

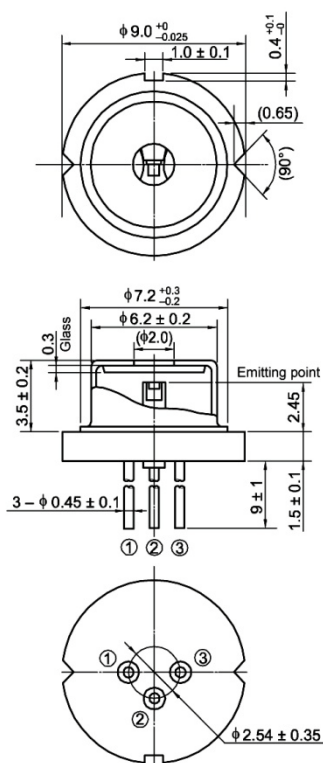
Data Sheet

HL6312G

638nm / 5mW AlGaInP Laser Diode

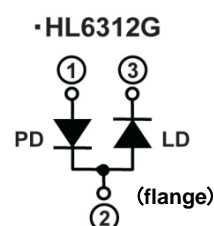
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Outline



(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)

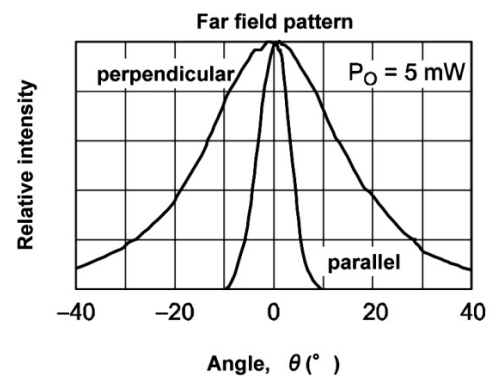
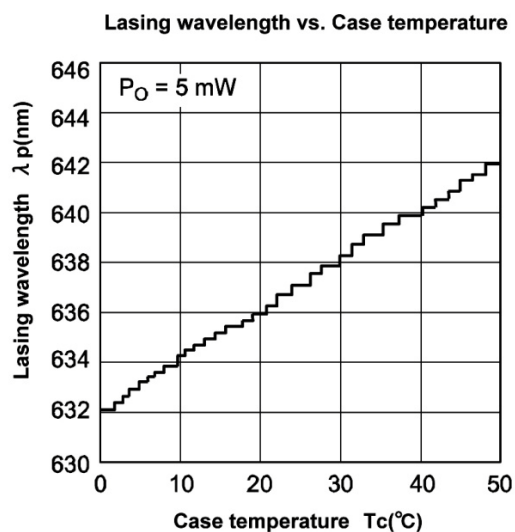
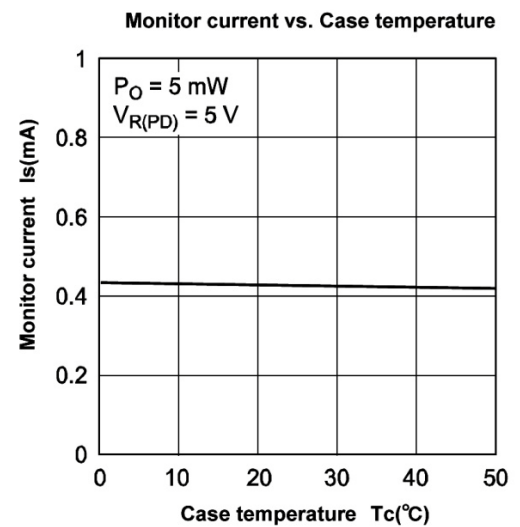
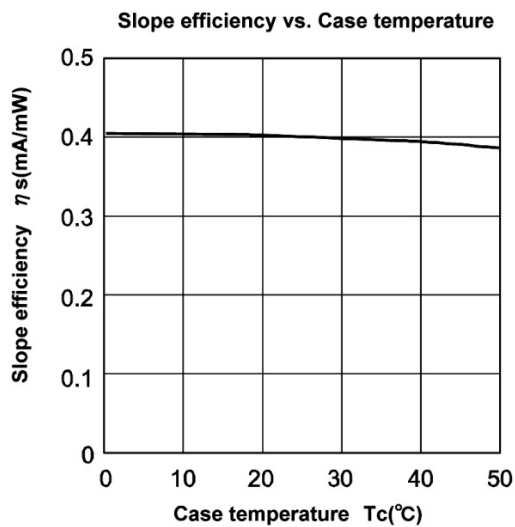
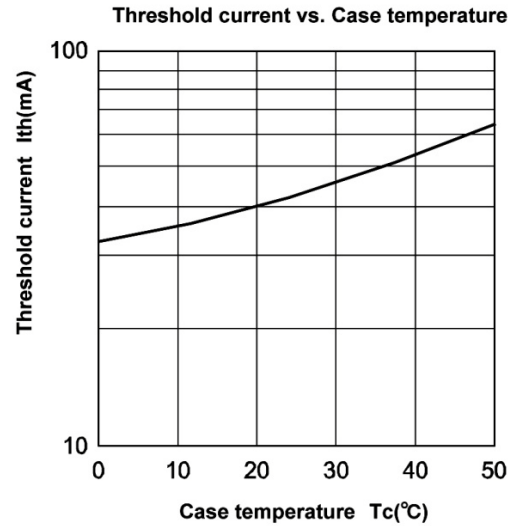
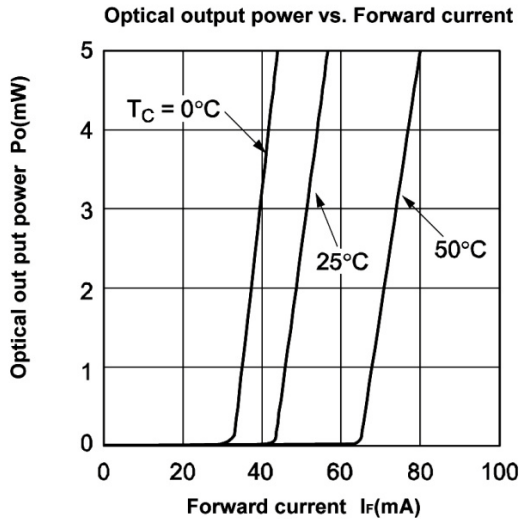
| Item | Symbol | Ratings | Unit |
|----------------------------|--------------------|-----------|------|
| Optical output power | Po | 5 | mW |
| Pulse optical output power | Po (pulse) | 6* | mW |
| LD Reverse Voltage | V _{R(LD)} | 2 | V |
| PD Reverse Voltage | V _{R(PD)} | 30 | V |
| Operating Temperature | 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 _{th} | 20 | 45 | 70 | mA | - |
| Operating current | I _{op} | - | 55 | 85 | mA | Po=5mW |
| Operating voltage | V _{op} | - | - | 2.7 | V | Po=5mW |
| Beam divergence Parallel to the junction | θ _{//} | 5 | 8 | 11 | ° | Po=5mW FWHM |
| Beam divergence Perpendicular to the junction | θ _⊥ | 25 | 31 | 37 | ° | Po=5mW FWHM |
| Astigmatism | As | - | 8 | - | μm | Po=5mW, NA=0.55 |
| Lasing Wavelength | λ _p | 625 | 638 | 640 | nm | Po=5mW |
| Monitor current | I _s | 0.2 | 0.4 | 0.8 | mA | Po=5mW, V _{R(PD)} =5V |

Typical Characteristic Curves



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