HL6530MG

Visible High Power Laser Diode for Recordable-DVD

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ODE-208-005 (Z)

Rev.0
Feb. 2004

Description

The HL6530MG is a 0.65 μm band AlGalnP laser diode (LD) with a multi-quantum well (MQW) structure. It is suitable as a light source for large capacity optical disc memories, such as Recordable-DVD, and various other types of optical equipment.

Application

- Optical disc memories(DVD-R/-RW/-RAM)
- Optical equipment

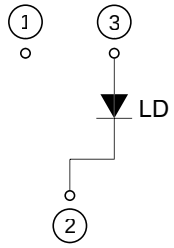
Features

- Operating temperature: 75°C Max (200 mW(pulse), pw = 50ns, duty = 40%)
- Small package : ϕ 5.6 mm
- Visible light output : λp = 658 nm Typ
- Low operating current : Iop(1) = 125 mA Typ (Po = 70 mW)
  Iop(2) = 255 mA Typ (Po = 200 mW(pulse), pw = 50ns, duty = 40%)

Package Type
· HL6530MG: MG



Internal Circuit



Absolute Maximum Ratings

(T_C = 25°C)

Item	Symbol	Value	Unit
Optical output power	P_O	80	mW
Pulse optical output power	$P_{O(pulse)}$	200 *1	mW
Laser diode reverse voltage	$V_{R(LD)}$	2	V
CW Operating temperature	$Topr_{(CW)}$	–10 to +75	°C
Pulse Operating temperature	$Topr_{(pulse)}$	–10 to +75	°C
Storage temperature	Tstg	–40 to +85	°C

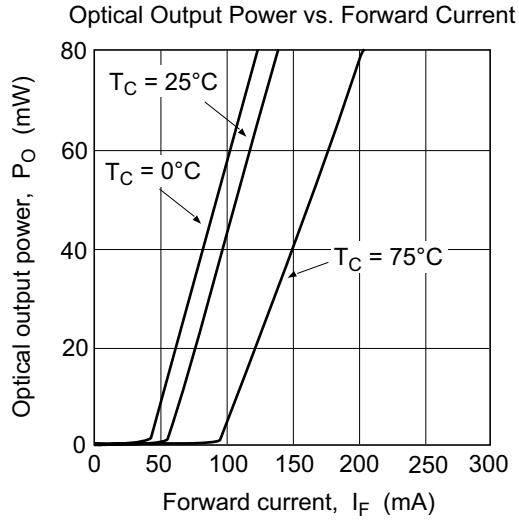
Note: 1. Pulse condition : pulse width = 50 ns, duty = 40%

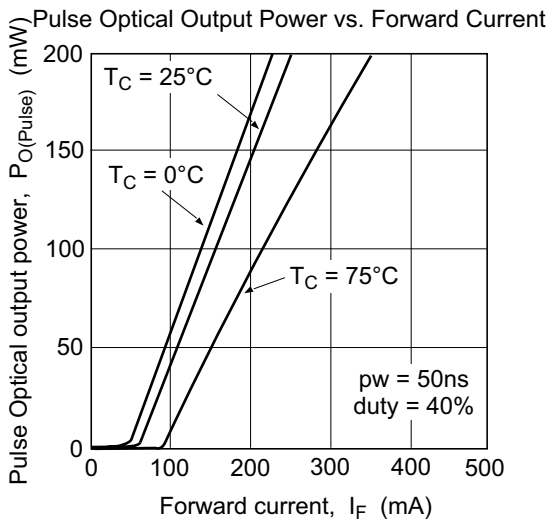
Optical and Electrical Characteristics

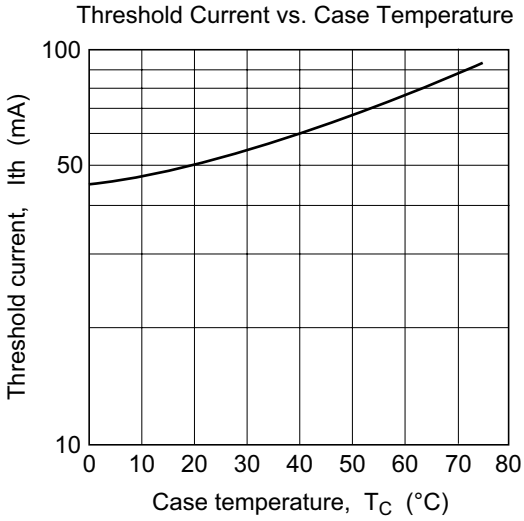
(T_C = 25°C)

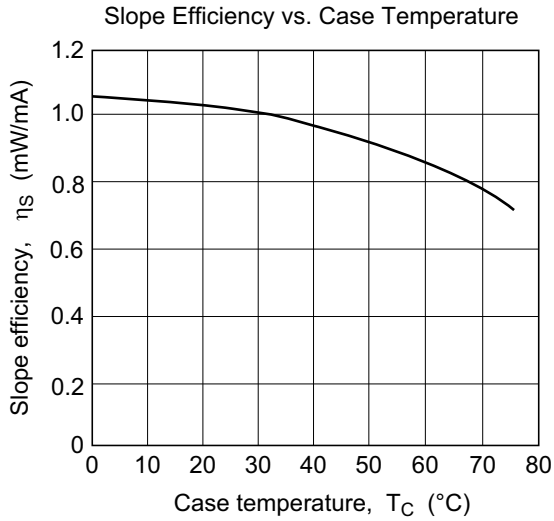
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	Ith	—	55	70	mA	—
Operating current (1)	Iop(1)	—	125	170	mA	P_O = 70 mW
Operating current (2)	Iop(2)	—	255	—	mA	P_O = 200 mW(pulse), pw = 50ns, duty = 40%
Operating voltage	V_{OP}	—	2.6	3.0	V	P_O = 70 mW
Lasing wavelength	λp	652	658	662	nm	P_O = 70 mW
Beam divergence parallel to the junction	θ//	7.5	10.0	12.0	deg.	P_O = 70 mW
Beam divergence parpendicular to the junction	θ⊥	15	17	19	deg.	P_O = 70 mW
Astigmatism	A_S	—	1	—	μm	P_O = 5 mW, NA = 0.55

Typical Characteristic Curves



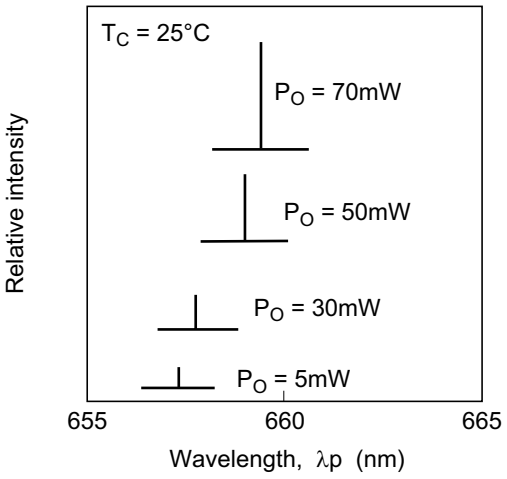




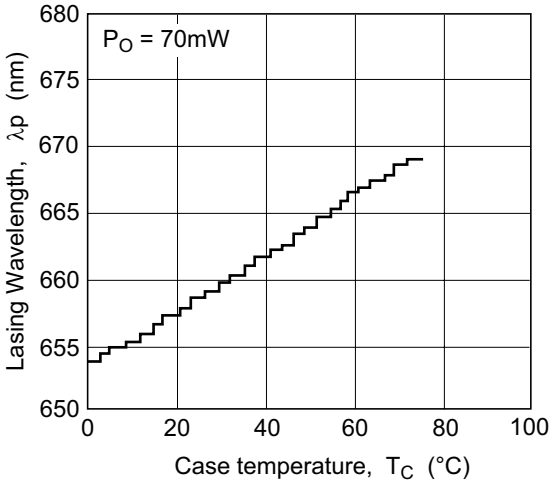


Typical Characteristic Curves (cont)

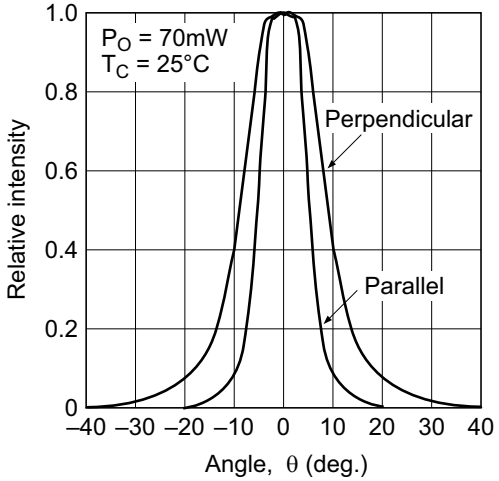
Lasing Spectrum



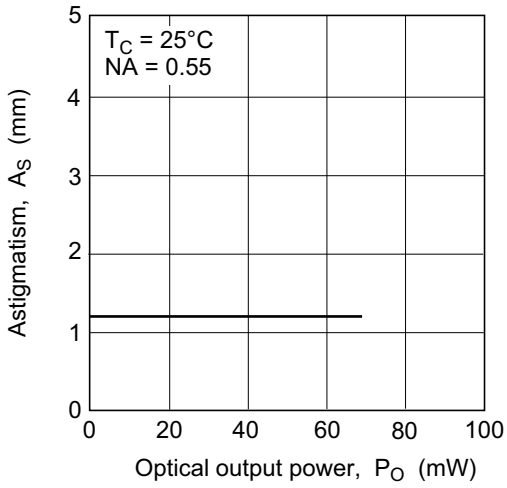
Wavelength vs. Case Temperature



Far Feild Pattern

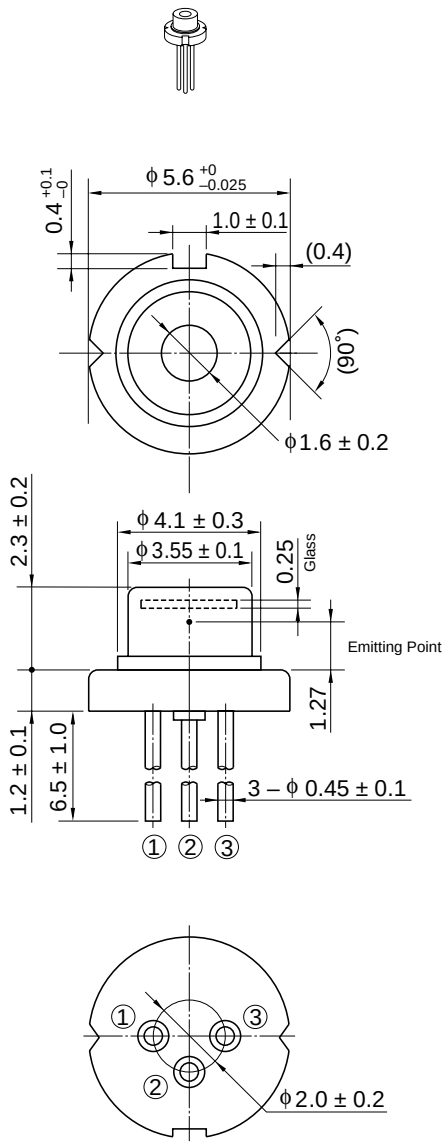


Astigmatism vs. Optical Output Power



Package Dimensions

As of July, 2002
Unit: mm



OPJ Code	LD/MG
JEDEC	—
JEITA	—
Mass (reference value)	0.3 g

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