HL6515MG

Visible High Power Laser Diode for Recordable-DVD

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ODE-208-1512B (Z)

Preliminary
Rev.2
May. 2003

Description

The HL6515MG 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 Recordable-DVD, and various other types of optical equipment.

Application

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

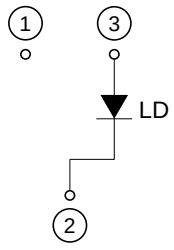
Features

- Operating temperature: 75°C Max (100mW(pulse), PW = 100ns, duty = 50%)
- Small package : ϕ 5.6 mm
- Visible light output : λp = 658 nm Typ
- Low operating current : Iop = 90 mA Typ (Po = 50 mW)

Package Type
• HL6515MG: MG



Internal Circuit



Note: This type is under development. Therefore, this data sheet may be changed without any notice.

Absolute Maximum Ratings

(T_C = 25°C)

Item	Symbol	Value	Unit
Optical output power	P_O	60	mW
Pulse optical output power	$P_{O(pulse)}$	100 *1	mW
Laser diode reverse voltage	$V_{R(LD)}$	2	V
CW Operating temperature	$Topr_{(CW)}$	–10 to +70	°C
Pulse Operating temperature	$Topr_{(pulse)}$	–10 to +75	°C
Storage temperature	Tstg	–40 to +85	°C

Note: 1. Pulse condition : Pulse width = 100 ns, duty = 50%

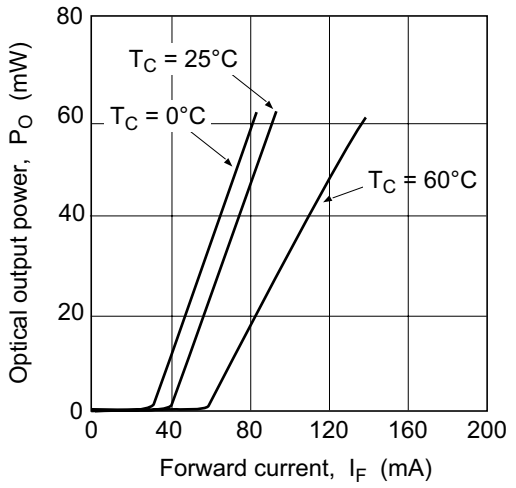
Optical and Electrical Characteristics

(T_C = 25°C)

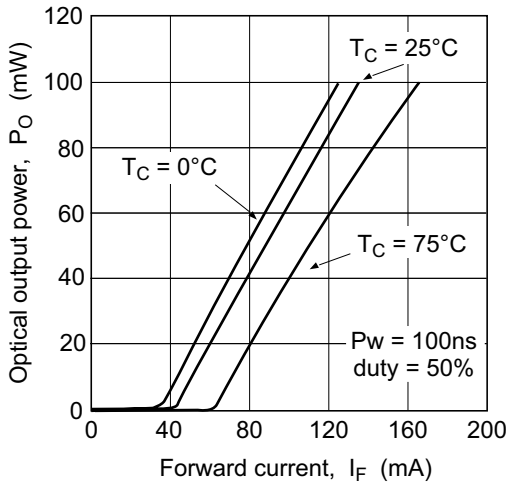
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	Ith	—	40	55	mA	—
Operating current	Iop	—	90	110	mA	P_O = 50 mW
Operating voltage	V_{OP}	—	2.6	3.0	V	P_O = 50 mW
Lasing wavelength	λp	652	658	662	nm	P_O = 50 mW
Beam divergence parallel to the junction	θ//	7.5	9.5	12.0	deg.	P_O = 50 mW
Beam divergence parpendicular to the junction	θ⊥	15	17	19	deg.	P_O = 50 mW
Astigmatism	A_S	—	1	—	μm	P_O = 3 mW, NA = 0.55

Typical Characteristic Curves

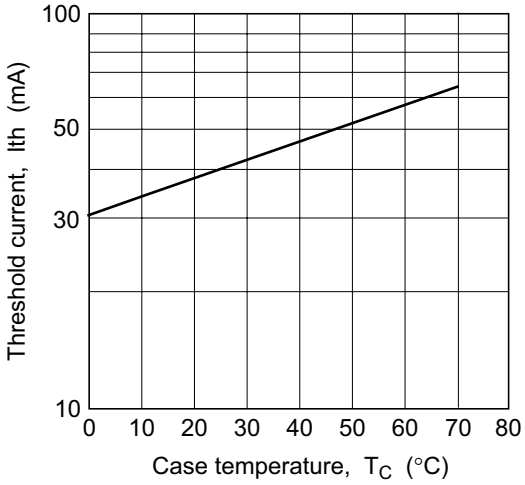
Optical Output Power vs. Forward Current



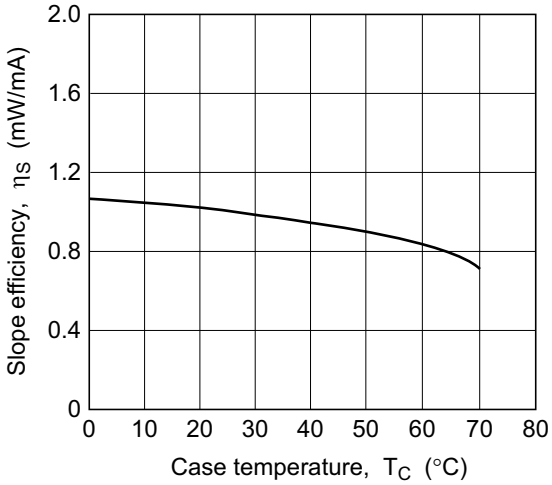
Pulse Optical Output Power vs. Forward Current



Threshold Current vs. Case Temperature



Slope Efficiency vs. Case Temperature



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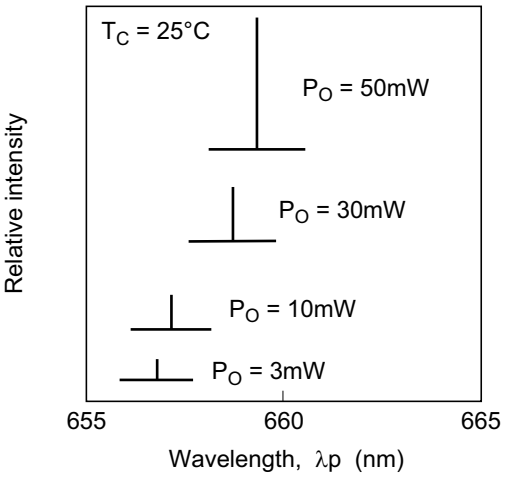
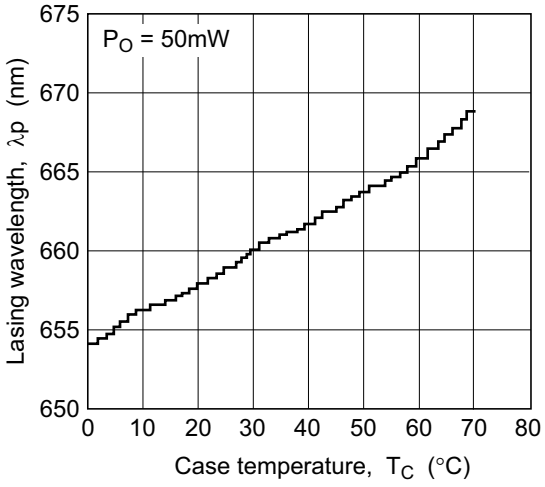
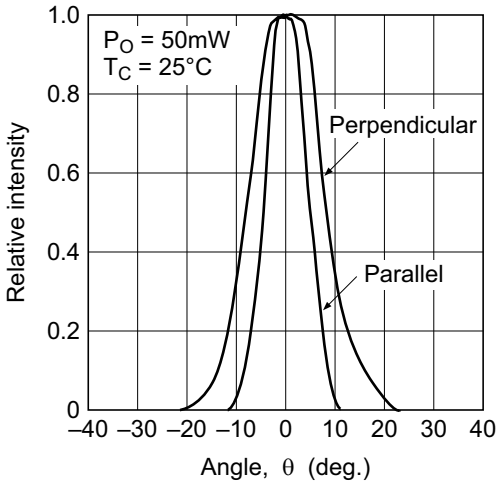
Lasing Spectrum



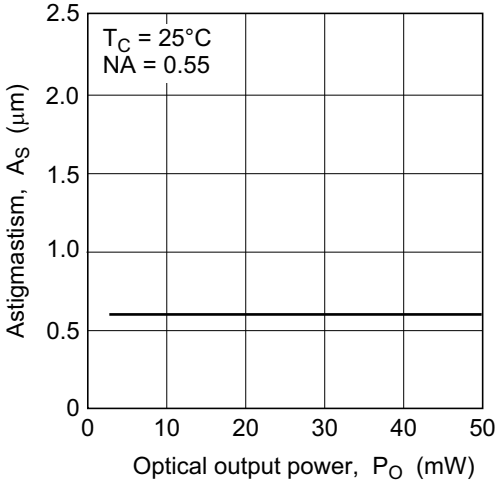
Lasing Wavelength vs. Case Temperature



Far Field Pattern



Astigmastism vs. Optical Output Power



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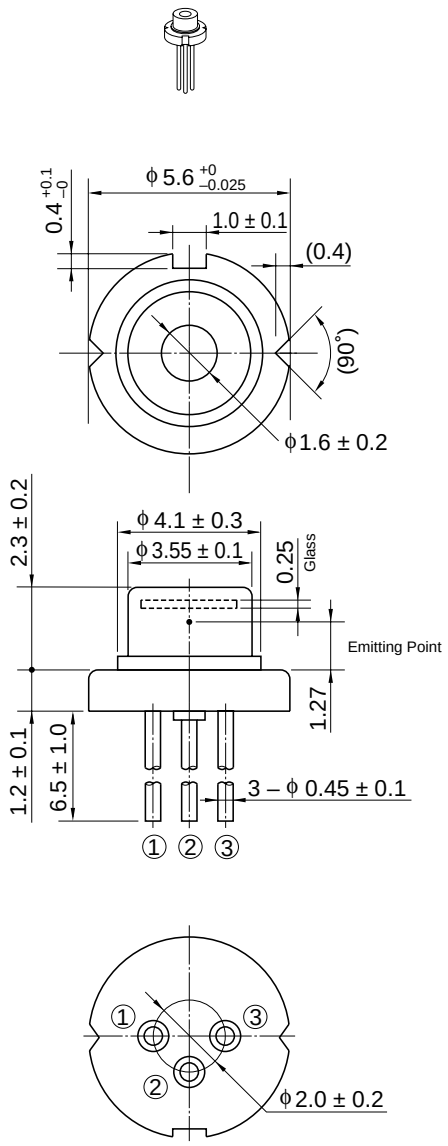
Package Dimensions

As of July, 2002
Unit: mm



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

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