

# HL6323MG

## AlGaInP Laser Diodes

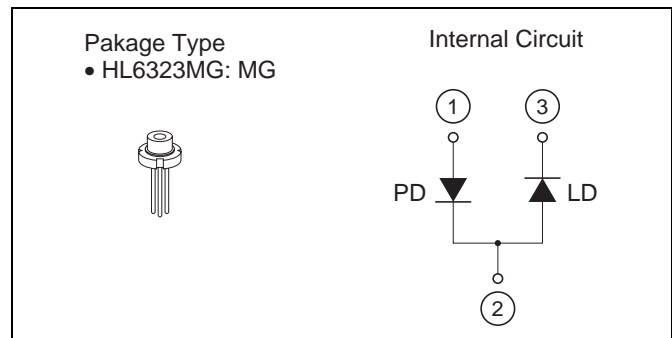
ODE-208-029 (Z)  
Rev.0  
Jul. 01, 2005

### Description

The HL6323MG is a 0.63  $\mu\text{m}$  band AlGaInP laser diode (LD) with a multi-quantum well (MQW) structure. It is suitable as a longer distance operating range for laser markers and a higher speed for positioning control sensors. The HL6323MG is packaged in the small can ( $\phi 5.6$  mm), enabling end products to be kept small.

### Features

- High output power : 35 mW (CW)
- Visible light output :  $\lambda_p = 639$  nm Typ
- Small package :  $\phi 5.6$  mm
- TM mode oscillation
- Single longitudinal mode



### Absolute Maximum Ratings

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

Item	Symbol	Ratings	Unit
Optical output power	$P_O$	35 * <sup>1</sup>	mW
Pulse optical output power	$P_{O(\text{pulse})}$	50 * <sup>2</sup>	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 +50	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +85	$^\circ\text{C}$

Notes: 1. This value is not the same as the specification for long term reliability, such as lifetime.

2. Pulse condition : Pulse width  $p_w = 100$  ns , duty = 20%

### Electrical Characteristics

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

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	$I_{th}$	30	45	65	mA	—
Slope efficiency	$\eta_s$	0.4	0.6	0.9	mW/mA	$18(\text{mW}) / (I_{(24\text{mW})} - I_{(6\text{mW})})$
Operating current	$I_{OP}$	—	95	130	mA	$P_O = 30$ mW
Operating voltage	$V_{OP}$	—	2.3	2.8	V	$P_O = 30$ mW
Beam divergence parallel to the junction	$\theta_{//}$	7	8.5	11	$^\circ$	$P_O = 30$ mW
Beam divergence perpendicular to the junction	$\theta_{\perp}$	26	30	34	$^\circ$	$P_O = 30$ mW
Lasing wavelength	$\lambda_p$	635	639	642	nm	$P_O = 30$ mW
Monitor current	$I_s$	0.05	0.15	0.25	mA	$P_O = 30$ mW, $V_{R(\text{PD})} = 5$ V

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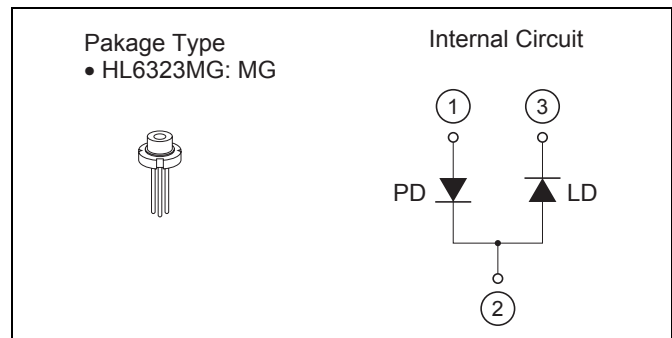
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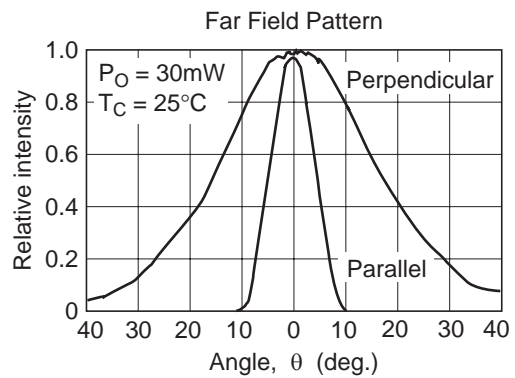
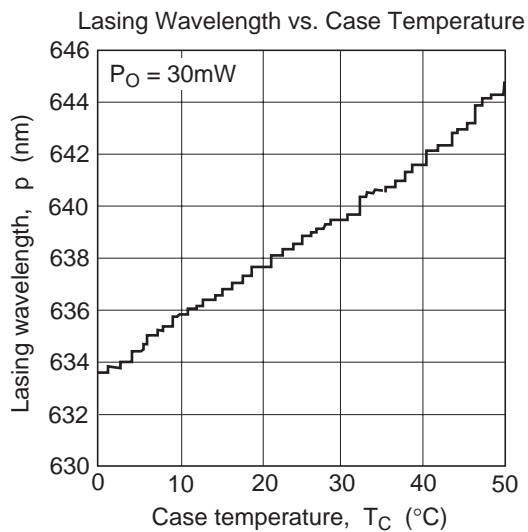
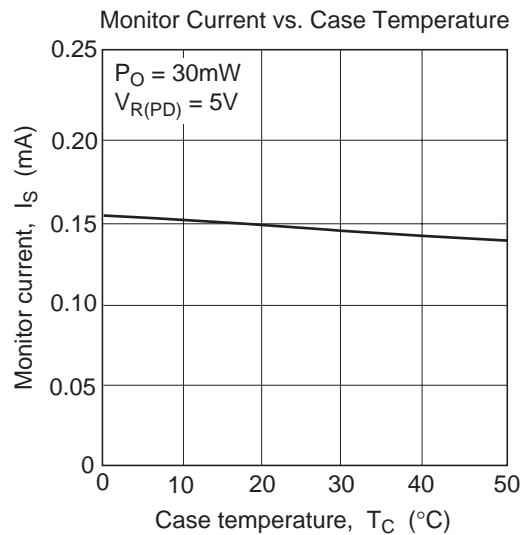
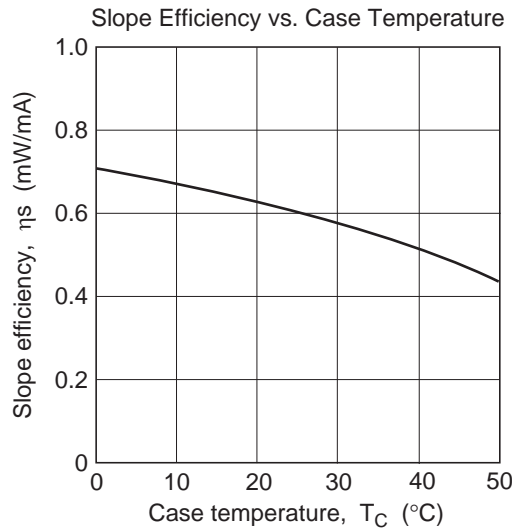
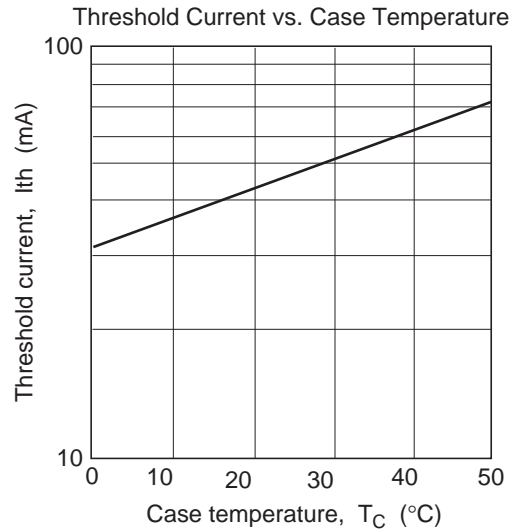
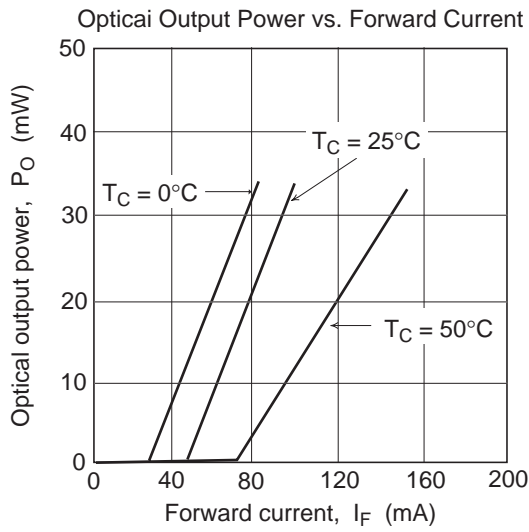
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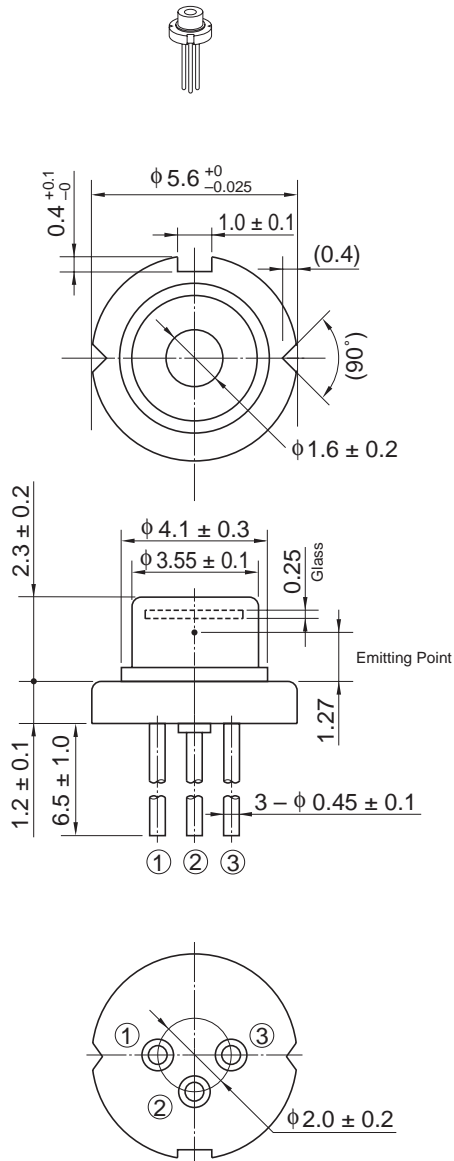
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Typical Characteristic Curves



Package Dimensions

As of July, 2002  
Unit: mm



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

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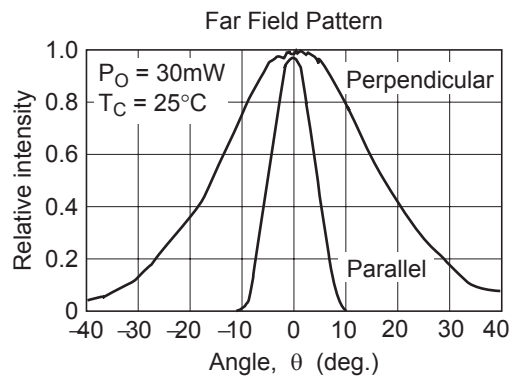
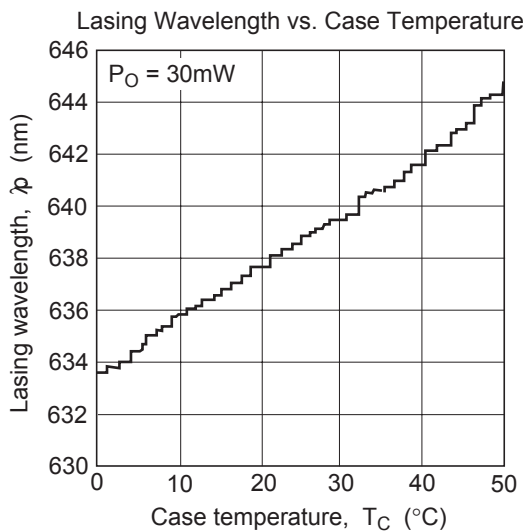
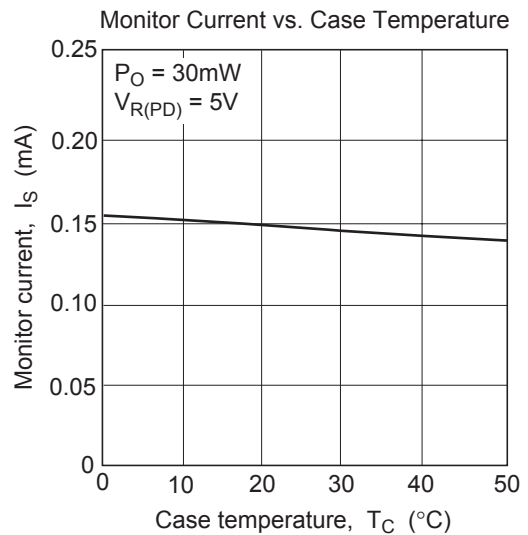
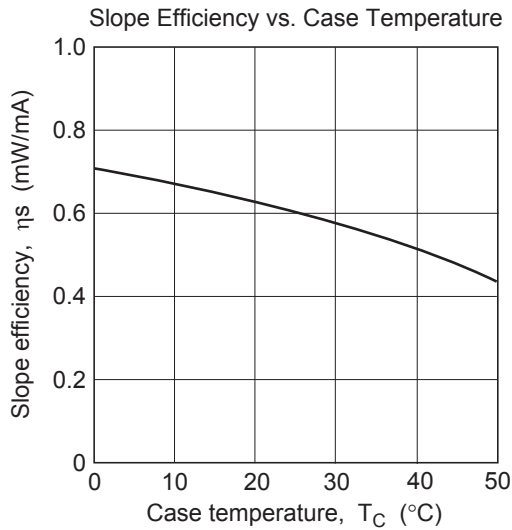
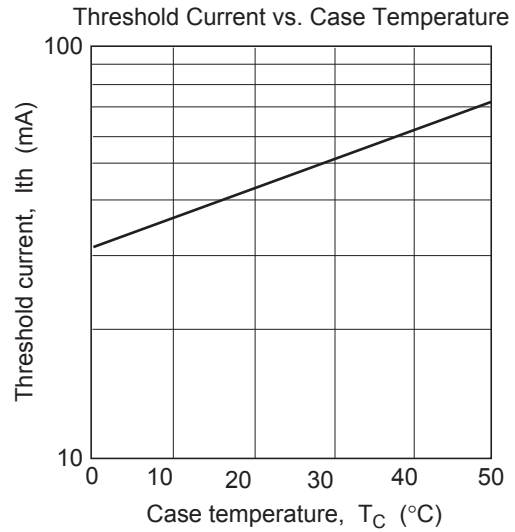
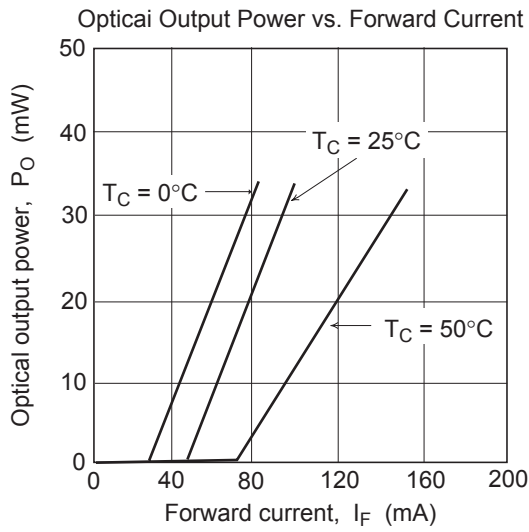
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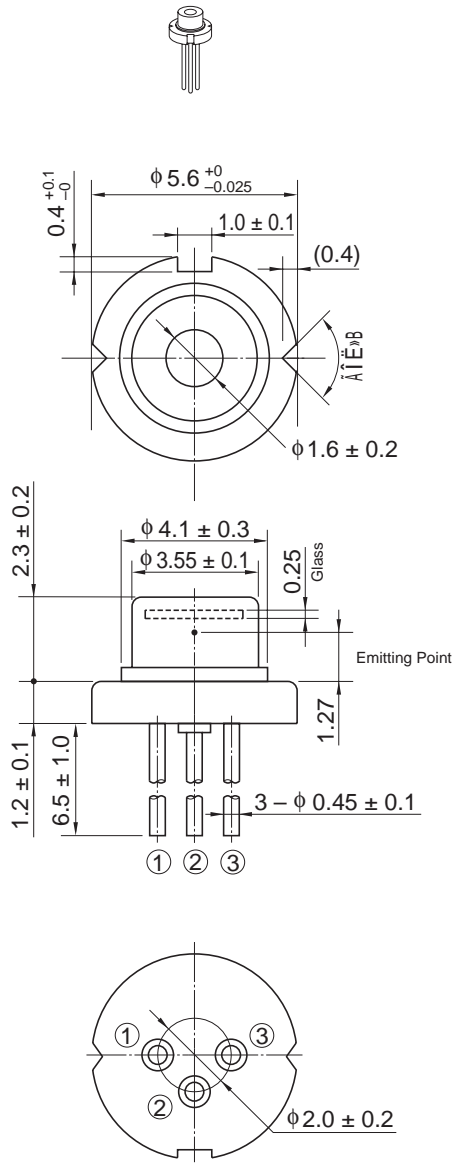
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Colophon 1.0

Typical Characteristic Curves



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