HL6545MG

Visible High Power Laser Diode for Recordable-DVD

ODE2036-00 (M)
Rev.0
Aug. 01, 2008

Description

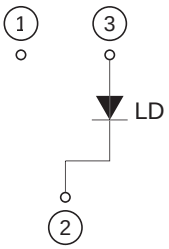
The HL6545MG is a 0.65 μm band AlGaInP laser diode (LD) with a multi-quantum well (MQW) structure. It is suitable as a light source for large capacity optical disc memories, such as H/H type Recordable-DVD, and various other types of optical equipment.

Features

- Operating temperature: 75°C Max
  (300 mW(pulse), pw = 30 ns, duty = 35 %)
- Visible light output: λp = 660 nm Typ
- Low operating current:
  Iop(1) = 175 mA Typ (Po = 120 mW)
  Iop(2) = 350 mA Typ
  (Po = 300 mW(pulse), pw = 30 ns, duty = 35 %)

Package Type
• HL6545MG: MG

Internal Circuit



Absolute Maximum Ratings

(T_C = 25°C)

Item	Symbol	Ratings	Unit
Optical output power	P_O	130	mW
Pulse optical output power	$P_{O(pulse)}$	300 *	mW
LD 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: Pulse condition : Pulse width = 30 ns , duty = 35 %

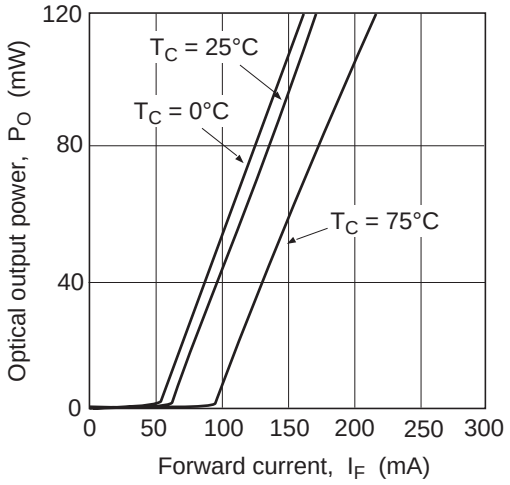
Optical and Electrical Characteristics

(T_C = 25°C)

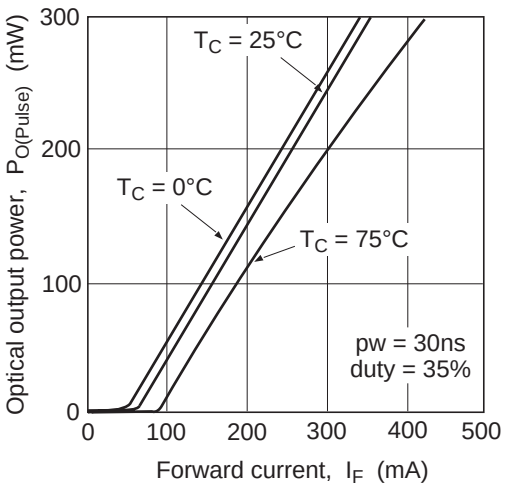
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	Ith	—	60	75	mA	—
Operating current(1)	$I_{OP}(1)$	—	175	210	mA	P_O = 120 mW
Operating current(2)	$I_{OP}(2)$	—	350	—	mA	P_O = 300 mW(pulse) pw = 30 ns, duty = 35 %
Operating voltage	V_{OP}	—	2.5	3.0	V	P_O = 120 mW
Lasing wavelength	λp	652	660	664	nm	P_O = 120 mW
Beam divergence parallel to the junction(1)	θ//(1)	7.5	10.0	12.0	deg.	P_O = 120 mW
Beam divergence perpendicular to the junction	θ⊥	15	17	19	deg.	P_O = 120 mW
Beam divergence parallel to the junction(2)	θ//(2)	7.5	—	—	deg.	P_O = 5 mW
Astigmatism	A_S	—	1	—	μm	P_O = 5 mW, NA = 0.55

Typical Characteristic Curves

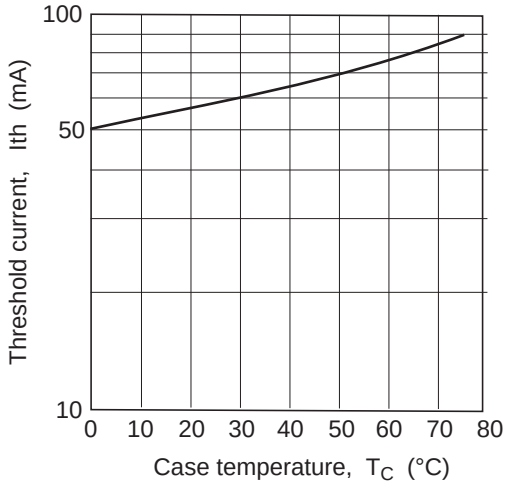
Optical Output Power vs. Forward Current



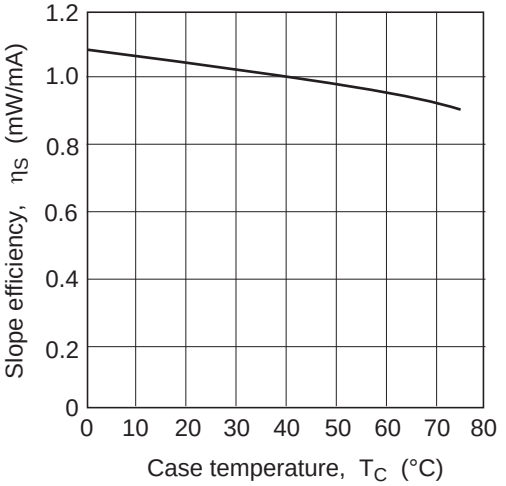
Pulse Optical Output Power vs. Forward Current



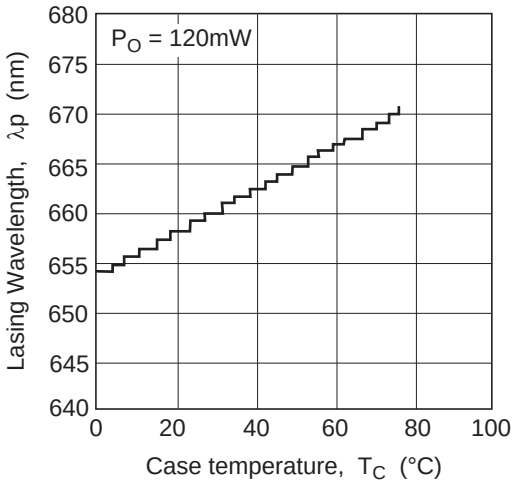
Threshold Current vs. Case Temperature



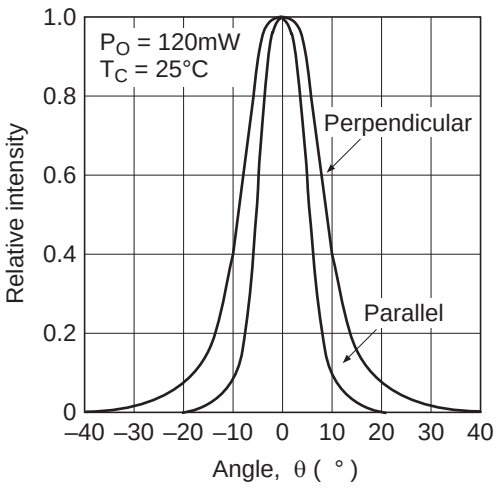
Slope Efficiency vs. Case Temperature



Wavelength vs. Case Temperature



Far Feild Pattern



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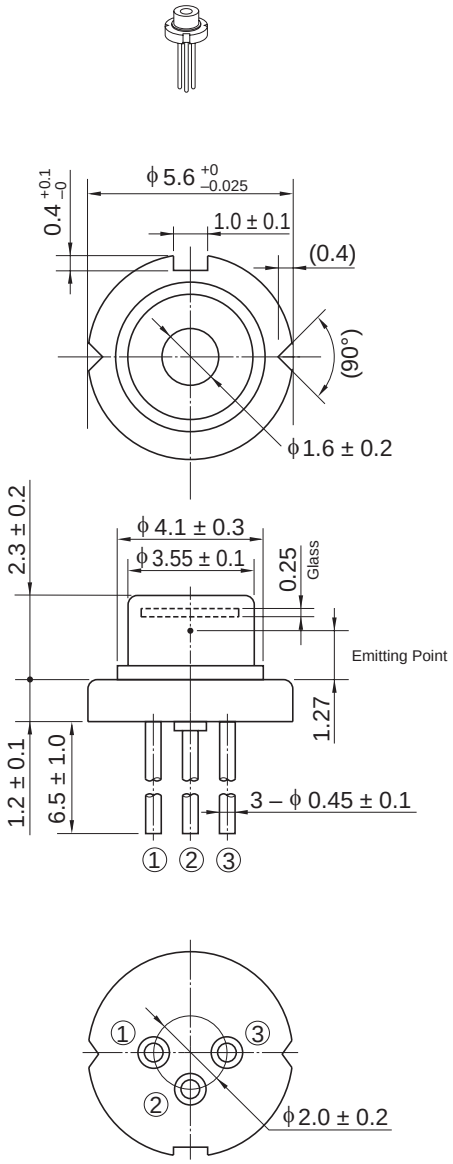
Package Dimensions

As of July, 2002

Unit: mm



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

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