HL6314MG/24MG

AlGaInP Laser Diodes

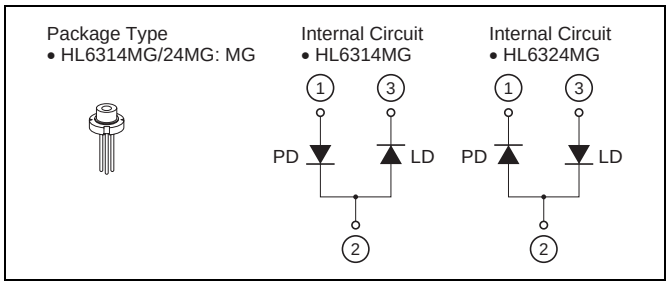
ODE2009-00 (M)
Rev.0
Aug. 01, 2008

Description

The HL6314MG/24MG are 0.63 μm band AlGaInP laser diodes with a multi-quantum well (MQW) structure. They are suitable as light sources for laser pointers and optical equipment for amusement.

Features

- Visible light output: 635 nm Typ
- Single longitudinal mode
- Optical output power: 3 mW CW
- Low operating current: 30 mA Typ
- Low operating voltage: 2.7 V Max
- TM mode oscillation



Absolute Maximum Ratings

(T_C = 25°C)

Item	Symbol	Ratings	Unit
Optical output power	P_O	3	mW
Pulse optical output power	$P_{O(pulse)}$	5 *	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

Note: Pulse condition : Pulse width ≤ 1 μs , duty ≤ 50%

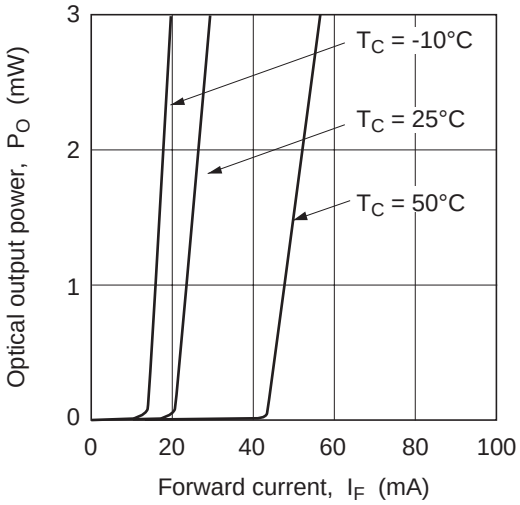
Optical and Electrical Characteristics

(T_C = 25°C)

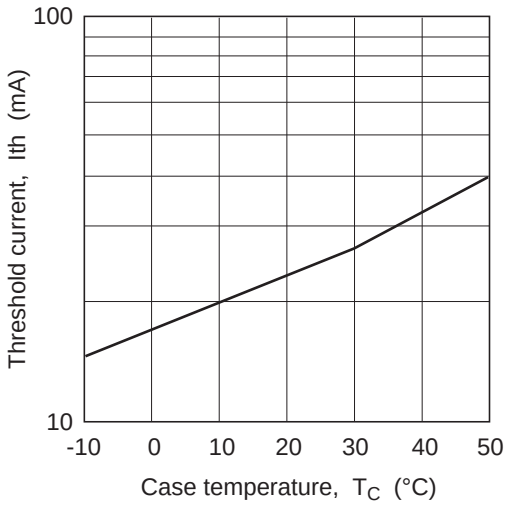
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	Ith	—	25	35	mA	—
Operating current	I_{OP}	—	30	42	mA	P_O = 3 mW
Operating voltage	V_{OP}	—	—	2.7	V	P_O = 3 mW
Beam divergence parallel to the junction	θ//	6	8	10	°	P_O = 3 mW
Beam divergence perpendicular to the junction	θ⊥	23	30	39	°	P_O = 3 mW
Astigmatism	A_S	—	8	—	μm	P_O = 3 mW, NA = 0.55
Lasing wavelength	λp	630	635	640	nm	P_O = 3 mW
Monitor current	I_S	0.08	0.15	0.40	mA	P_O = 3 mW, $V_{R(PD)}$ = 5 V

Typical Characteristic Curves

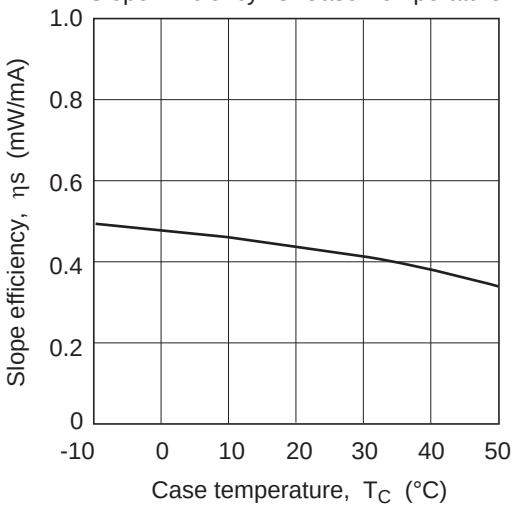
Optical Output Power vs. Forward Current



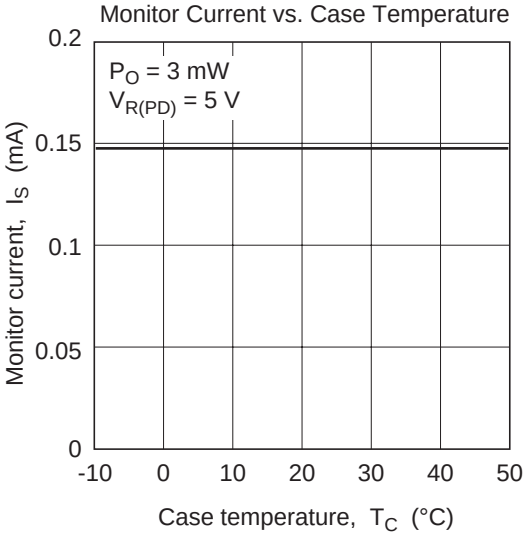
Threshold Current vs. Case Temperature



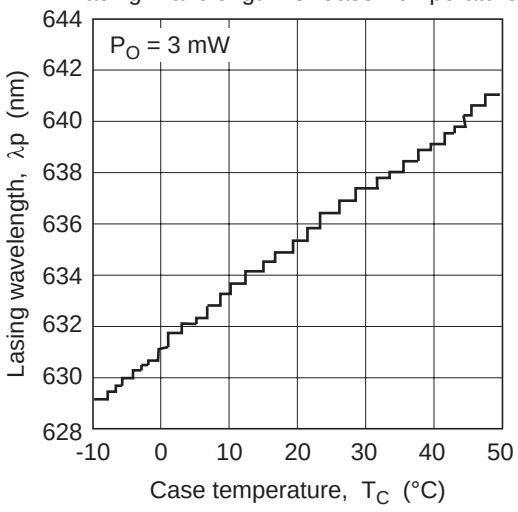
Slope Efficiency vs. Case Temperature



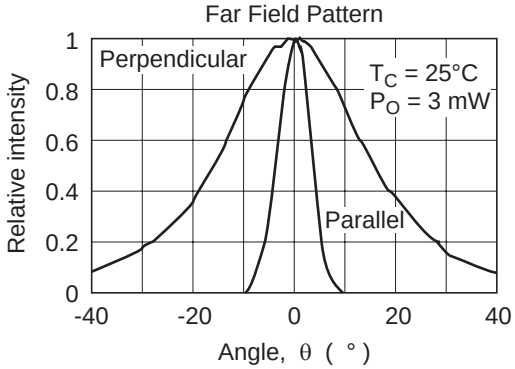
Monitor Current vs. Case Temperature



Lasing Wavelength vs. Case Temperature



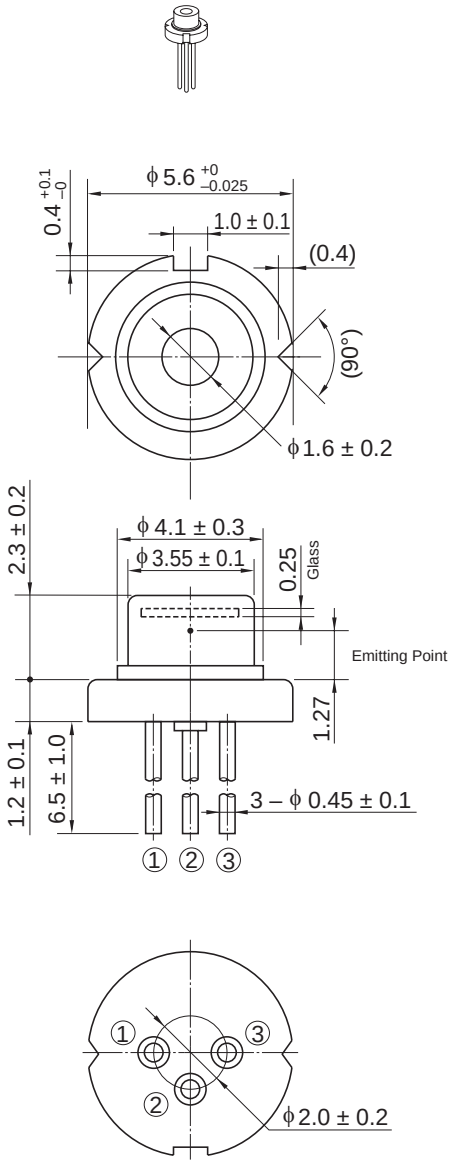
Far Field Pattern



Package Dimensions

As of July, 2002

Unit: mm



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

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3. Definition of items shown in this CAS is in accordance with that shown in Opto Device Databook issued by OPJ unless otherwise specified.

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