
HL6712G

AlGaInP Laser Diode

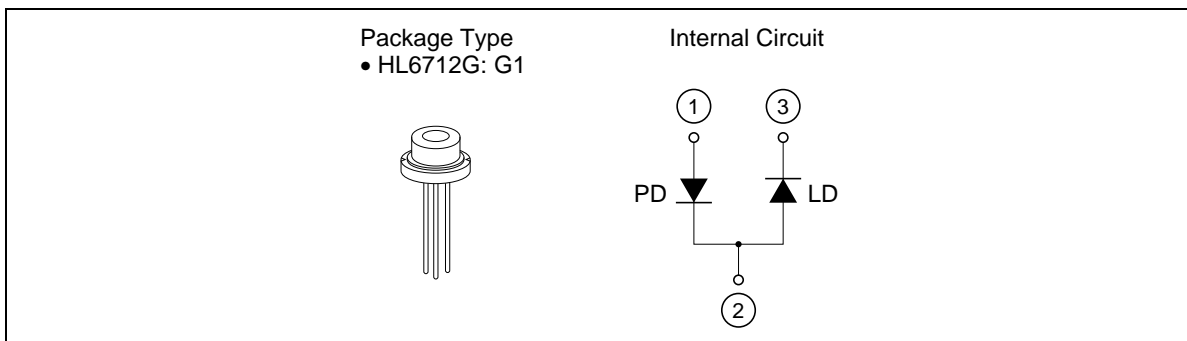
HITACHI

Description

The HL6712G is 0.67 μm band AlGaInP index-guided laser diode with a double heterostructure. It is suitable as light sources for barcode readers, levelers, laser printers, and various other types of optical equipment. Hermetic sealing of the packages assure high reliability.

Features

- Visible light output at wavelengths up to 680 nm
- Single longitudinal mode
- Low threshold current: 40 mA Typ
- Low astigmatism: 10 μm Typ
- Operates at temperatures up to 50°C
- Built-in monitor photodiode



HL6712G

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

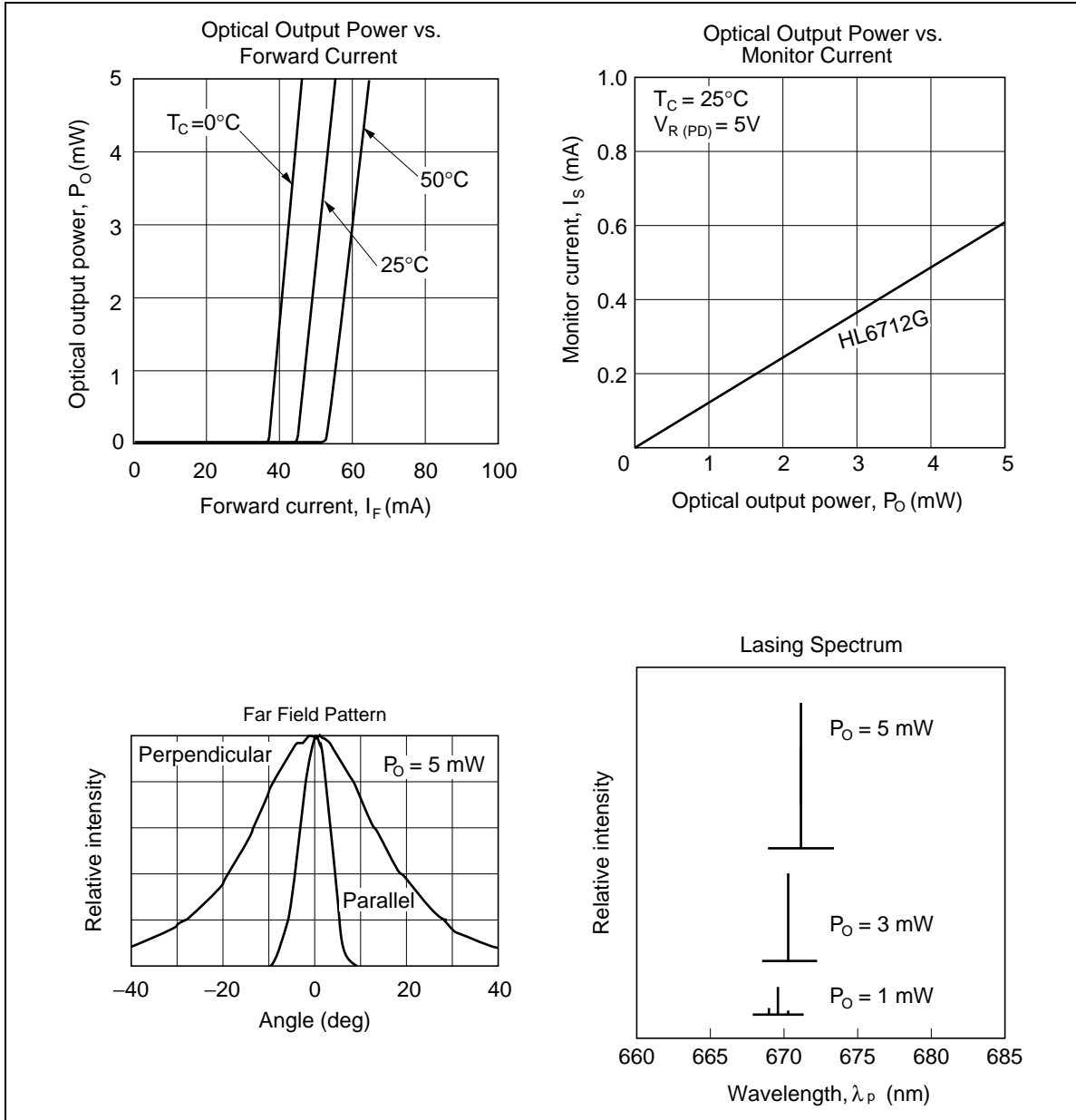
Item	Symbol	Rated Value	Unit
Optical output power	P_o	5	mW
Pulse optical output power	$P_{O(\text{pulse})}$	6^{*1}	mW
LD reverse voltage	$V_{R(\text{LD})}$	2	V
PD reverse voltage	$V_{R(\text{PD})}$	30	V
Operating temperature	T_{opr}	-10 to +50	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$

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

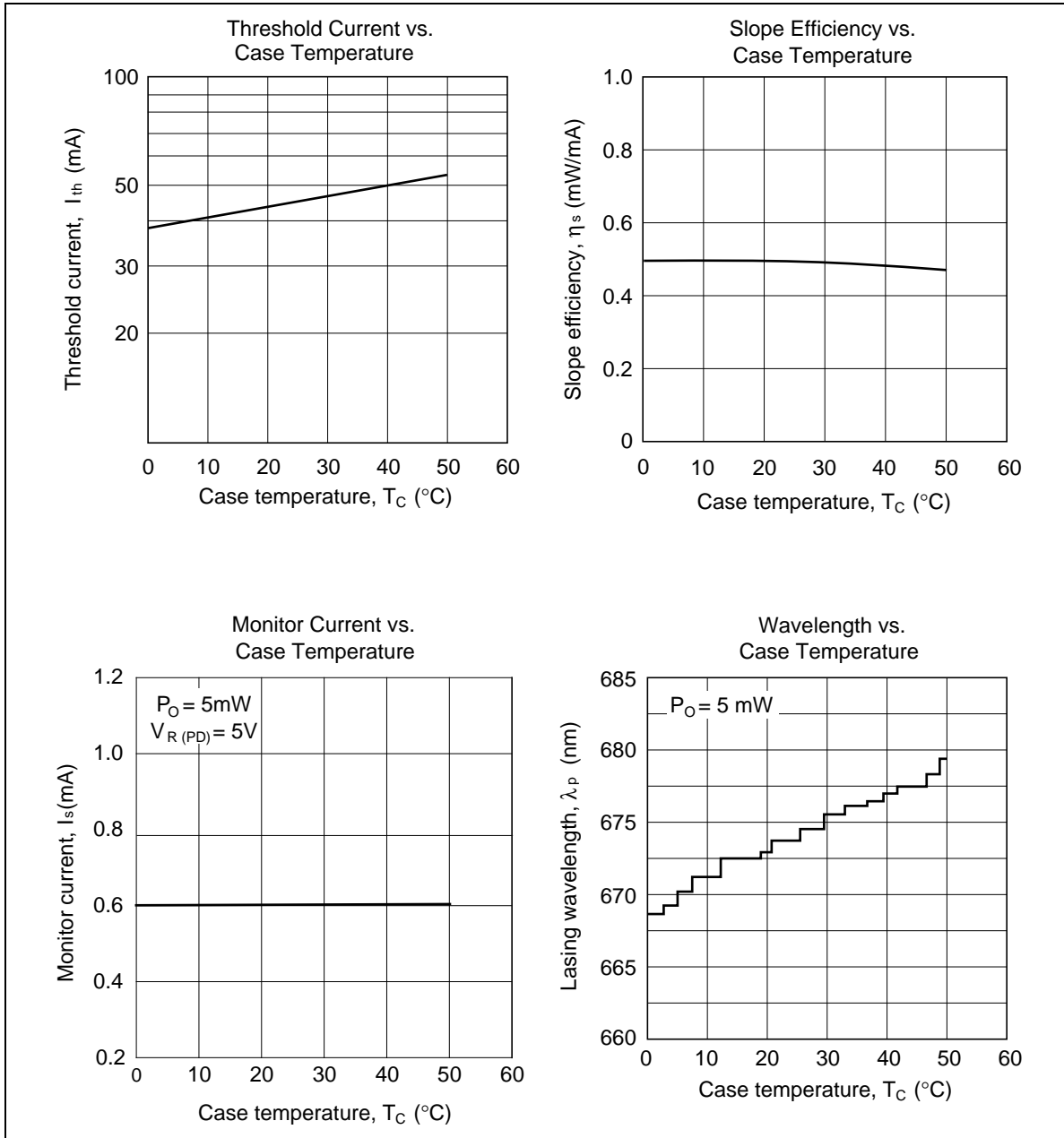
Optical and Electrical Characteristics ($T_c = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical output power	P_o	5	—	—	mW	Kink free
Threshold current	I_{th}	—	40	65	mA	
Slope efficiency	η	0.3	0.55	0.7	mW/mA	$3\text{ mW}/I_{(4\text{ mW})} - I_{(1\text{ mW})}$
Lasing wavelength	λ_p	660	670	680	nm	$P_o = 5\text{ mW}$
Beam divergence (parallel)	$\theta_{//}$	5	8	11	deg.	$P_o = 5\text{ mW}$, FWHM
Beam divergence (perpendicular)	θ_{\perp}	22	27	37	deg.	$P_o = 5\text{ mW}$, FWHM
Monitor current	I_s	0.25	0.6	1.25	mA	$P_o = 5\text{ mW}$, $V_{R(\text{PD})} = 5\text{ V}$
Astigmatism	A_s	—	10	—	μm	$P_o = 5\text{ mW}$, $NA = 0.4$

Typical Characteristic Curves



Typical Characteristic Curves (cont)



Typical Characteristic Curves (cont)

