

HL6501MG

Visible High Power Laser Diode

ODE-208-040A (Z)

Rev.1

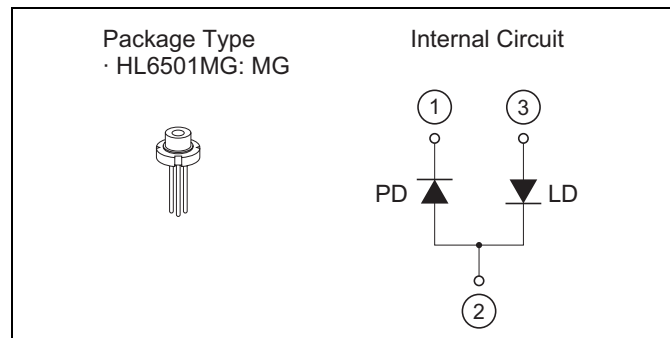
Dec. 13, 2006

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 and various other types of optical equipment. Hermetic sealing of the small package ($\phi 5.6$ mm) assures high reliability.

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 ($P_O = 5$ mW)
- Single longitudinal mode



Absolute Maximum Ratings

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

Item	Symbol	Ratings	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	$^\circ\text{C}$

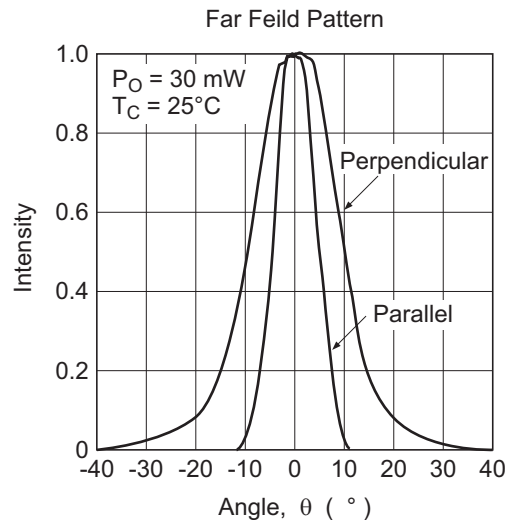
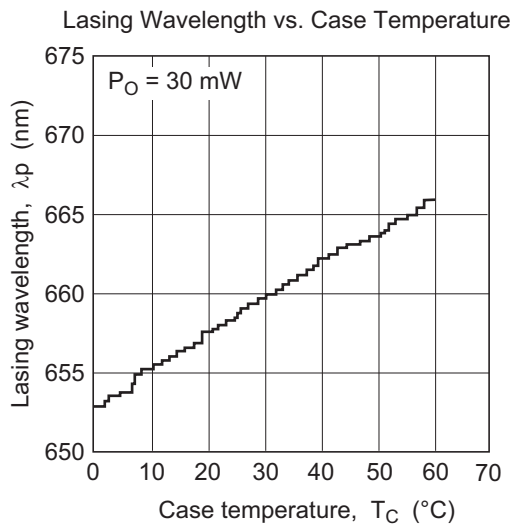
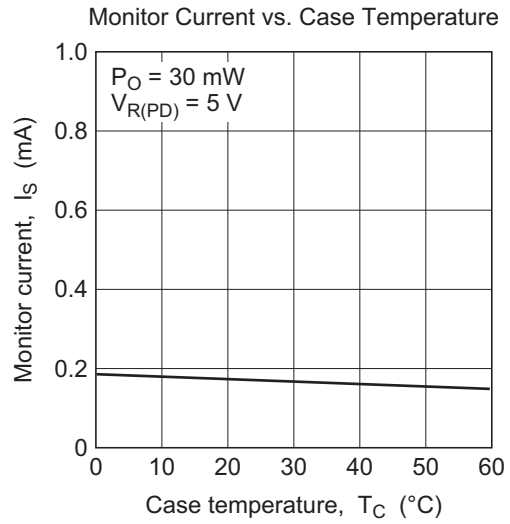
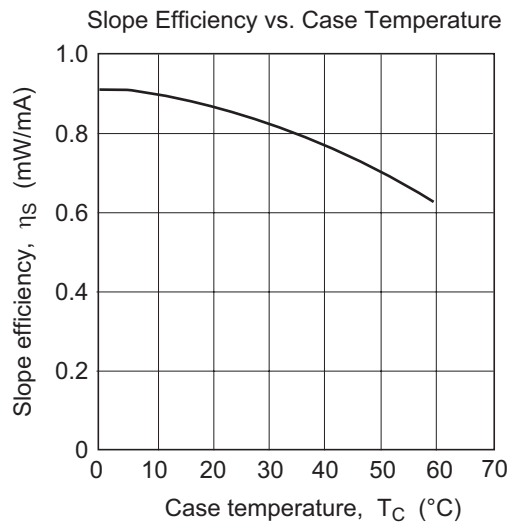
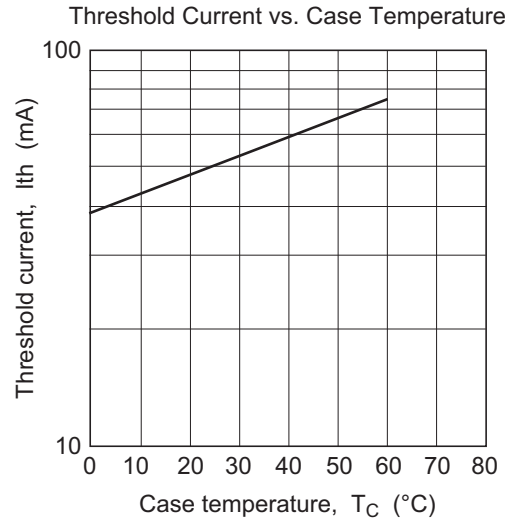
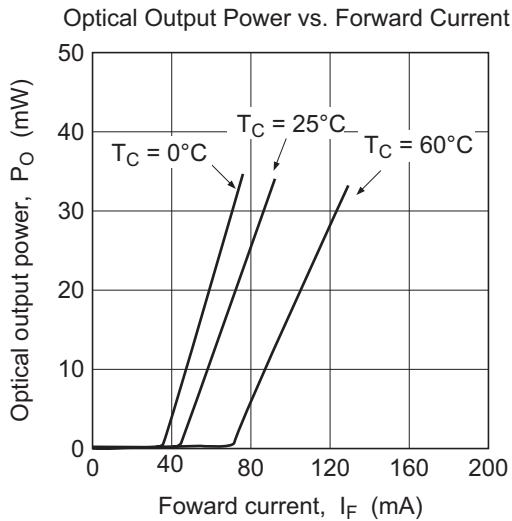
Note: Pulse condition : Pulse width = 100 ns , duty = 50%

Optical and Electrical Characteristics

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

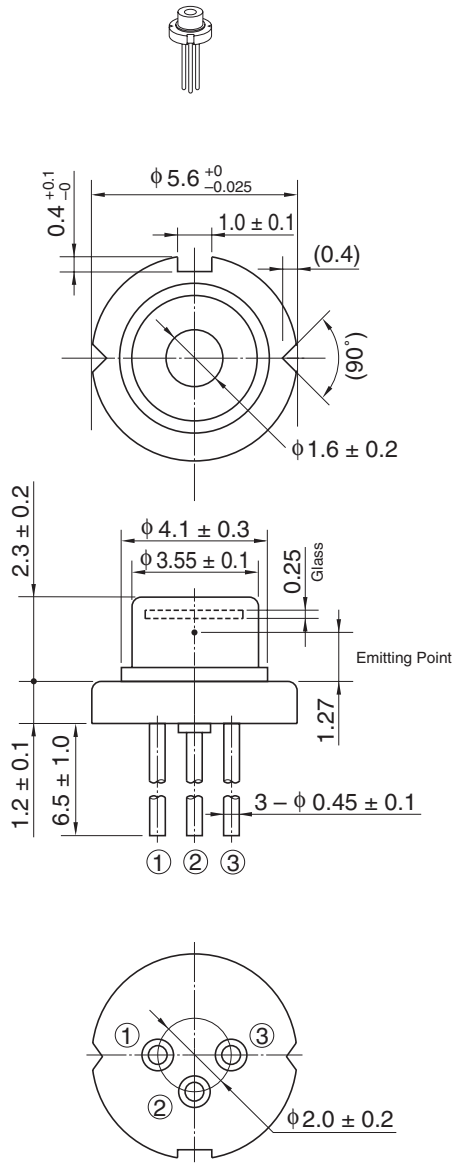
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	I_{th}	30	45	70	mA	—
Operating voltage	V_{OP}	2.1	2.6	3.0	V	$P_O = 30$ mW
Slope efficiency	η_s	0.5	0.75	1.0	mW/mA	$18 \text{ (mW)} / (I_{(24\text{mW})} - I_{(6\text{mW})})$
Beam divergence parallel to the junction	$\theta_{//}$	7	8.5	10.5	$^\circ$	$P_O = 30$ mW
Beam divergence perpendicular to the junction	θ_{\perp}	18	22	26	$^\circ$	$P_O = 30$ mW
Astigmatism	A_s	—	6	—	μm	$P_O = 5$ mW, NA = 0.55
Lasing wavelength	λ_p	645	658	665	nm	$P_O = 30$ mW
Monitor current	I_s	0.05	0.2	1.5	mA	$P_O = 30$ mW, $V_{R(\text{PD})} = 5$ V

Typical Characteristic Curves



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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1. The laser light is harmful to human body especially to eye no matter what directly or indirectly. The laser beam shall be observed or adjusted through infrared camera or equivalent.
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When disposing of the product, please follow the laws of your country and separate it from other waste such as industrial waste and household garbage.
3. Definition of items shown in this CAS is in accordance with that shown in Opto Device Databook issued by OPJ unless otherwise specified.

Sales Offices



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