HL6740FG

Dual Beam Visible Laser Diode

ODE-208-024 (Z)
Rev.0
Feb. 24, 2006

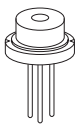
Description

The HL6740FG is a 0.67 μm band AlGaInP laser diode with a multi-quantum well (MQW) structure. It is an array of two individual beams on one chip. Therefore, it is suitable as a light source for a high-speed printer, such as PPC and LBP, and so on.

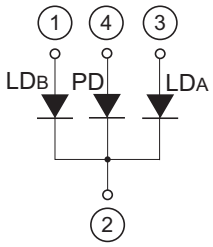
Features

- Continuous operating output to each beam: 5 mW CW
- Visible light output: 675 nm Typ
- Difference of wavelength between 2 beams : 3 nm Max
- Low threshold current: 35 mA Typ

Package Type
• HL6740FG: FG



Internal Circuit



Absolute Maximum Ratings

(T_C = 25°C)

Item	Symbol	Ratings	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

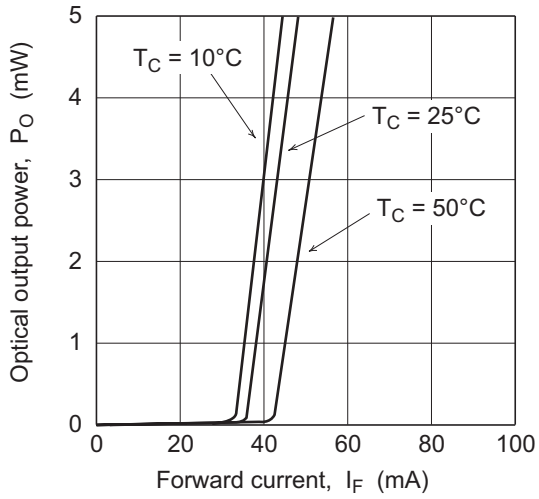
(T_C = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	Ith	—	35	50	mA	—
LD Operating current	I_{OP}	—	—	75	mA	P_O = 5 mW
LD Operating voltage	V_{OP}	—	2.3	2.7	V	P_O = 5 mW
Slope efficiency	ηs	0.2	0.4	0.6	mW/mA	3 (mW) / ($I_{(4mW)}$ – $I_{(1mW)}$)
Beam divergence parallel to the junction	θ//	6.5	8	11	°	P_O = 5 mW
Beam divergence perpendicular to the junction	θ⊥	20	30	36	°	P_O = 5 mW
Lasing wavelength	λp	665	675	680	nm	P_O = 5 mW
Difference of wavelength *2	Δλp	—	—	3.0	nm	P_O = 5 mW
Monitor current	Is	1.0	—	4.0	mA	P_O = 5 mW, $V_{R(RD)}$ = 5V

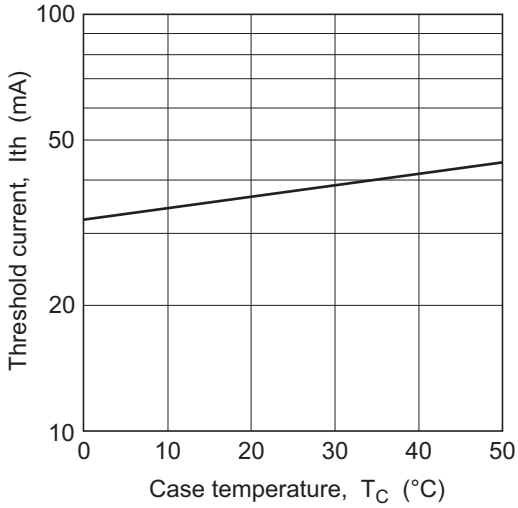
Notes: 1. The characteristics are specified under the condition of a single beam operation unless otherwise specified.
2. Δλp is specified as absolute value of the difference between two beams operated every beam.

Typical Characteristic Curves

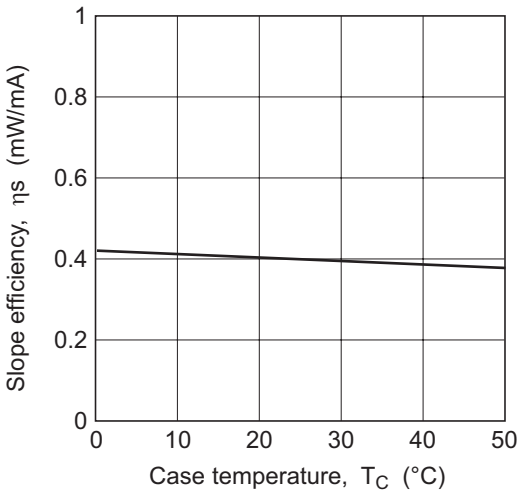
Optical Output Power vs. Forward Current



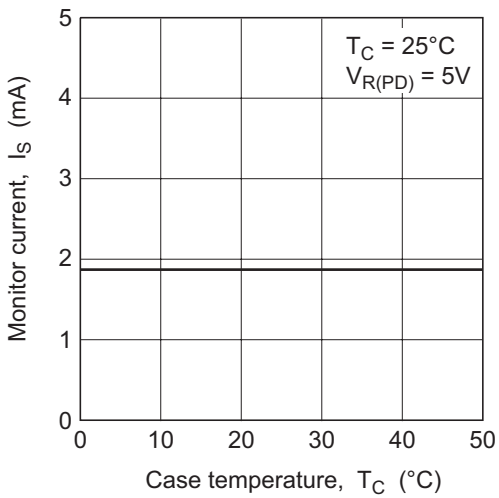
Threshold Current vs. Case Temperature



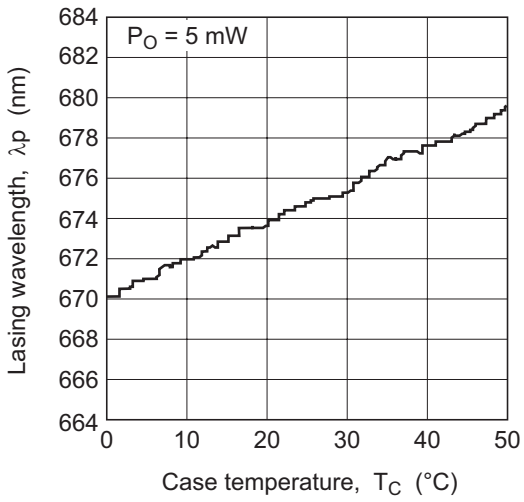
Slope Efficiency vs. Case Temperature



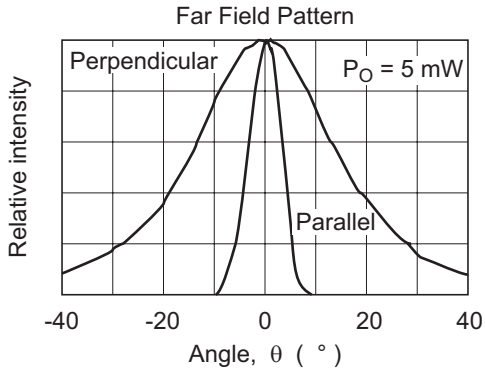
Monitor Current vs. Case Temperature



Wavelength vs. Case Temperature

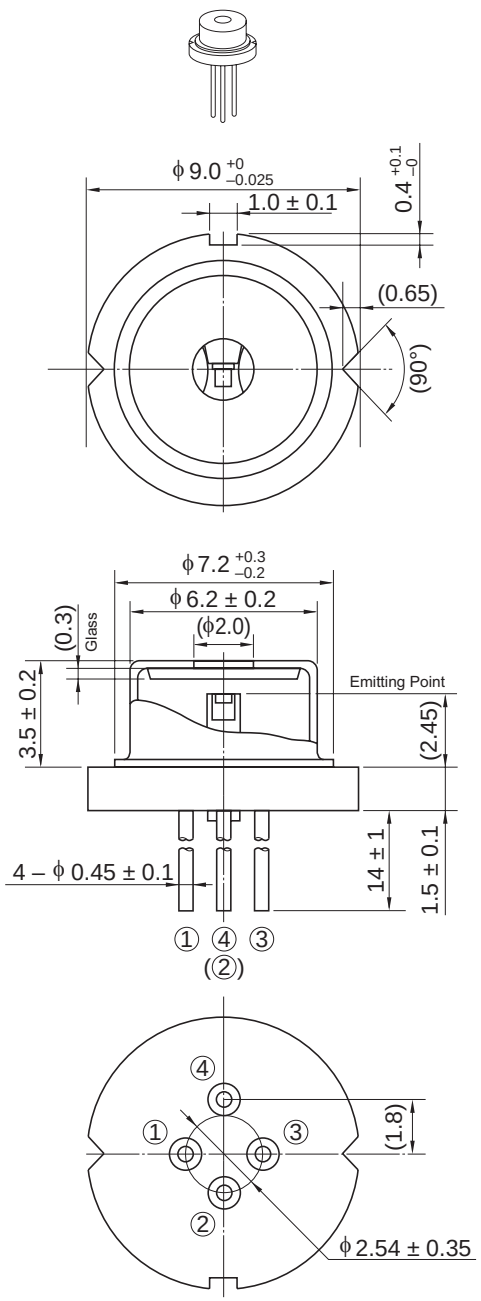


Far Field Pattern



Package Dimensions

Unit: mm



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

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