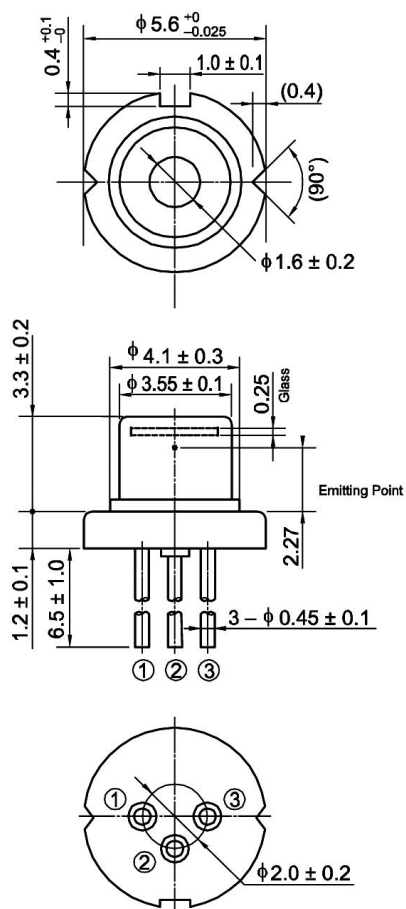


HL63641DG/642DG/643DG

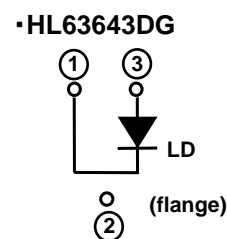
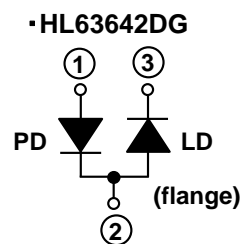
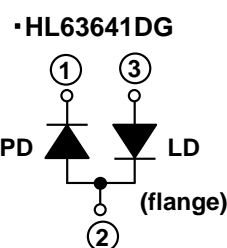
639nm/210mW AlGaInP Laser Diode

Outline



(Unit: mm)

Internal Circuit



Features

- Optical output power: 210mW
- Wavelength: 639nm Typ.
- Low operating current: 225mA at 200mW
- High Wall plug efficiency: 33%
- Single transverse mode
- TE mode oscillation
- φ5.6mm CAN Package
- Built-in Monitor PD (HL63641DG/642DG)

Application

- Leveler
- Show Laser
- Medical
- Laser module
- Measurement
- Light source of optical equipment

Absolute Maximum Ratings (Tc=25°C)

| Item | Symbol | Ratings | Unit |
|-----------------------------------------------------------|--------------------|-----------|------|
| Optical output power (1) (Tc=25 °C) | Po(1) | 210 | mW |
| Optical output power (2) (Tc=60 °C) | Po(2) | 125 | mW |
| LD Reverse Voltage | V _{R(LD)} | 2 | V |
| PD Reverse Voltage | V _{R(PD)} | 30 | V |
| Operating Temperature ^{Note1)} ^{Note2)} | Topr | -40 ~ +60 | °C |
| Storage Temperature | Tstg | -40 ~ +85 | °C |

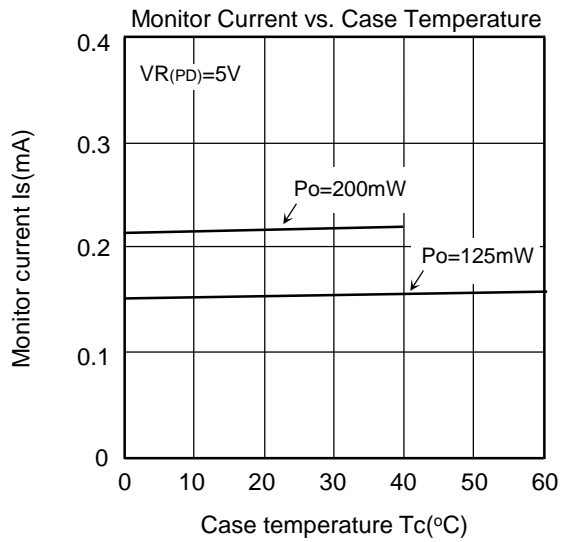
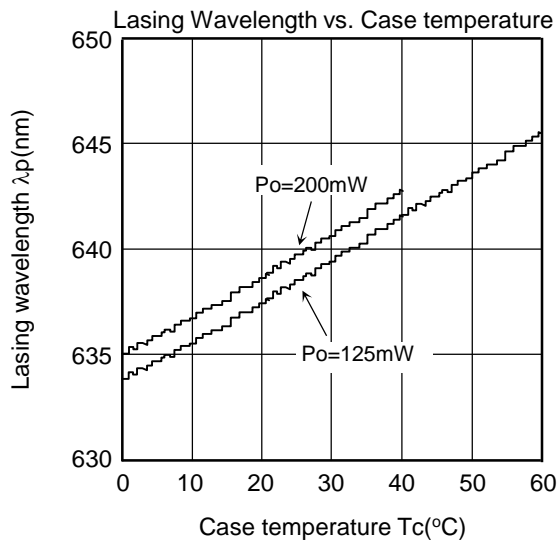
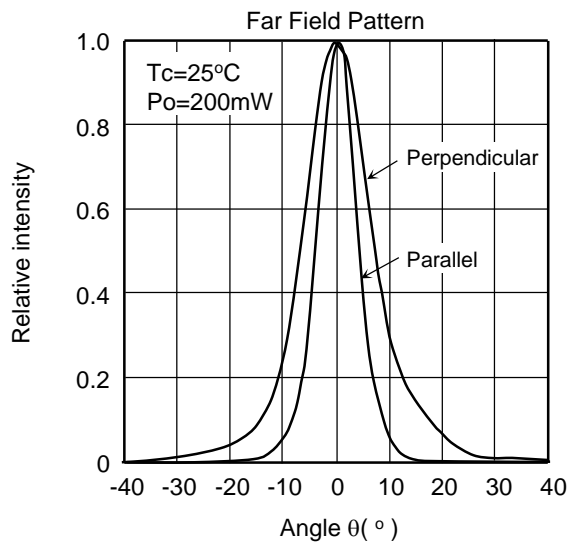
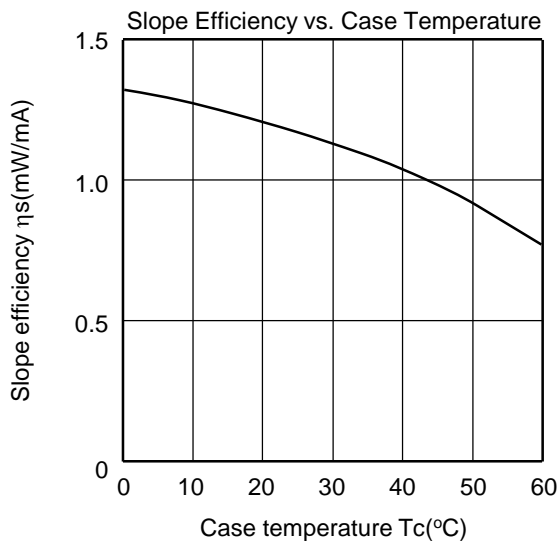
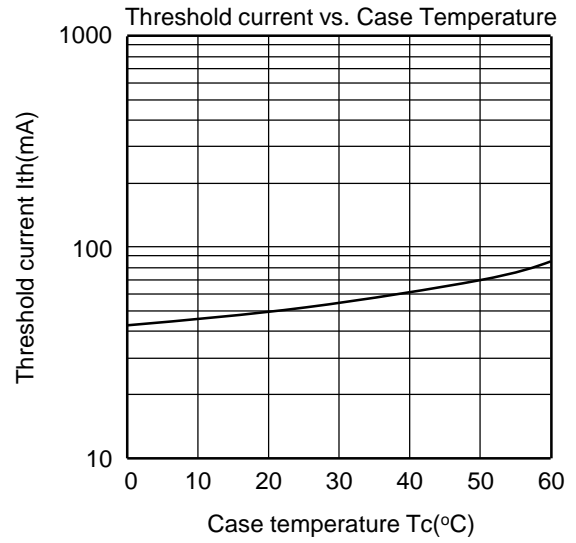
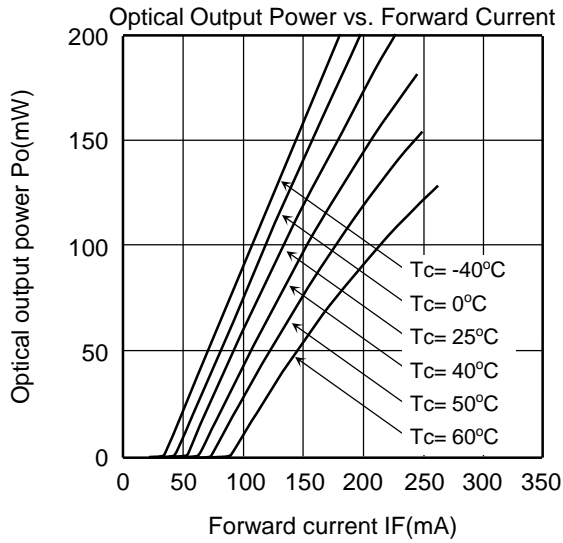
Note1) Operating temperature is defined by Case temperature "Tc". High increase in temperature of LD chip itself is expected during operation due to high current density. Thus, without proper heat dissipation, it is observed that no specific output power is achieved or it results to LD degradation. It is advised that sufficient measure of heat dissipation should be taken so that LD's maximum operating temperature is not exceeded during actual operation.

Note2) Minus temperature range should be operated under no condensation condition.

Optical and Electrical Characteristics (Tc=25°C)

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|--------------------------------------------------|-----------------|------|------|------|------|-------------------------------------|
| Threshold current | I _{th} | - | 50 | 70 | mA | - |
| Operating current | I _{op} | - | 225 | 260 | mA | Po=200mW |
| Operating voltage | V _{op} | - | 2.7 | 3.0 | V | Po=200mW |
| Beam divergence Parallel to the junction | θ _{//} | 5 | 8 | 13 | ° | Po=200mW, FWHM |
| Beam divergence Perpendicular to the junction | θ _⊥ | 10 | 14 | 18 | ° | Po=200mW, FWHM |
| Lasing Wavelength | λ _p | 634 | 639 | 644 | nm | Po=200mW |
| Monitor Current | I _s | 0.05 | 0.25 | 0.90 | mA | Po=200mW, V _{R(PD)} =5V |

Typical Characteristic Curves



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