HL6713G

AlGaInP Laser Diode

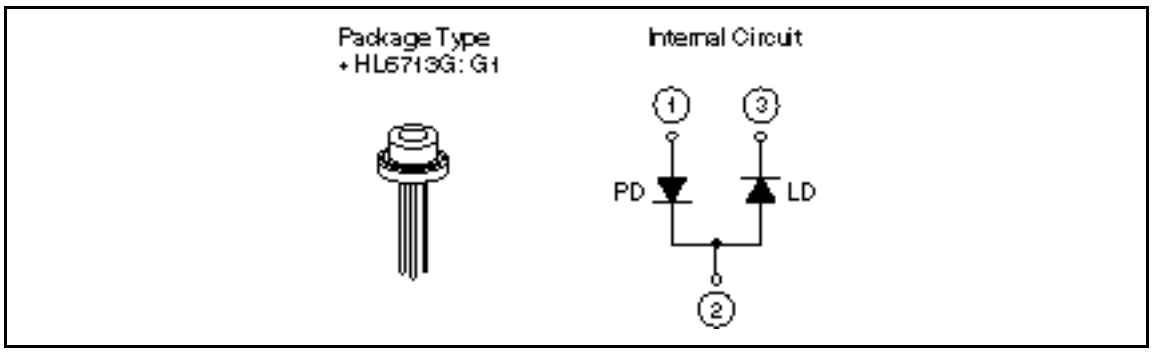
HITACHI

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



Absolute Maximum Ratings (T_C = 25°C)

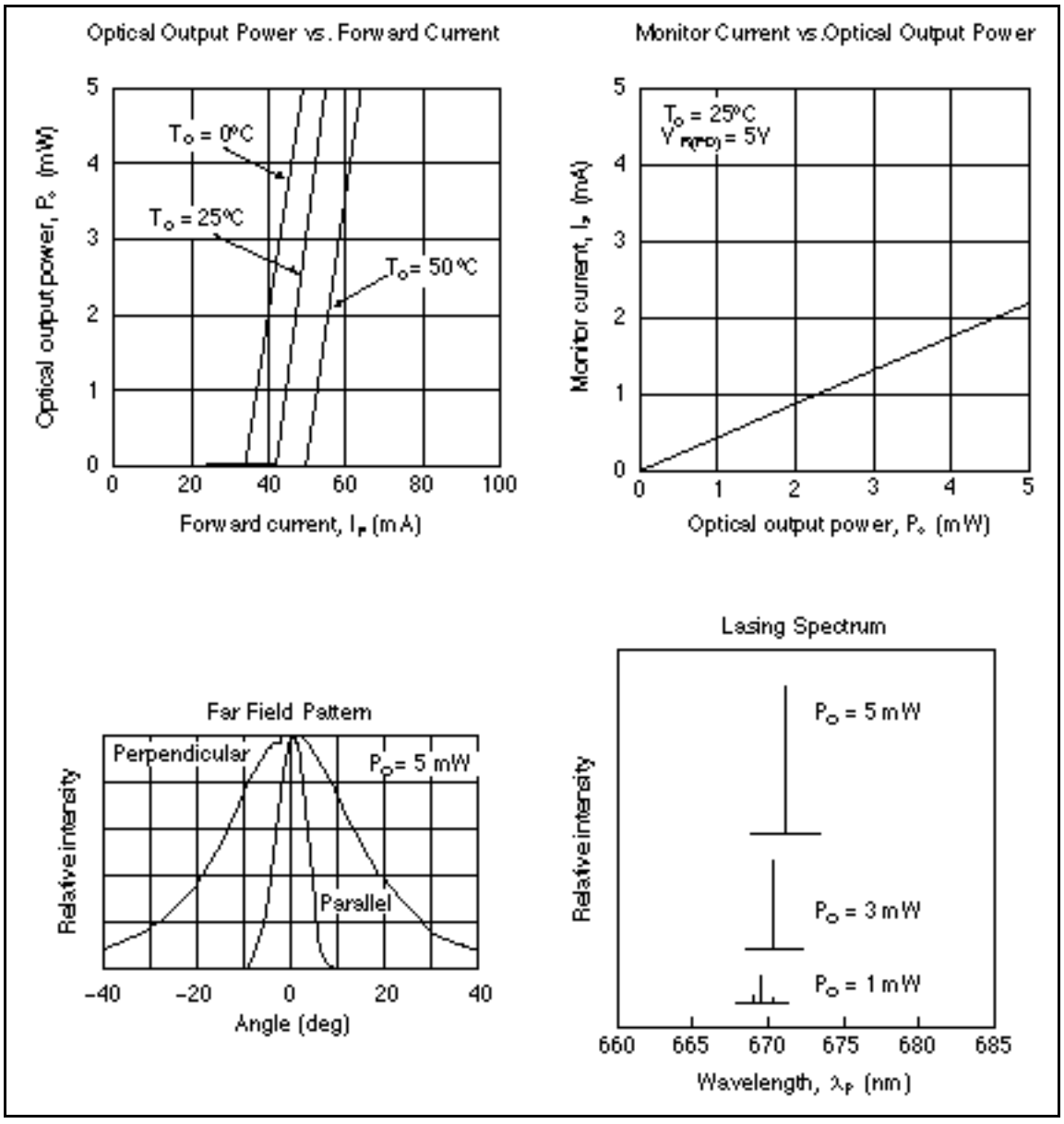
Item	Symbol	Rated Value	Unit
Optical output power	P_O	5	mW
Pulse optical output power	$P_{O\ (pulse)}$	6*[1]	mW
LD reverse voltage	$V_{R\ (LD)}$	2	V
PD reverse voltage	$V_{R\ (PD)}$	30	V
Operating temperature	Topr	–10 to +50	°C
Storage temperature	Tstg	–40 to +85	°C

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

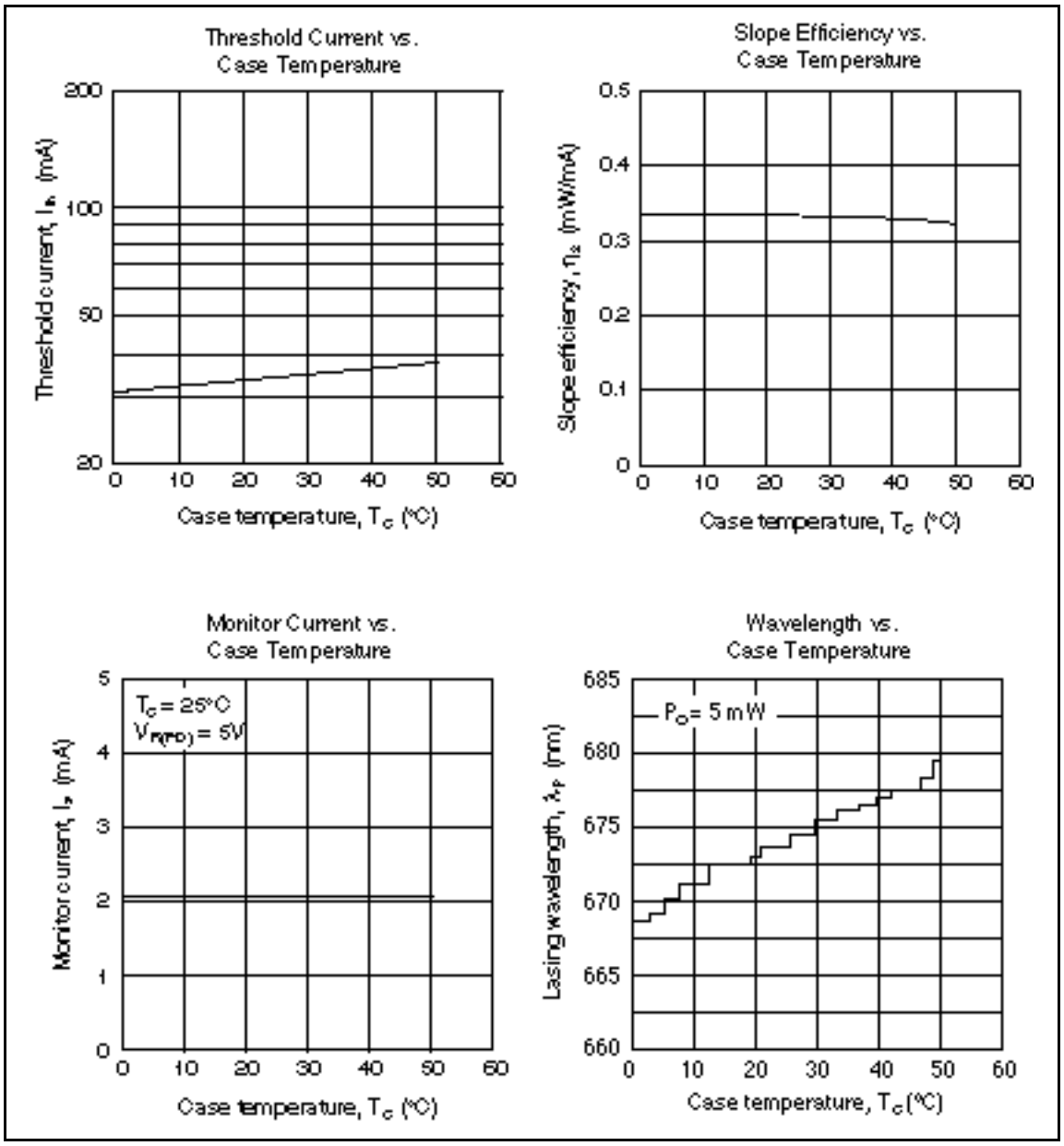
Optical and Electrical Characteristics (T_C = 25°C)

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

Typical Characteristic Curves



Typical Characteristic Curves (cont)



Typical Characteristic Curves (cont)