
HL6713G

AlGaInP Laser Diode

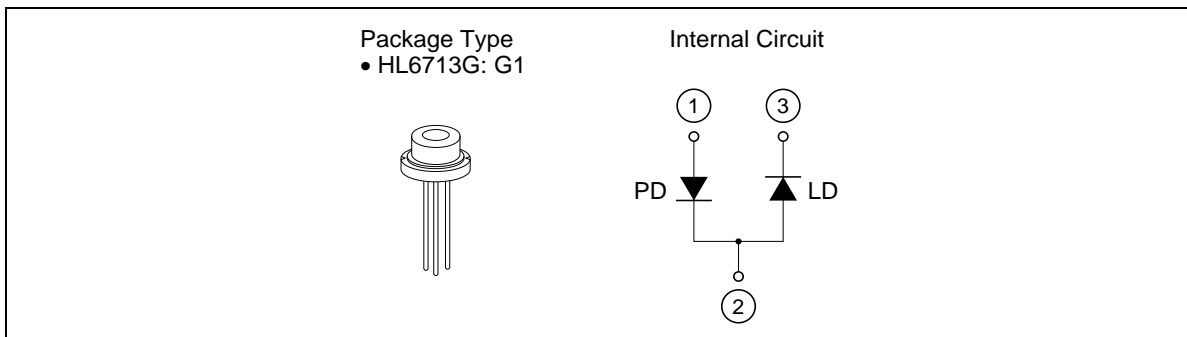
HITACHI

Description

The HL6713G is a 0.67 μm band AlGaInP index-guided laser diode with a double heterostructure. It is suitable as a light source for laser beam printers, levelers 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
- Low astigmatism: 10 μm Typ
- Small droop under pulse operation: 10% Max
- Built-in monitor photodiode



HL6713G

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

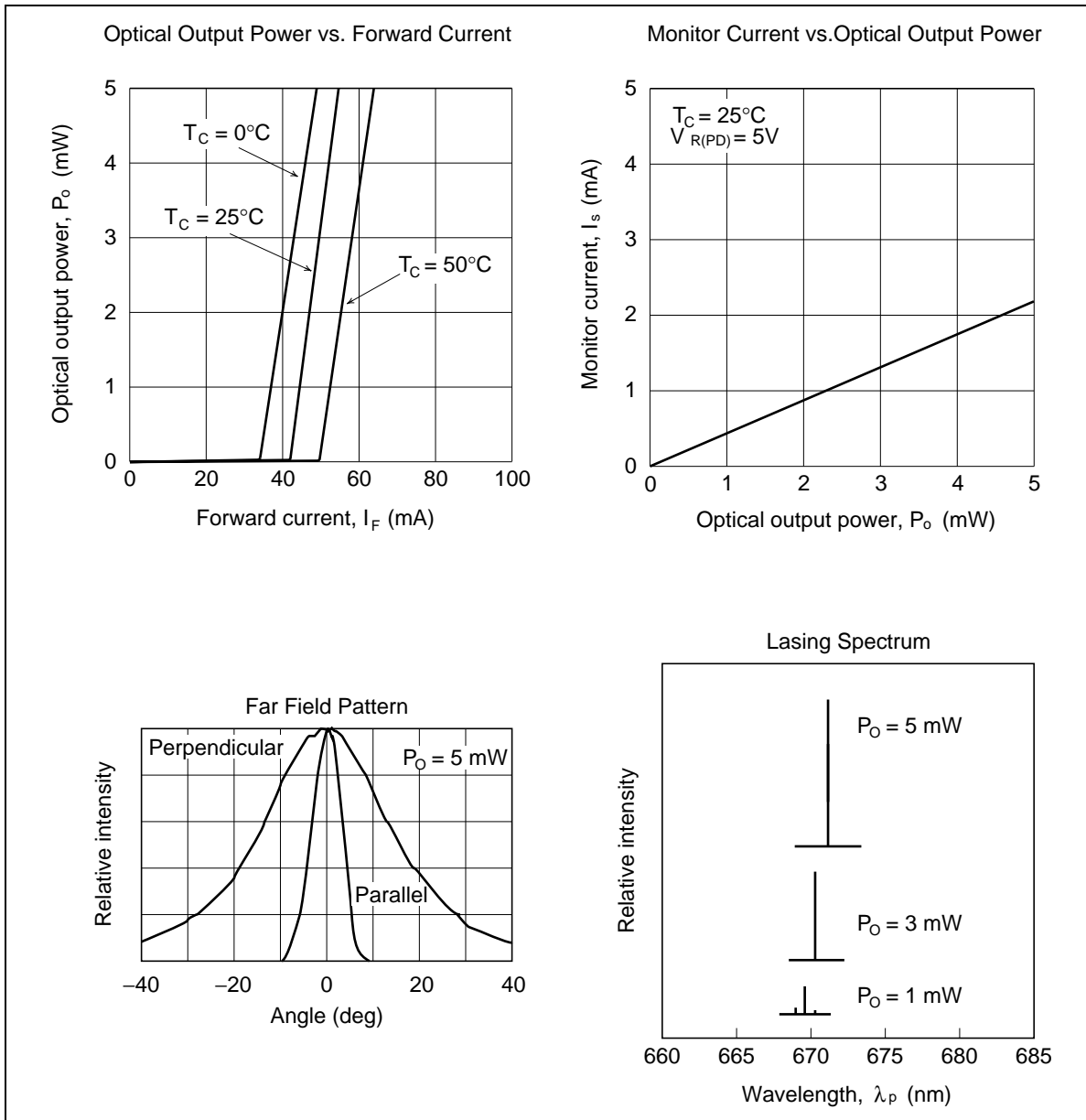
Item	Symbol	Rated Value	Unit
Optical output power	P_o	5	mW
Pulse optical output power	$P_{O(\text{pulse})}$	6 * ¹	mW
LD reverse voltage	$V_{R(\text{LD})}$	2	V
PD reverse voltage	$V_{R(\text{PD})}$	30	V
Operating temperature	T_{opr}	-10 to +50	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$

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

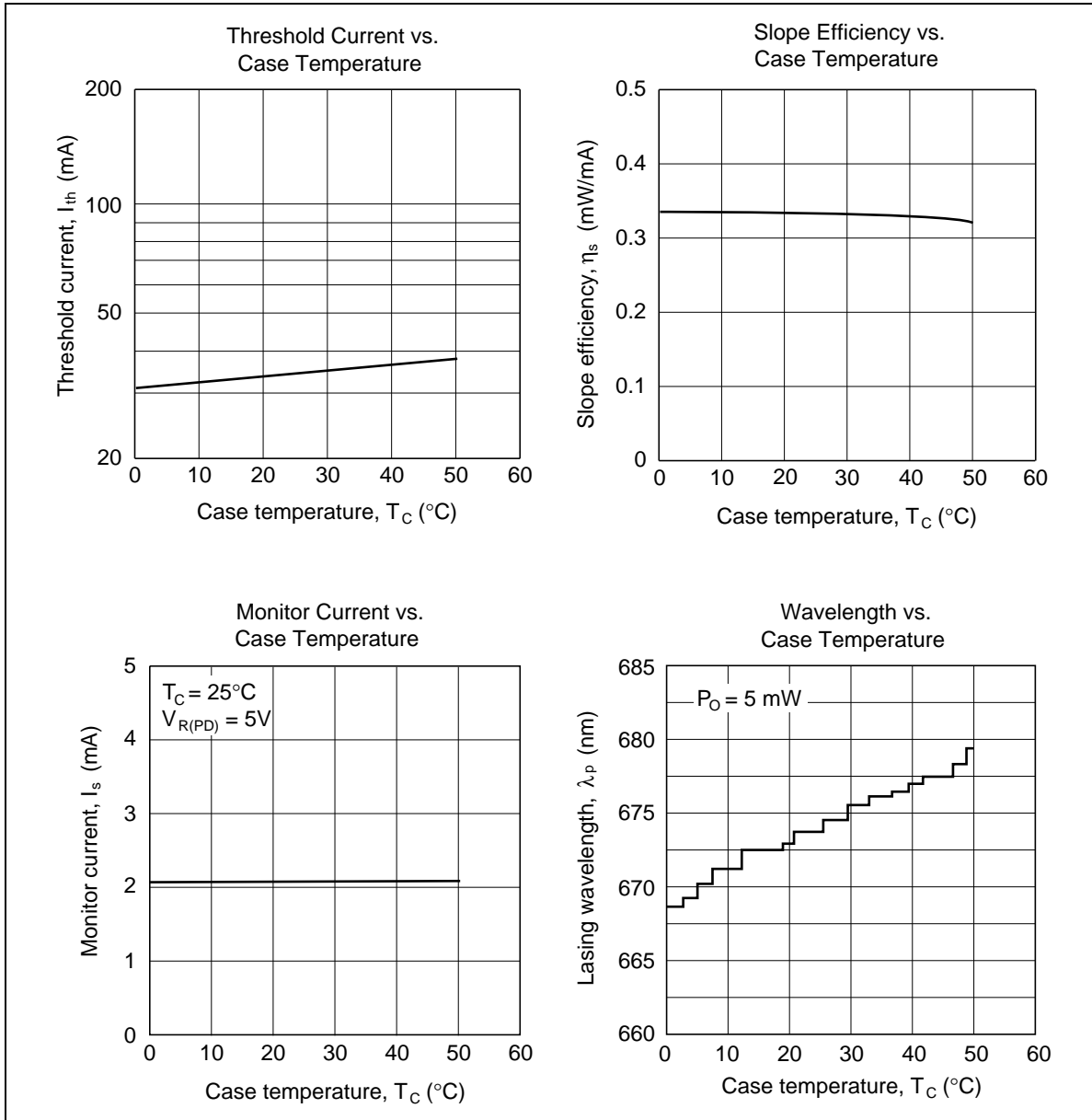
Optical and Electrical Characteristics ($T_c = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical output power	P_o	5	—	—	mW	Kink free
Threshold current	I_{th}	20	—	50	mA	
Slope efficiency	η	0.16	—	0.45	mW/mA	$3(\text{mW}) / (I_{(4\text{mW})} - I_{(1\text{mW})})$
LD Operating Voltage	V_{op}	—	2.3	2.7	V	$P_o = 5\text{ mW}$
Lasing wavelength	λ_p	660	670	680	nm	$P_o = 5\text{ mW}$
Beam divergence (parallel)	$\theta_{//}$	7	9	11	deg.	$P_o = 5\text{ mW}$, FWHM
Beam divergence (perpendicular)	θ_{\perp}	25	30	38	deg.	$P_o = 5\text{ mW}$, FWHM
Monitor current	I_s	1.0	2.0	3.0	mA	$P_o = 5\text{ mW}$, $V_{R(\text{PD})} = 5\text{ V}$
Astigmatism	A_s	—	10	—	μm	$P_o = 3\text{ mW}$, NA = 0.55
Droop	-Rth	—	—	10	%	$P_o = 3\text{ mW}$, $f = 600\text{ Hz}$

Typical Characteristic Curves



Typical Characteristic Curves (cont)



Typical Characteristic Curves (cont)

