

HL6327/28MG

Low Operating Current Visible Laser Diode

HITACHI

ADE-208-782A (Z)

2nd Edition

Jul. 1999

Description

The HL6327/28MG are 0.63 μm band AlGaInP laser diodes with a multi-quantum well (MQW) structure. They are suitable as light sources for laser levelers, laser scanners and optical equipment for measurement.

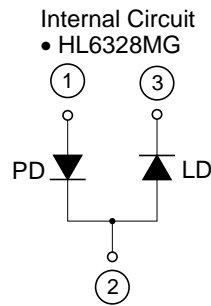
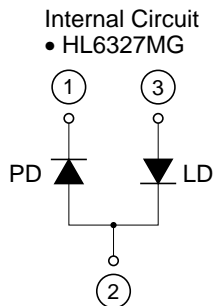
Application

- Laser leveler
- Laser scanner
- Measurement

Features

- Visible light output: 635 nm Typ (nearly equal to He-Ne gas laser)
- Optical output power: 5 mW CW
- Low operating current: 40 mA Typ
- Low operating voltage: 2.4 V Max
- Operating temperature: +50°C
- TM mode oscillation

Package Type
• HL6327/28MG: MG



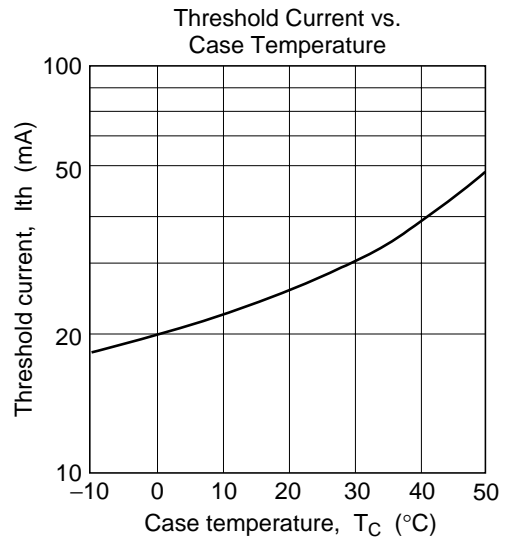
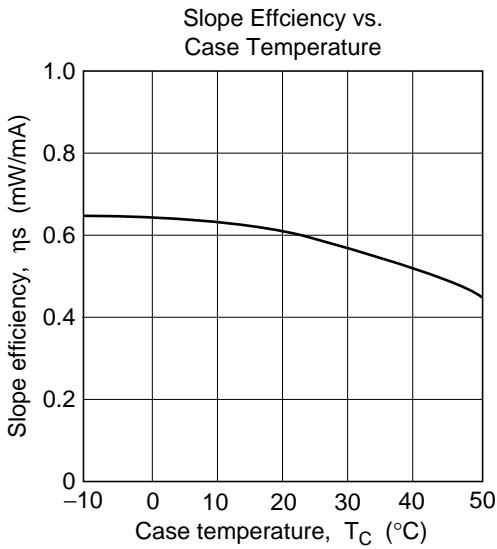
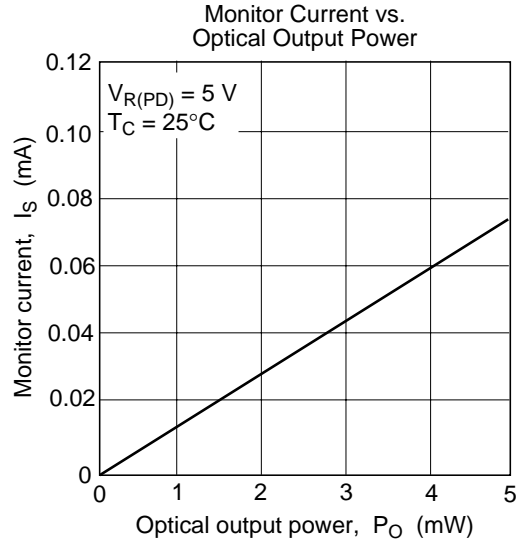
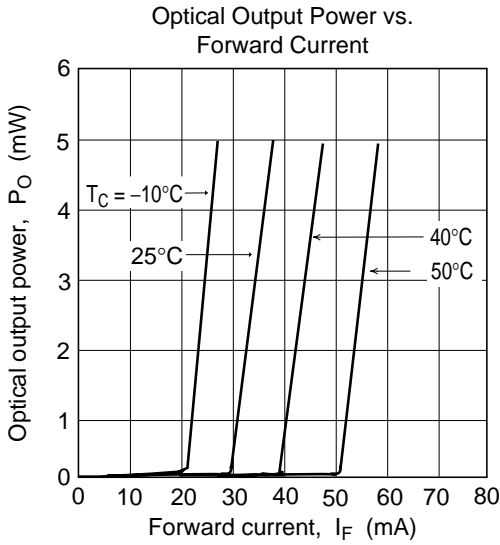
Absolute Maximum Ratings ($T_C = 25^\circ\text{C}$)

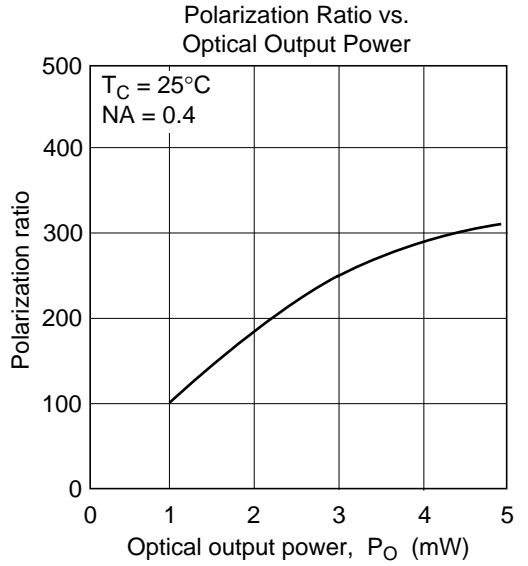
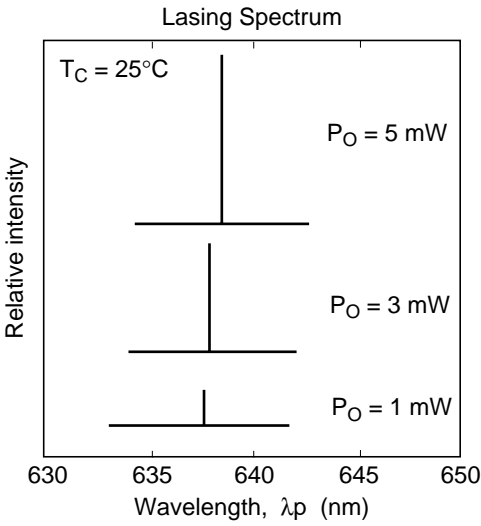
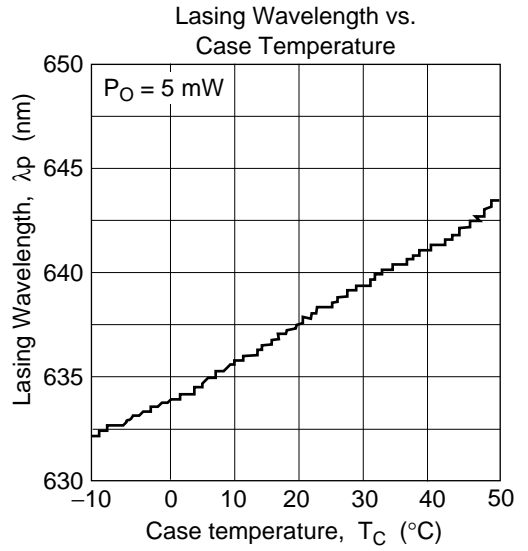
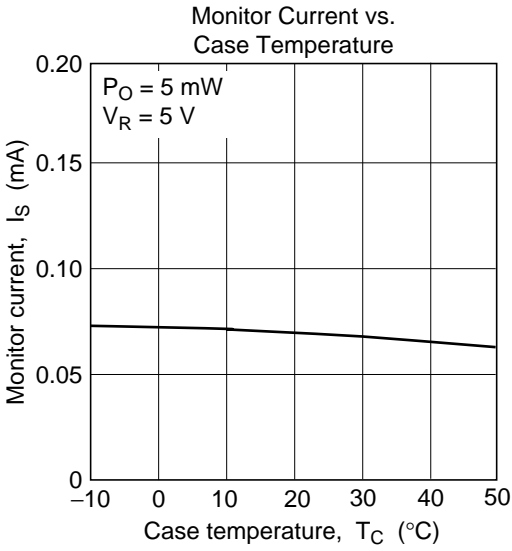
Item	Symbol	Value	Unit
Optical output power	P_O	5	mW
LD reverse voltage	$V_{R(LD)}$	2	V
PD reverse voltage	$V_{R(PD)}$	30	V
Operating temperature	T_{opr}	-10 to +50	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$

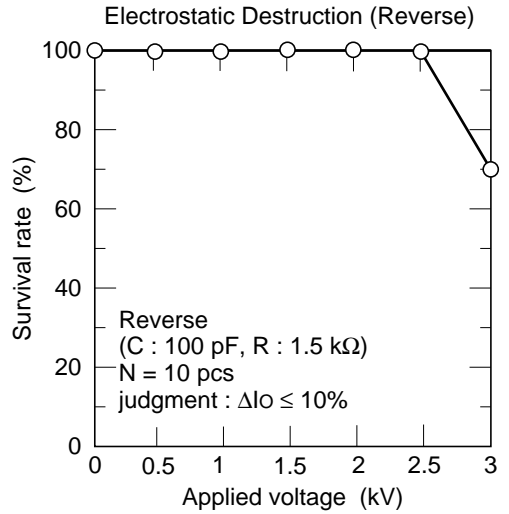
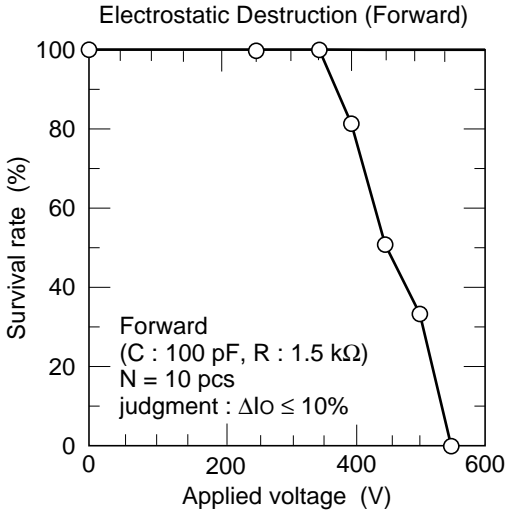
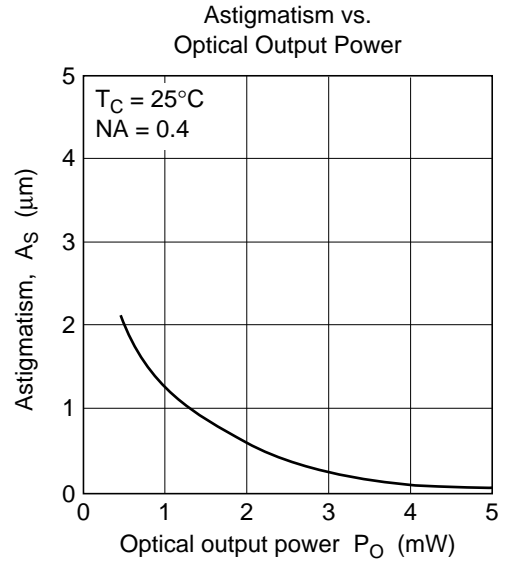
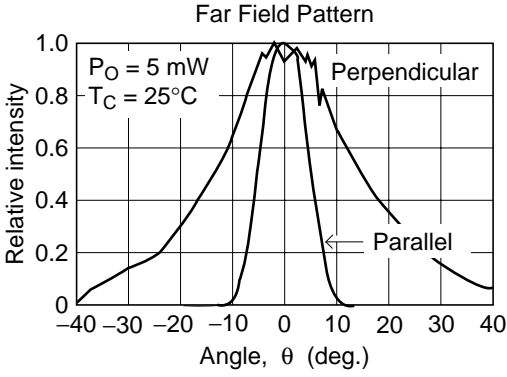
Optical and Electrical Characteristics ($T_C = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Optical output power	P_O	5	—	—	mW	Kink free
Threshold current	I_{th}	—	30	50	mA	
Operating current	I_{Op}	—	40	60	mA	$P_O = 5\text{ mW}$
Operating voltage	V_{OP}	—	2.2	2.4	V	$P_O = 5\text{ mW}$
Slope efficiency	hs	0.3	0.5	0.8	mW/mA	$3(\text{mW}) / (I_{(4\text{mW})} - I_{(1\text{mW})})$
Lasing wavelength	λ_p	630	635	640	nm	$P_O = 5\text{ mW}$
Beam divergence parallel to the junction	$\theta//$	6	8	11	deg.	$P_O = 5\text{ mW}$
Beam divergence perpendicular to the junction	θ^\wedge	25	31	37	deg.	$P_O = 5\text{ mW}$
Monitor current	I_S	0.02	0.07	0.12	mA	$P_O = 5\text{ mW}, V_{R(PD)} = 5\text{V}$

Typical Characteristic Curves

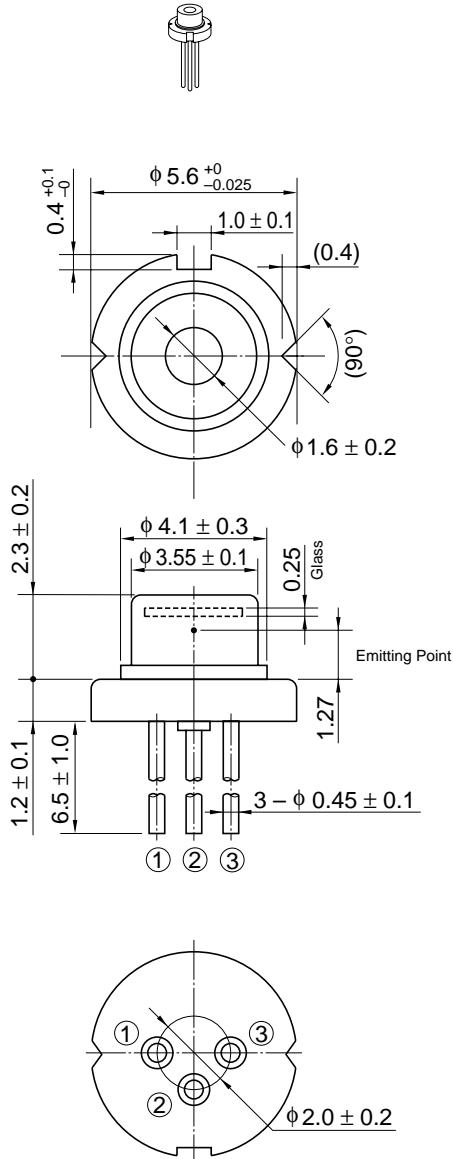






Package Dimensions

Unit: mm



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

Cautions

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