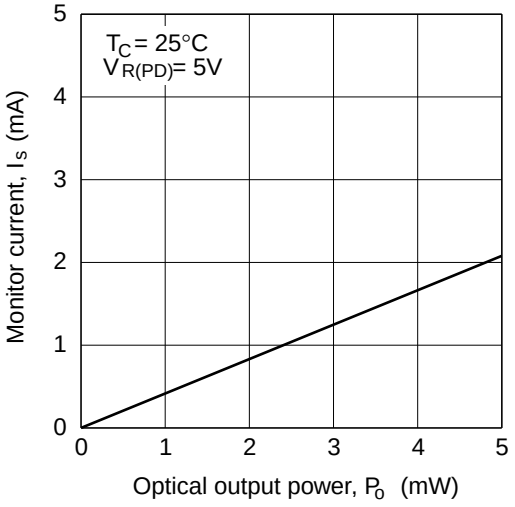
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical output power	P_O	5	—	—	mW	Kink free
Threshold current	Ith	20	32	55	mA	
Slope efficiency	η	0.3	0.5	0.7	mW/mA	3 mW/$I_{(4\ mW)}$ – $I_{(1\ mW)}$
LD operating current	Iop	—	42	70	mA	P_O = 5 mW
LD operating voltage	Vop	—	—	2.7	V	P_O = 5 mW
Lasing wavelength	λp	660	670	680	nm	P_O = 5 mW
Beam divergence (parallel)	θ//	5	8	11	deg.	P_O = 5 mW
Beam divergence (perpendicular)	θ⊥	22	30	38	deg.	P_O = 5 mW
Monitor current	Is	1	—	3	mA	P_O = 5 mW, V_R = 5 V

Typical Characteristic Curves

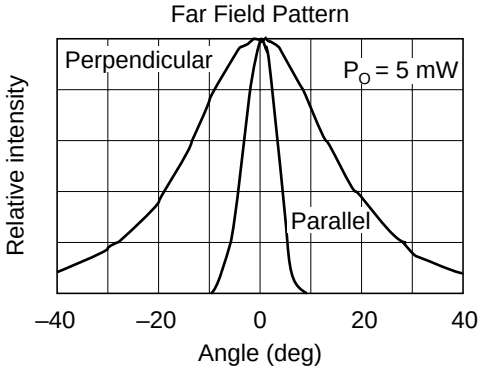
Optical Output Power vs. Forward Current



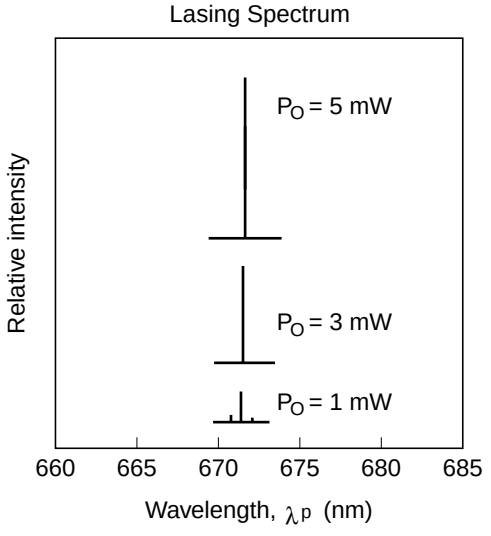
Optical Output Power vs. Monitor Current



Far Field Pattern

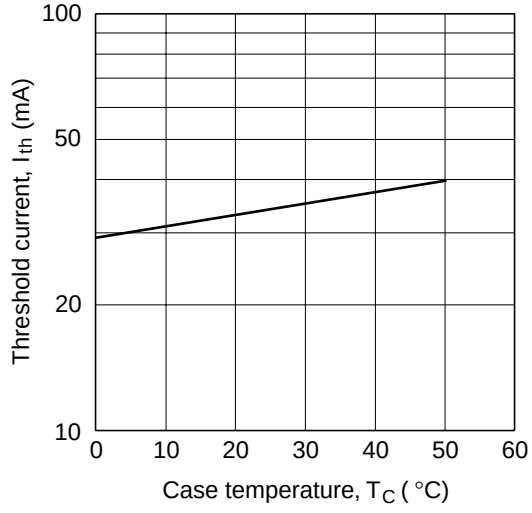


Lasing Spectrum

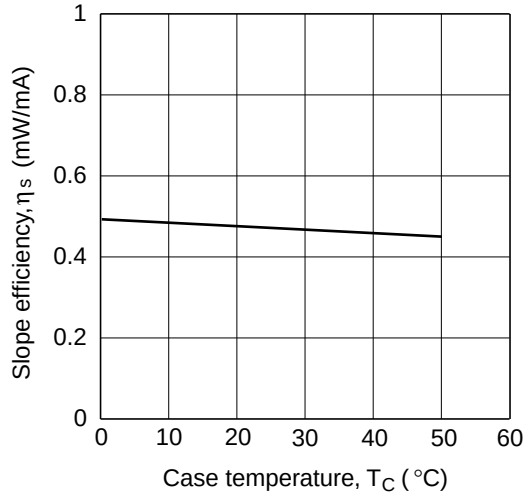


Typical Characteristic Curves (cont)

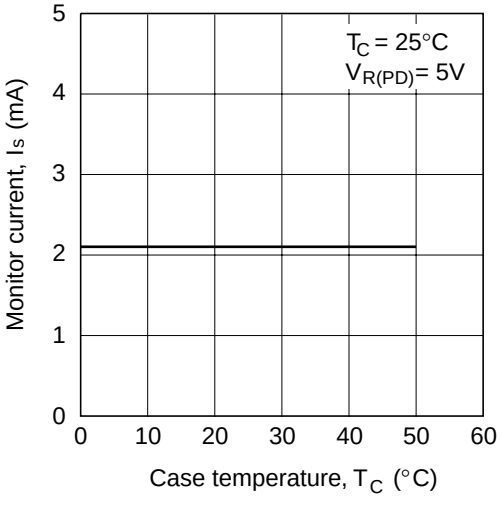
Threshold Current vs.
Case Temperature



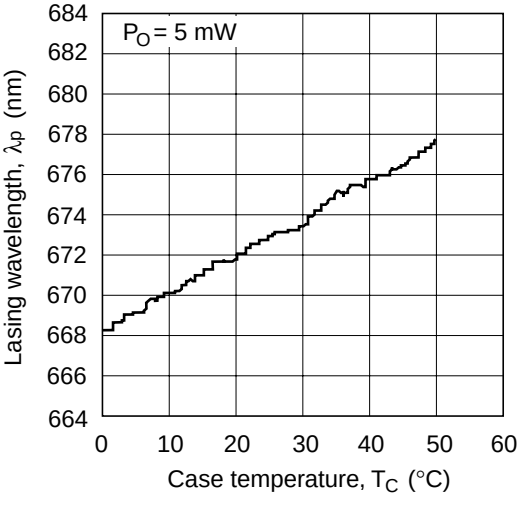
Slope Efficiency vs.
Case Temperature



Monitor Current vs.
Case Temperature

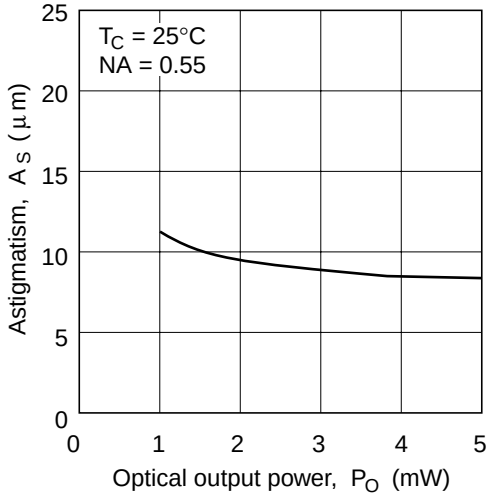


Wavelength vs.
Case Temperature

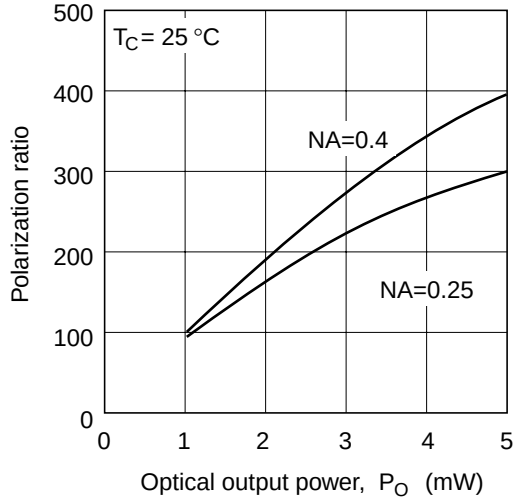


Typical Characteristic Curves (cont)

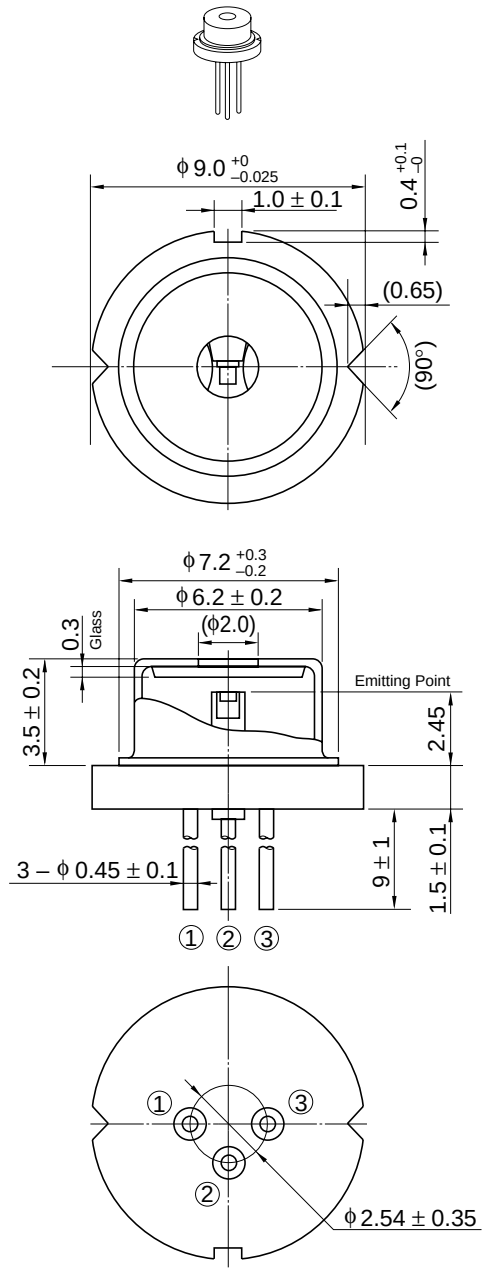
Astigmatism vs.
Optical output power



Polarization Ratio vs.
Optical output power



Unit: mm



Hitachi Code	LD/G2
JEDEC	—
EIAJ	—
Weight (reference value)	1.1 g

Datasheet Title

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