
HL6314MG/24MG

AlGaInP Laser Diodes



ODE-208-262E (Z)

Rev.5
Jan. 2003

Description

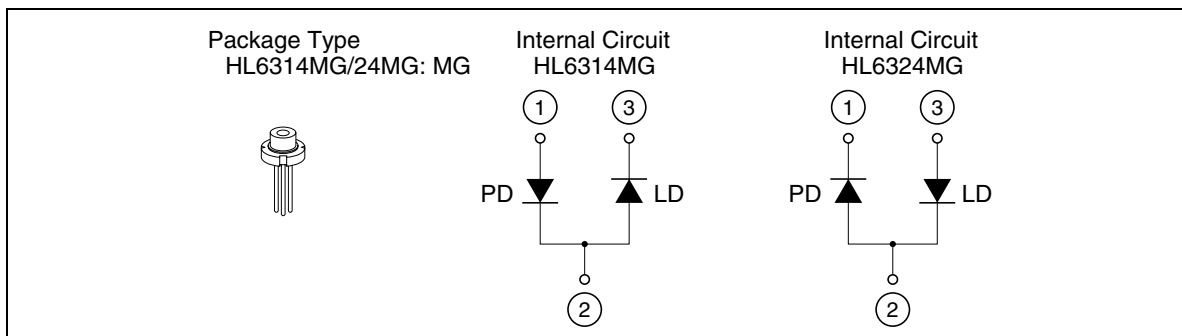
The HL6314MG/24MG are 0.63 μm band AlGaInP laser diodes with a multi-quantum well (MQW) structure. They are suitable as light sources for laser pointers and optical equipment for amusement.

Application

- Laser pointer

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



HL6314MG/24MG

Absolute Maximum Ratings

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

Item	Symbol	Rated Value	Unit
Optical output power	P_o	3	mW
Pulse optical output power	$P_{O(\text{pulse})}$	5 *	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	$^\circ\text{C}$

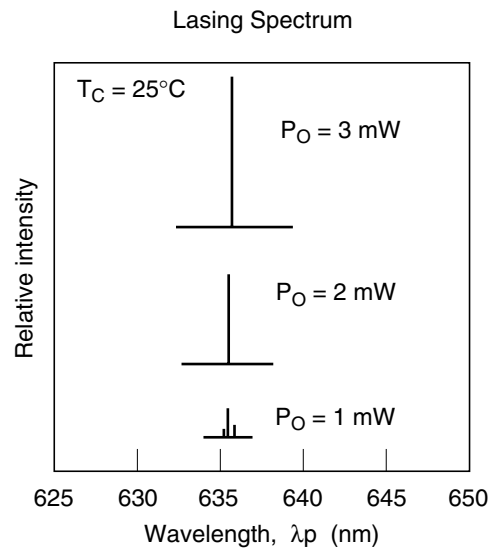
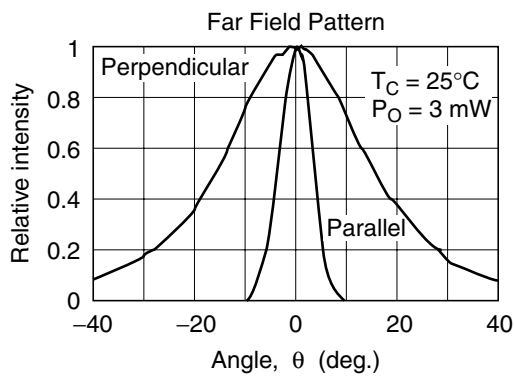
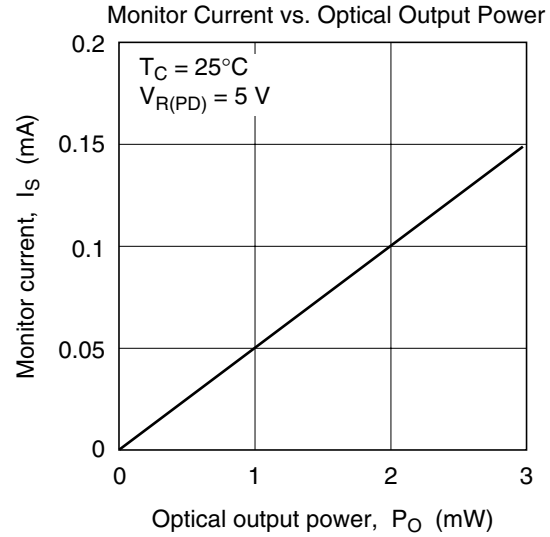
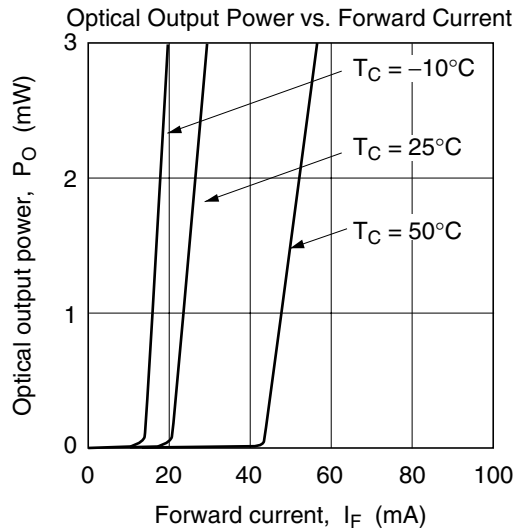
Note: Pulse condition : Pulse width $\leq 1 \mu\text{s}$, duty $\leq 50\%$

Optical and Electrical Characteristics

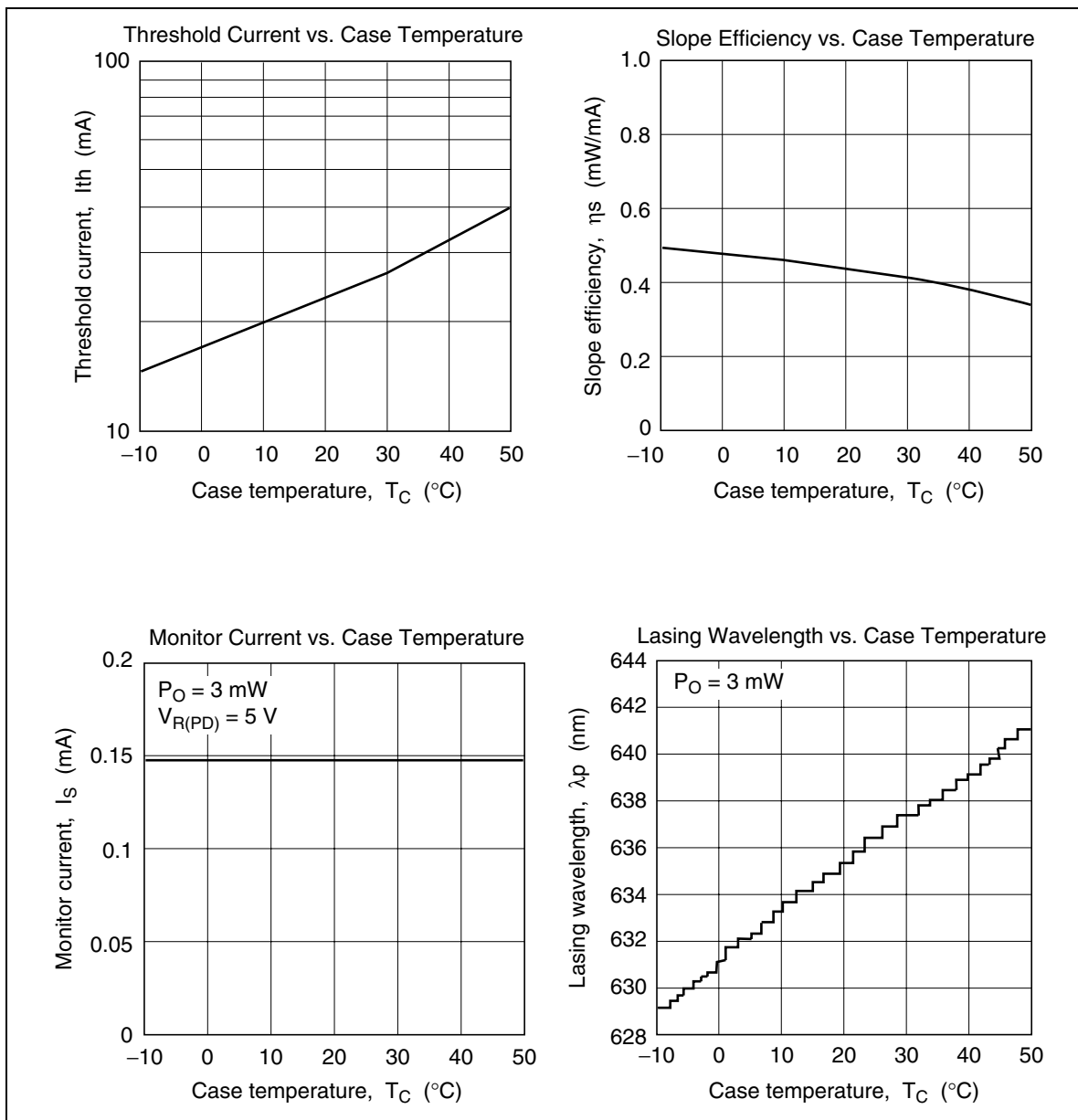
($T_c = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical output power	P_o	3	—	—	mW	—
Threshold current	I_{th}	—	25	35	mA	—
Operating current	I_{op}	—	30	42	mA	$P_o = 3 \text{ mW}$
Operating voltage	V_{op}	—	—	2.7	V	$P_o = 3 \text{ mW}$
Beam divergence parallel to the junction	$\theta_{//}$	6	8	10	deg.	$P_o = 3 \text{ mW}$
Beam divergence perpendicular to the junction	θ_{\perp}	23	30	39	deg.	$P_o = 3 \text{ mW}$
Astigmatism	A_s	—	8	—	μm	$P_o = 3 \text{ mW}$, NA = 0.55
Lasing wavelength	λ_p	630	635	640	nm	$P_o = 3 \text{ mW}$
Monitor current	I_s	0.08	0.15	0.40	mA	$P_o = 3 \text{ mW}$, $V_{R(\text{PD})} = 5 \text{ V}$

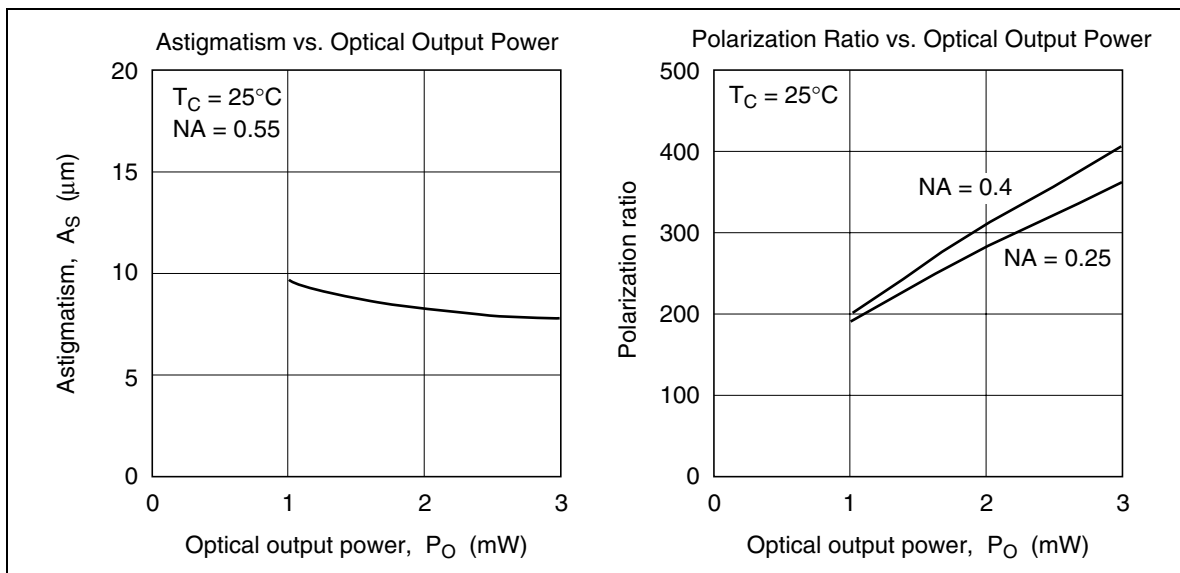
Typical Characteristic Curves



Typical Characteristic Curves (cont)



Typical Characteristic Curves (cont)



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