
HL6501MG

Visible High Power Laser Diode



ODE-208-515J (Z)

Rev.10
Mar. 2005

Description

The HL6501MG 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 DVD-R, and various other types of optical equipment.

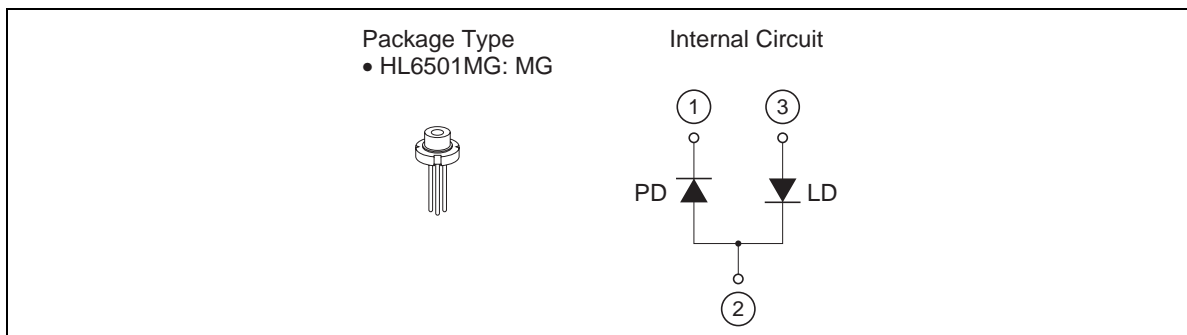
Hermetic sealing of the small package ($\phi 5.6$ mm) assures high reliability.

Application

- Optical disc memories
- Optical equipment

Features

- High output power: 35 mW (CW)
- Visible light output: $\lambda_p = 658$ nm Typ
- Small package: $\phi 5.6$ mm
- Low astigmatism: 6 μm Typ ($P_0 = 5$ mW)
- Single longitudinal mode



HL6501MG

Absolute Maximum Ratings

($T_C = 25^\circ\text{C}$)

Item	Symbol	Rated Value	Unit
Optical output power	P_O	35	mW
Pulse optical output power	$P_{O(\text{pulse})}$	50 *	mW
LD reverse voltage	$V_{R(\text{LD})}$	2	V
PD reverse voltage	$V_{R(\text{PD})}$	30	V
Operating temperature	T_{opr}	-10 to +60	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$

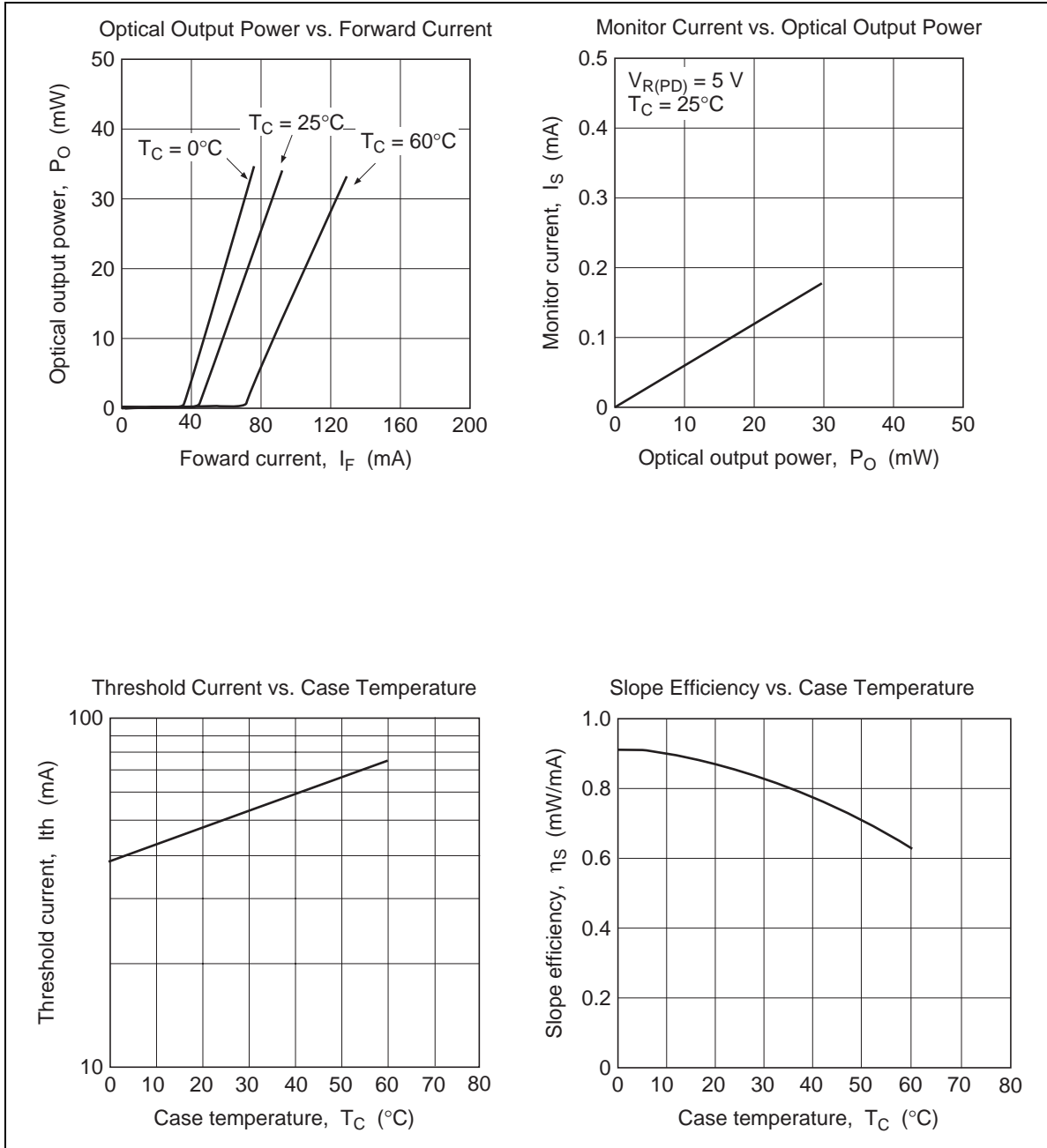
Note: Pulse condition : Pulse width = 100 ns , duty = 50%

Optical and Electrical Characteristics

($T_C = 25^\circ\text{C}$)

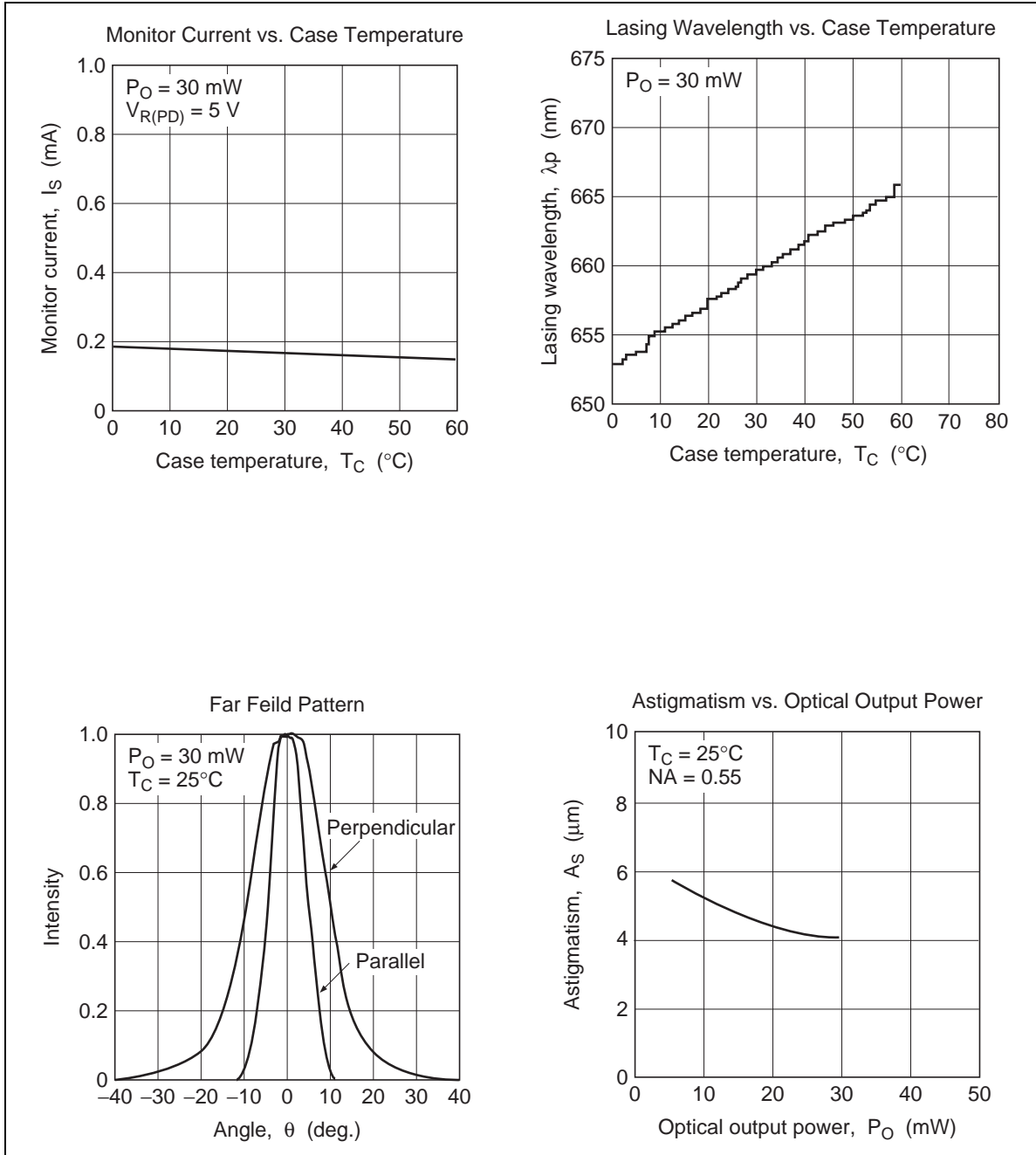
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	I_{th}	30	45	70	mA	—
Operating voltage	V_{OP}	2.1	2.6	3.0	V	$P_O = 30 \text{ mW}$
Slope efficiency	η_s	0.5	0.75	1.0	mW/mA	$18 \text{ (mW)} / (I_{(24\text{mW})} - I_{(6\text{mW})})$
Beam divergence parallel to the junction	$\theta_{//}$	7	8.5	10.5	deg.	$P_O = 30 \text{ mW}$
Beam divergence perpendicular to the junction	θ_{\perp}	18	22	26	deg.	$P_O = 30 \text{ mW}$
Astigmatism	A_s	—	6	—	μm	$P_O = 5 \text{ mW}$, $\text{NA} = 0.55$
Lasing wavelength	λ_p	645	658	665	nm	$P_O = 30 \text{ mW}$
Monitor current	I_s	0.05	0.3	1.5	mA	$P_O = 30 \text{ mW}$, $V_{R(\text{PD})} = 5 \text{ V}$

Typical Characteristic Curves

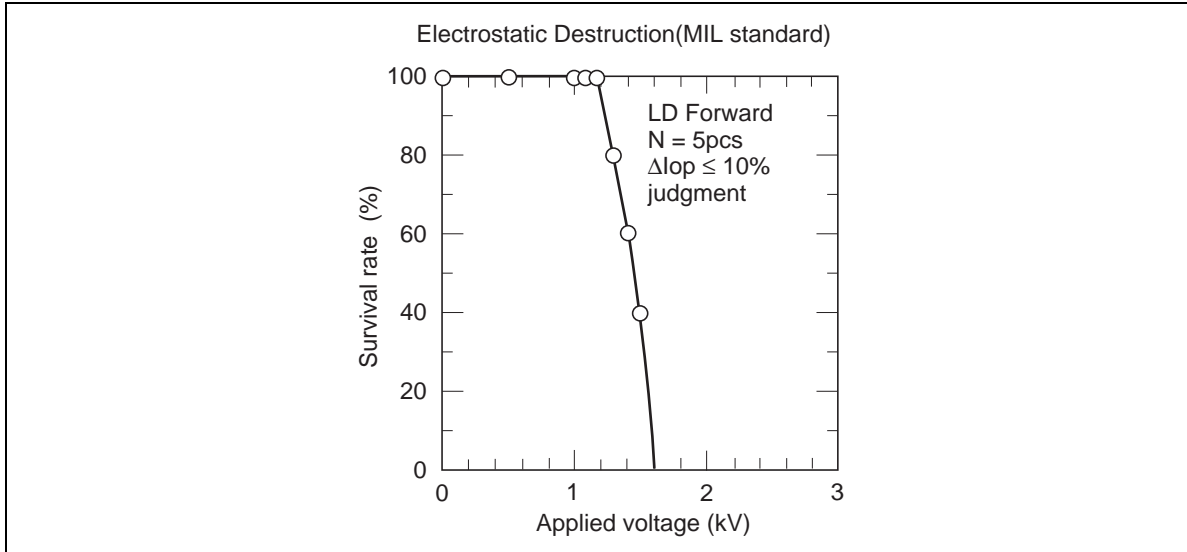


HL6501MG

Typical Characteristic Curves (cont)



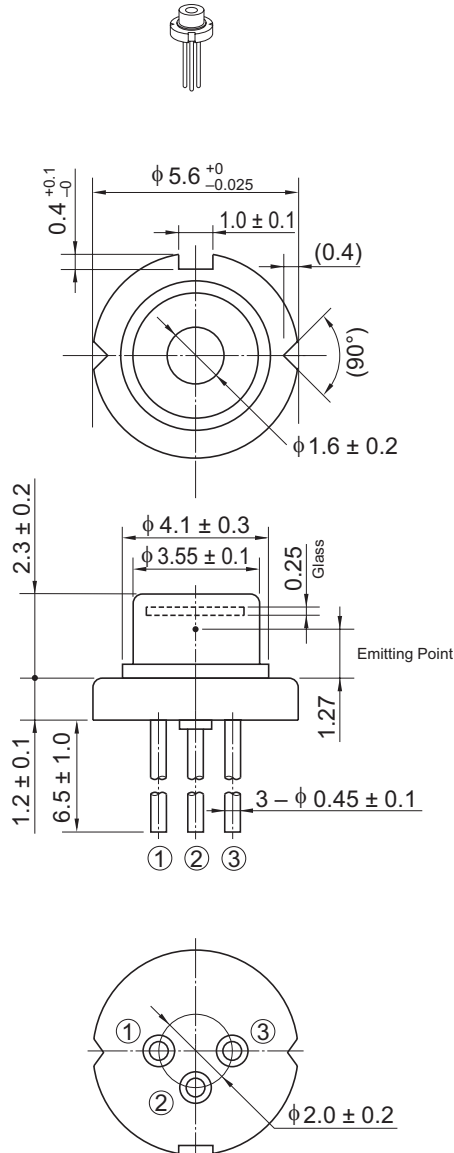
Typical Characteristic Curves (cont)



HL6501MG

Package Dimensions

As of July, 2002
Unit: mm



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

Cautions

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Sales Offices



Device Business Unit Opnext Japan, Inc.
190 Kashiwagi, Komoro-shi, Nagano 384-8511, Japan
Tel: (0267) 22-4111

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