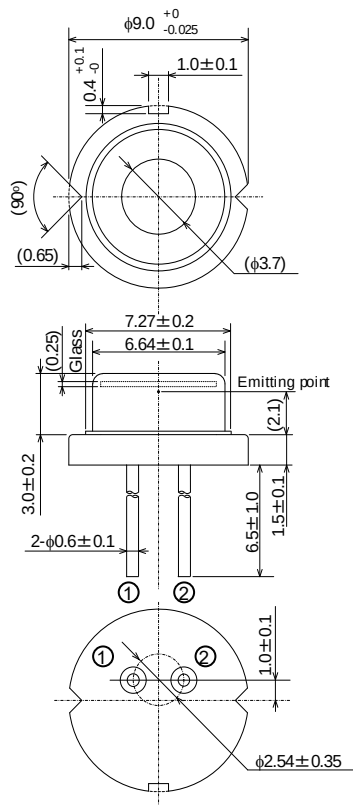


## HL63623HD

638nm / 1.6W [CW] / 1.9W [Pulse]

AlGaInP Laser Diode

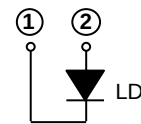
### Outline



(Unit: mm)

### Internal Circuit

HL63623HD



### Features

- Single emitters
- Optical output power: 1.6W (CW)  
1.9W (Pulse)
- Shorter wavelength: 638nm
- High wall plug efficiency: 43%
- High heat dissipation  $\phi 9$ mm CAN package
- Multi transverse mode
- TM mode oscillation

### Application

- Laser Projector
- Laser TV
- Light source of optical equipment

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

| Item                                                | Symbol             | Ratings   | Unit |
|-----------------------------------------------------|--------------------|-----------|------|
| Optical output power <sup>Note1)</sup>              | Po                 | 1.6       | W    |
| Pulse optical output power <sup>Note1) Note2)</sup> | Po(Pulse)          | 1.9       | W    |
| LD reverse voltage                                  | V <sub>R(LD)</sub> | 2         | V    |
| Operating temperature <sup>Note1)Note3)</sup>       | Topr               | -10 ~ +55 | °C   |
| Storage temperature                                 | Tstg               | -40 ~ +85 | °C   |

Note1) The relation of operating temperature vs optical output power are based on Fig.1.

Note2) Pulse condition: Pulse frequency≥120Hz, duty≤30%

Note3) 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.

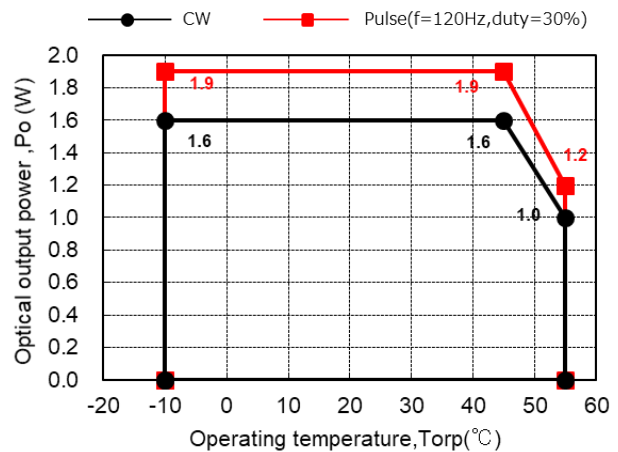


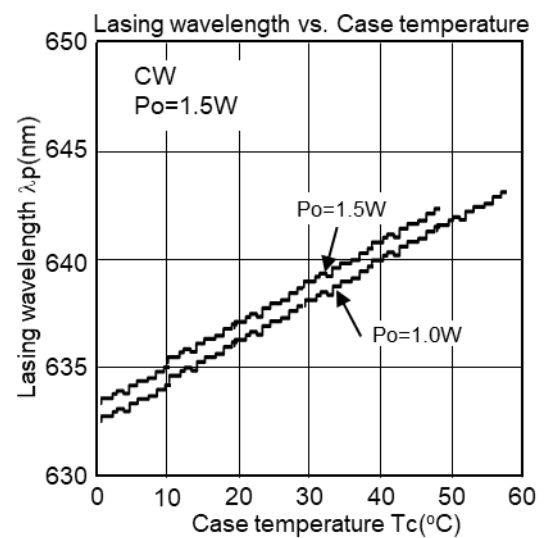
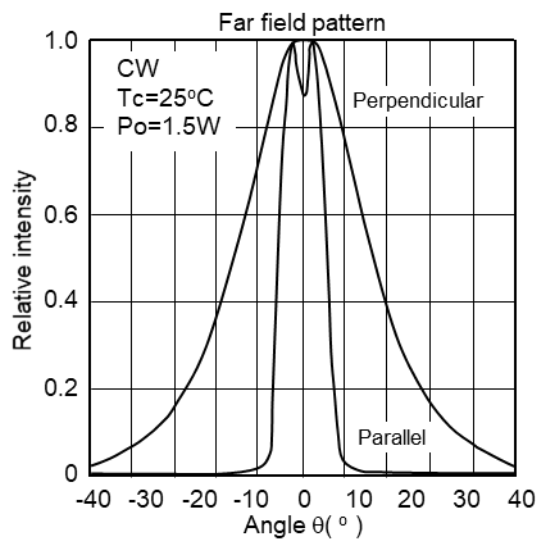
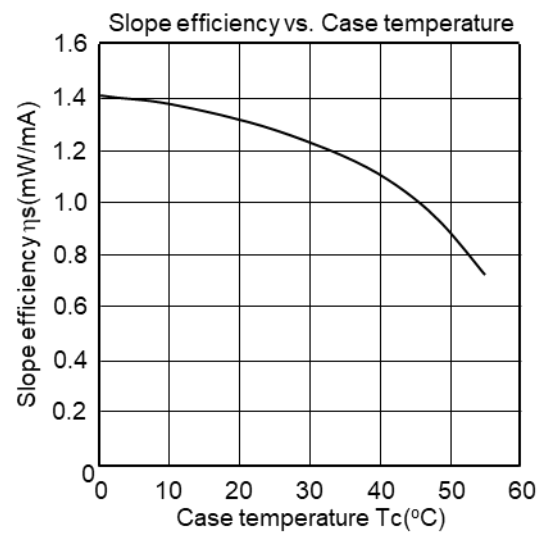
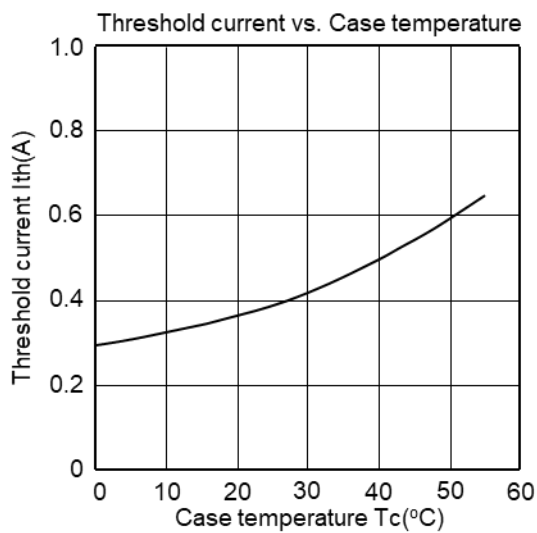
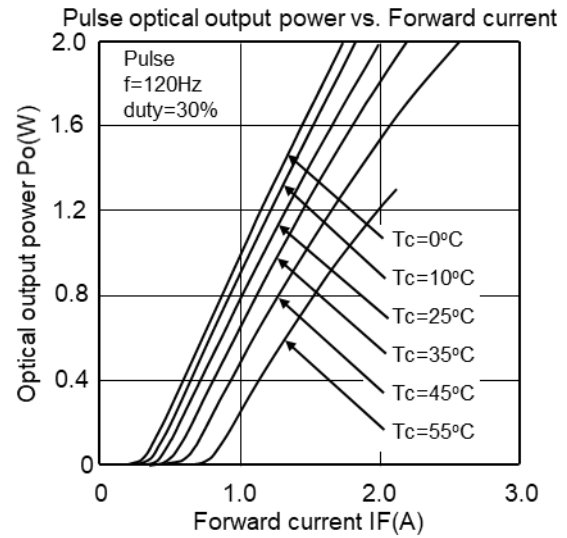
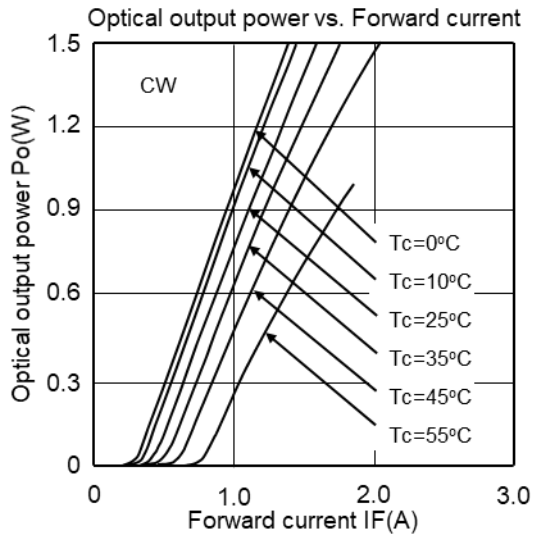
Fig.1 The relation of operating temperature vs optical output power

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

| Parameter                                                          | Symbol          | Min | Typ  | Max  | Unit | Test Condition   |
|--------------------------------------------------------------------|-----------------|-----|------|------|------|------------------|
| Threshold current                                                  | I <sub>th</sub> | -   | 420  | 520  | mA   | -                |
| Operating current                                                  | I <sub>op</sub> | -   | 1550 | 1850 | mA   | Po=1.5W          |
| Operating voltage                                                  | V <sub>op</sub> | -   | 2.25 | 2.80 | V    | Po=1.5W          |
| Beam divergence <sup>Note4)</sup><br>Parallel to the junction      | θ <sub>//</sub> | 3   | 10   | 20   | °    | Po=1.5W,<br>FWHM |
| Beam divergence <sup>Note4)</sup><br>Perpendicular to the junction | θ <sub>⊥</sub>  | 23  | 33   | 43   | °    | Po=1.5W,<br>FWHM |
| Lasing Wavelength                                                  | λ <sub>p</sub>  | 632 | 638  | 644  | nm   | Po=1.5W          |

Note4) Designed value

### Typical Characteristic Curves



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