

HL6323MG

AlGaInP Laser Diode

HITACHI

ADE-208-1410 (Z)
1st Edition
Mar. 2001

Description

The HL6323MG is a 0.63 μm 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.

Application

- Laser markers
- Measurement equipment

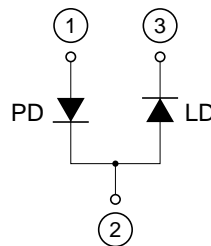
Features

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

Package Type
• HL6323MG: MG



Internal Circuit



Absolute Maximum Ratings (T_C = 25°C ± 3°C)

Item	Symbol	Value	Unit
Optical output power	P _O	35 *1	mW
Optical output power (Pulse)	P _O	50 *2	mW
LD reverse voltage	V _{R(LD)}	2	V
PD reverse voltage	V _{R(PD)}	30	V
Operating temperature	Topr	−10 to +50	°C
Storage temperature	Tstg	−40 to +85	°C

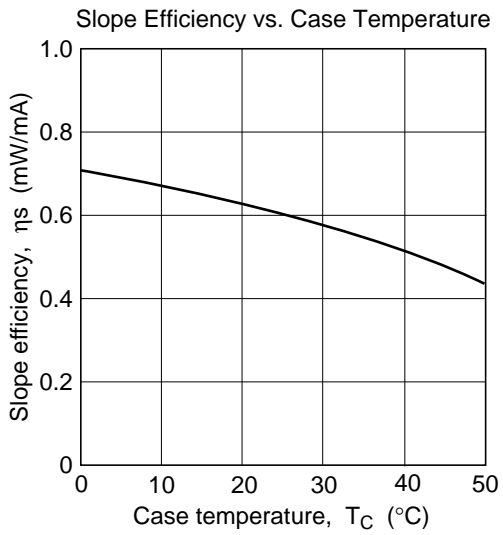
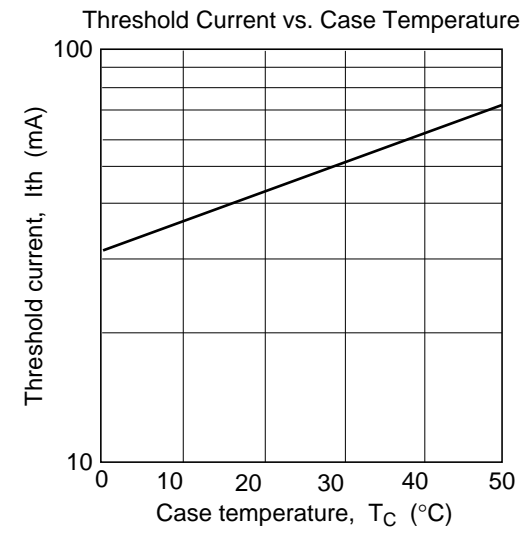
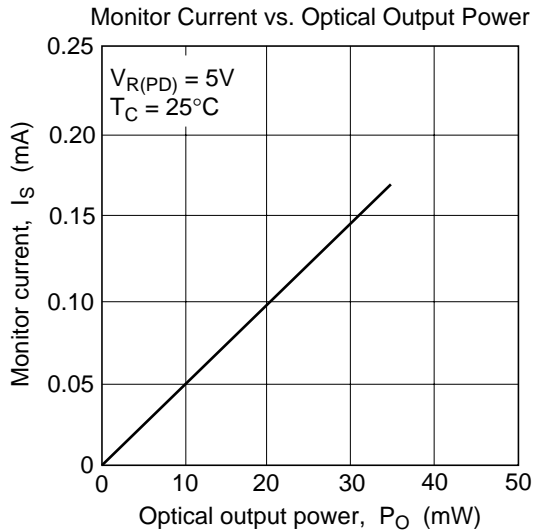
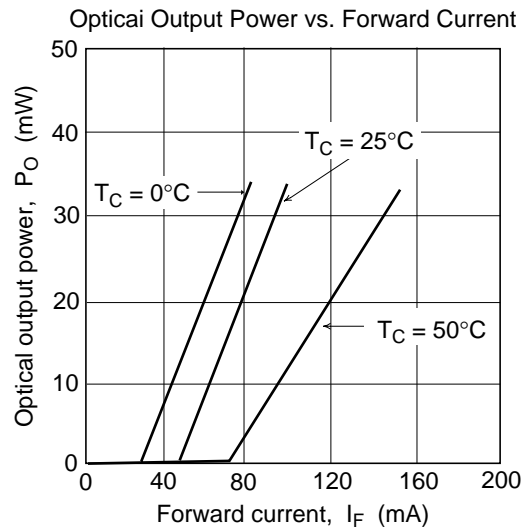
Notes: 1. This value is not the same as the specification for long term reliability, such as lifetime.
2. Pulse condition : Pulse width pw = 100 ns , duty = 20%

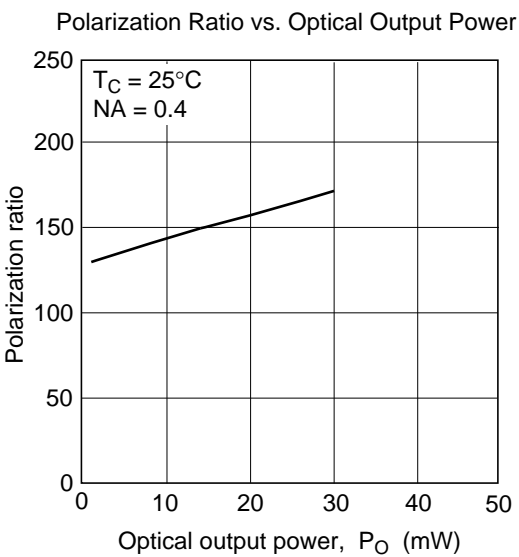
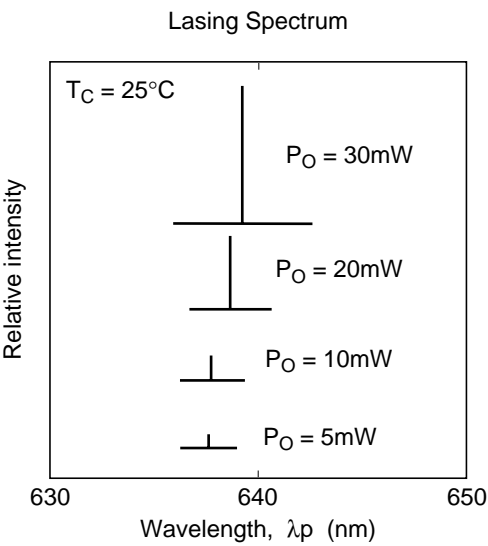
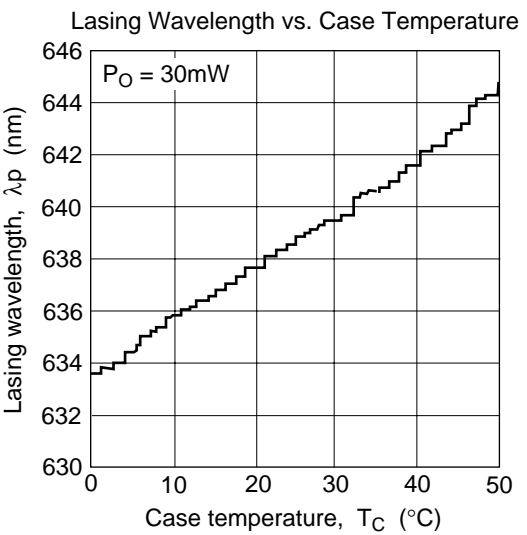
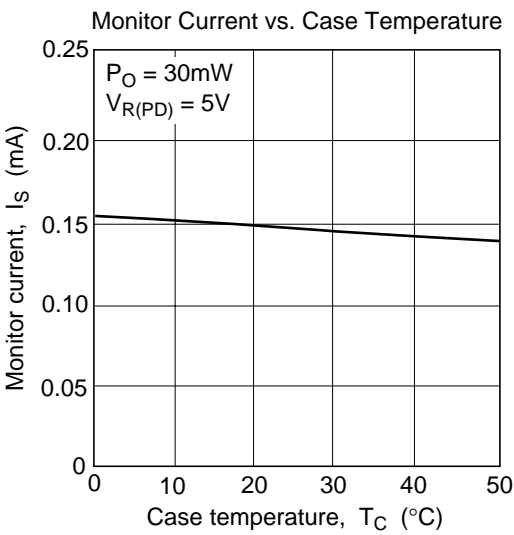
Optical and Electrical Characteristics (T_C = 25°C ± 3°C)

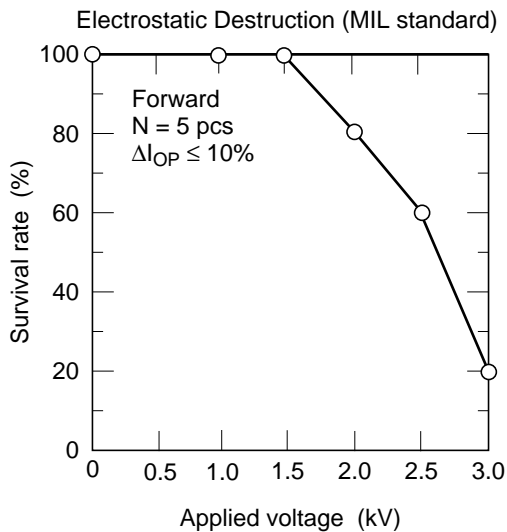
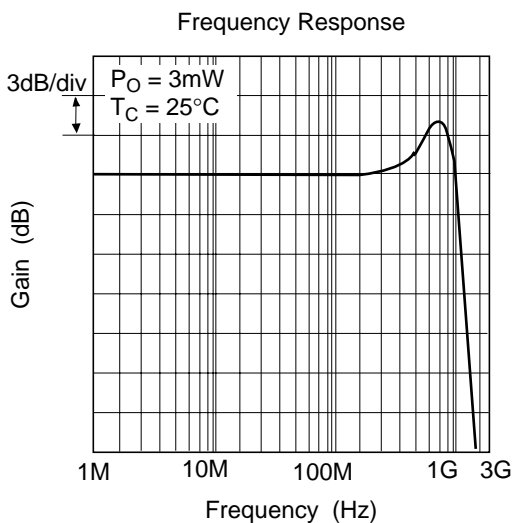
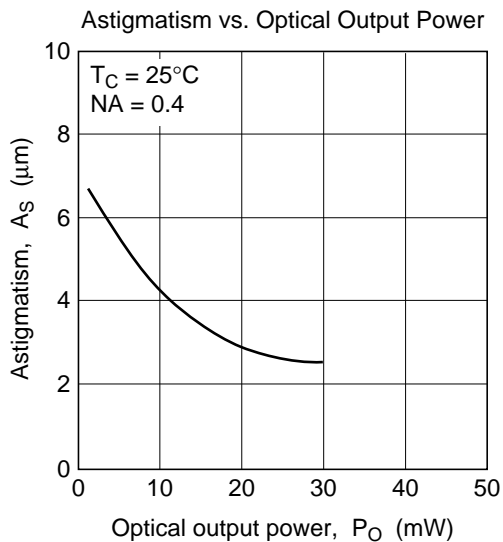
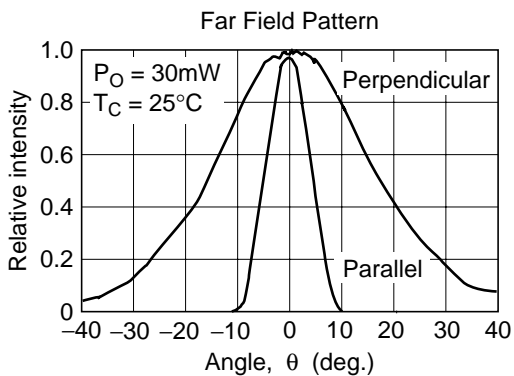
Item	Symbol	Min	Typ	Max	Unit	Test Condition
Optical output power	P _O	35	—	—	mW	Kink free *
Optical output power (Pulse)	P _O	50	—	—	mW	Kink free *
Threshold current	I _{th}	30	45	65	mA	
Slope efficiency	η _s	0.4	0.6	0.9	mW/mA	18(mW) / (I _(24mW) − I _(6mW))
Operating current	I _{OP}	—	95	130	mA	P _O = 30 mW
Operating voltage	V _{OP}	—	2.3	2.8	V	P _O = 30 mW
Beam divergence parallel to the junction	θ//	7	8.5	11	deg.	P _O = 30 mW
Beam divergence perpendicular to the junction	θ⊥	26	30	34	deg.	P _O = 30 mW
Lasing wavelength	λ _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(PD)} = 5 V

Note: Kink free is confirmed at the temperature of 25°C.

Typical Characteristic Curves

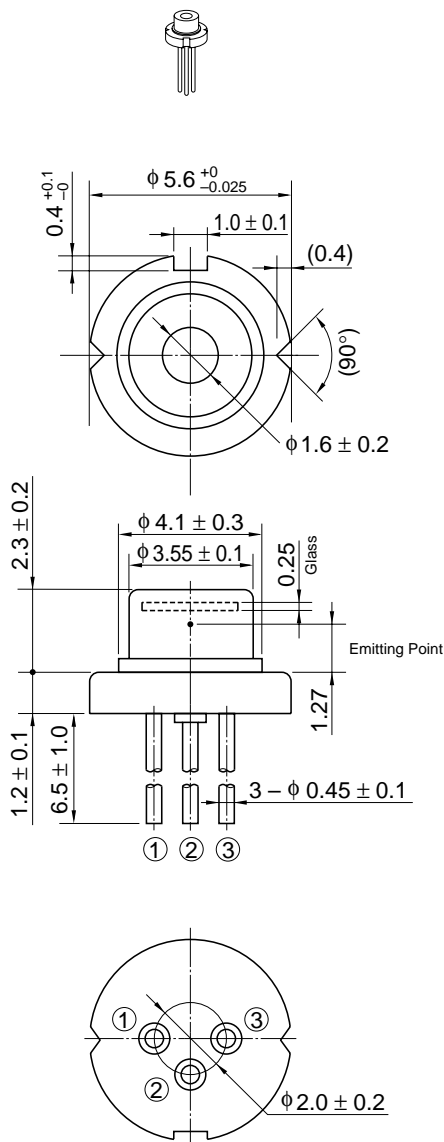






Package Dimensions

Unit: mm



Hitachi Code	LD/MG
JEDEC	—
EIAJ	—
Mass (reference value)	0.3 g

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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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