

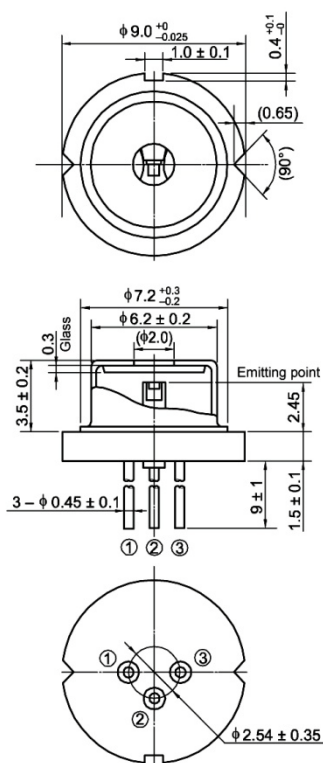
# Data Sheet

# HL6312G

638nm / 5mW AlGaInP Laser Diode

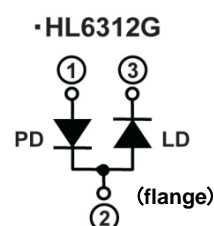
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## Outline



(unit: mm)

## Internal Circuit



## Features

- Visible light output: 638nm Typ.
- Optical output power: 5mW (CW)
- Low operating voltage: 2.7V Max.
- Built-in photodiode for monitoring laser output
- TM mode oscillation
- Single transverse mode

## Application

- Laser leveler
- Bar code reader
- Distance meter
- Light source of optical equipments

### Absolute Maximum Ratings (Tc=25°C)

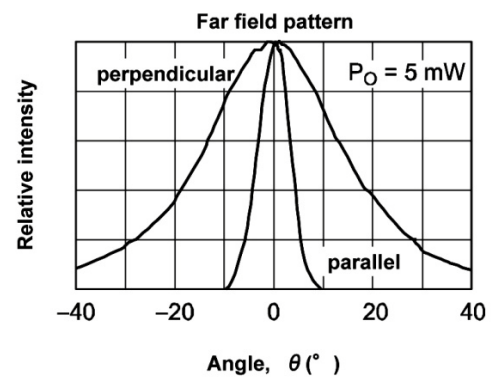
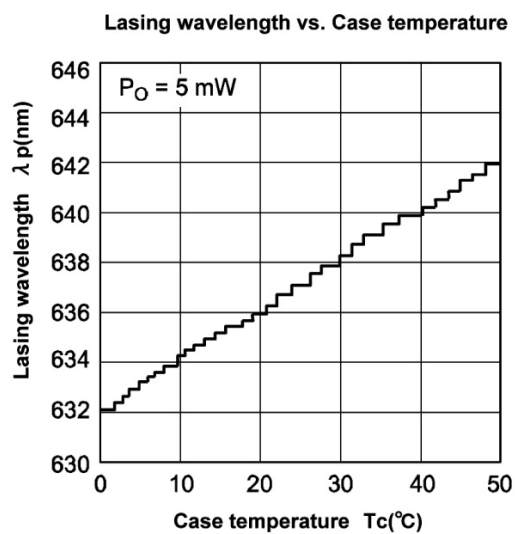
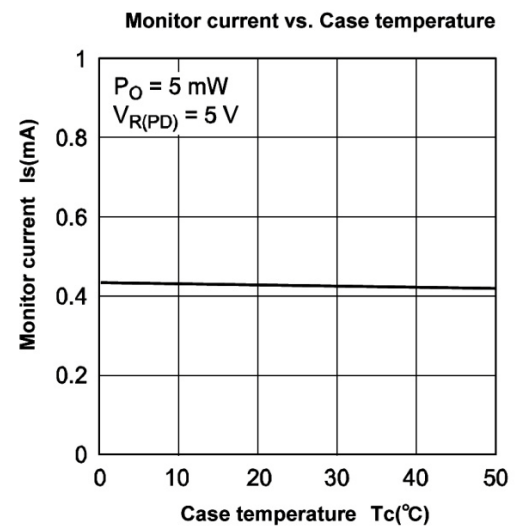
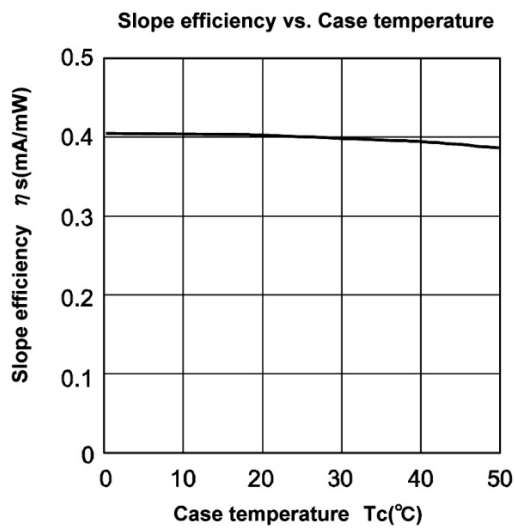
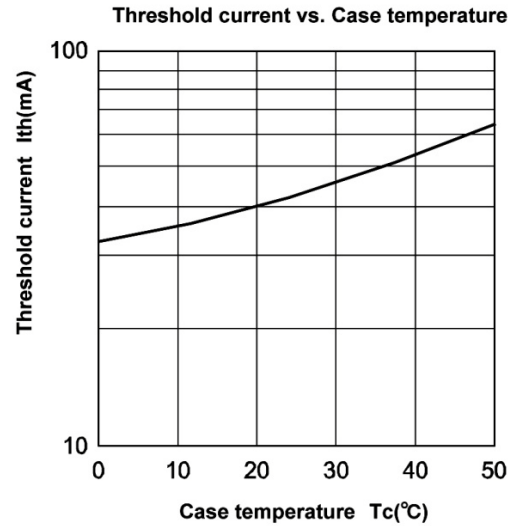
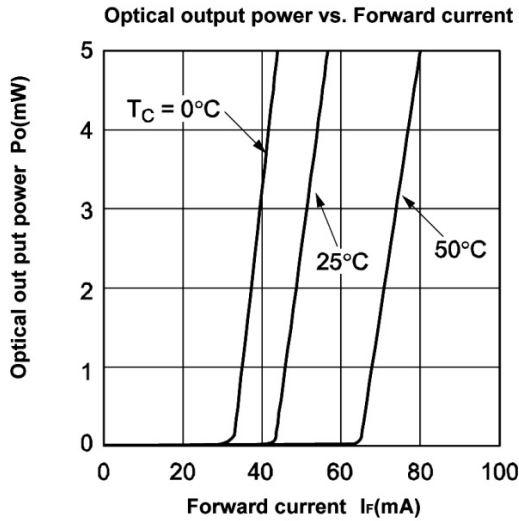
Item	Symbol	Ratings	Unit
Optical output power	Po	5	mW
Pulse optical output power	Po (pulse)	6*	mW
LD Reverse Voltage	V <sub>R(LD)</sub>	2	V
PD Reverse Voltage	V <sub>R(PD)</sub>	30	V
Operating Temperature	Topr	-10 ~ +50	°C
Storage Temperature	Tstg	-40 ~ +85	°C

\* Pulse condition: Pulse width≤1μs, duty≤50%

### Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	I <sub>th</sub>	20	45	70	mA	-
Operating current	I <sub>op</sub>	-	55	85	mA	Po=5mW
Operating voltage	V <sub>op</sub>	-	-	2.7	V	Po=5mW
Beam divergence Parallel to the junction	θ <sub>//</sub>	5	8	11	°	Po=5mW FWHM
Beam divergence Perpendicular to the junction	θ <sub>⊥</sub>	25	31	37	°	Po=5mW FWHM
Astigmatism	A <sub>s</sub>	-	8	-	μm	Po=5mW, NA=0.55
Lasing Wavelength	λ <sub>p</sub>	625	638	640	nm	Po=5mW
Monitor current	I <sub>s</sub>	0.2	0.4	0.8	mA	Po=5mW, V <sub>R(PD)</sub> =5V

## Typical Characteristic Curves



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