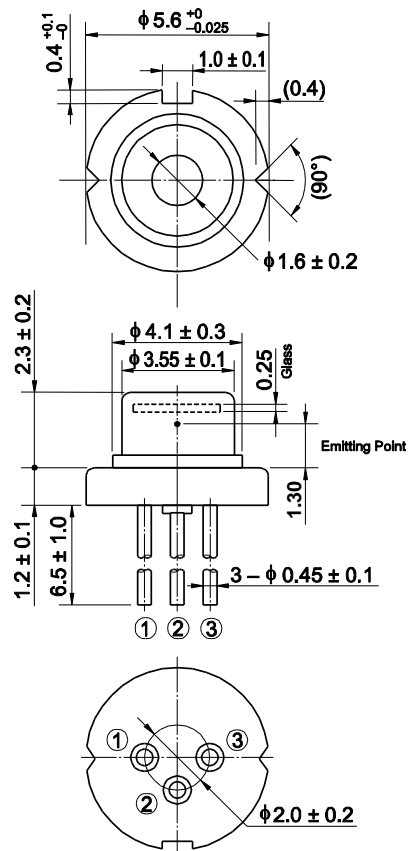




## HL40211MG/213MG

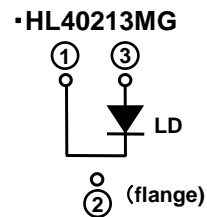
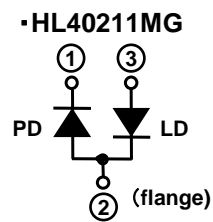
405nm/400mW Violet Laser Diode

### Outline



(Unit: mm)

### Internal Circuit



### Features

- Operation temperature:  $-5 \sim +85^\circ\text{C}$
- Optical output power: 400mW (CW)
- Violet Lasing: 405nm Typ.
- Low operating voltage: 5.5V Typ.
- Package:  $\phi 5.6\text{mm}$
- Single transverse mode
- TE mode oscillation

### Application

- Bio & Medical
- Measurement
- 3D Printer

## Absolute Maximum Ratings (Tc=25°C)

| Item                       | Symbol | Ratings   | Unit |
|----------------------------|--------|-----------|------|
| Optical output power (*1)  | Po     | 450       | mW   |
| LD Reverse Voltage         | VR(LD) | 2         | V    |
| PD Reverse Voltage (*2)    | VR(PD) | TBD       | V    |
| Operating Temperature (*1) | Topr   | -5 ~ +85  | °C   |
| Storage Temperature        | Tstg   | -40 ~ +85 | °C   |

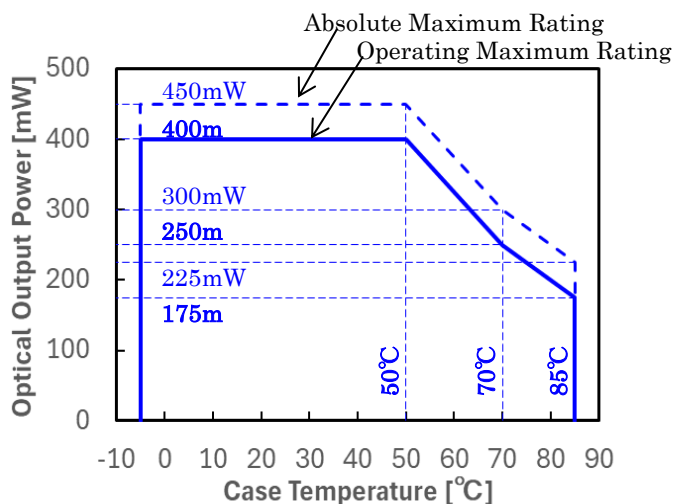
\*1 See the graph for the "Recommended Operating Range".

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

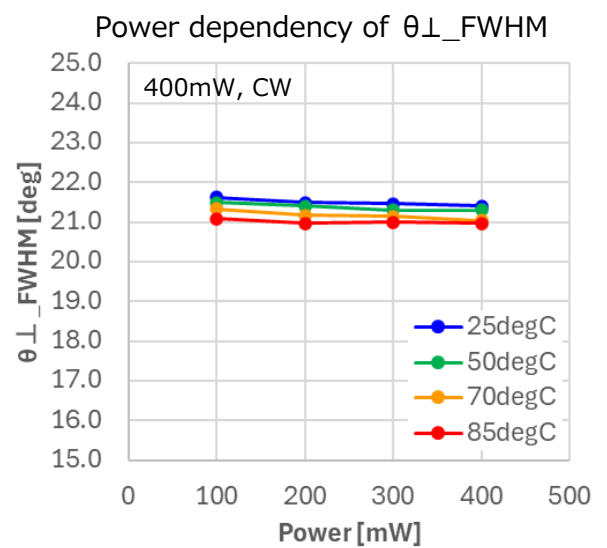
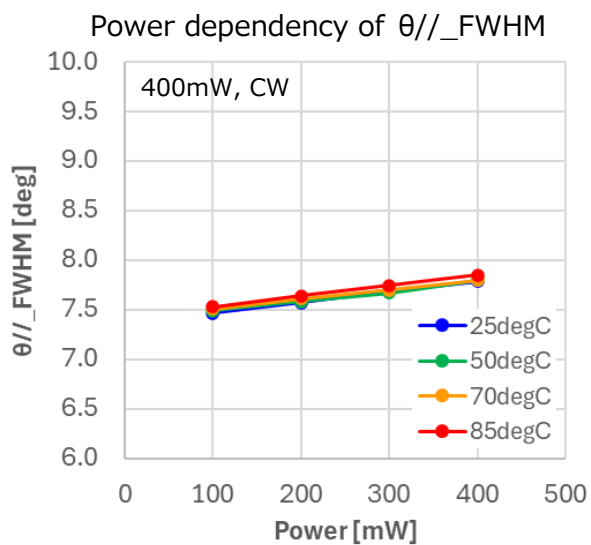
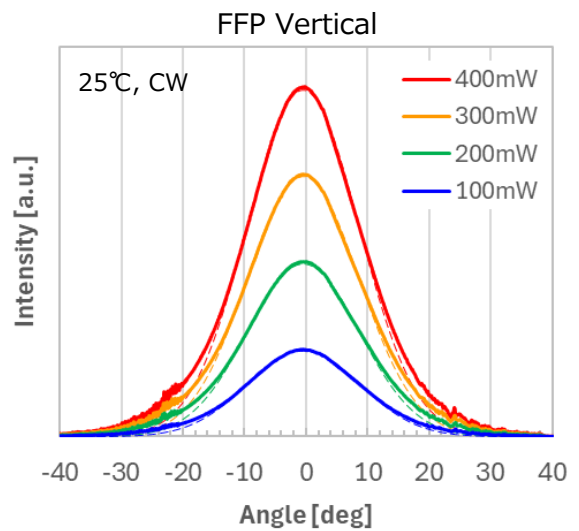
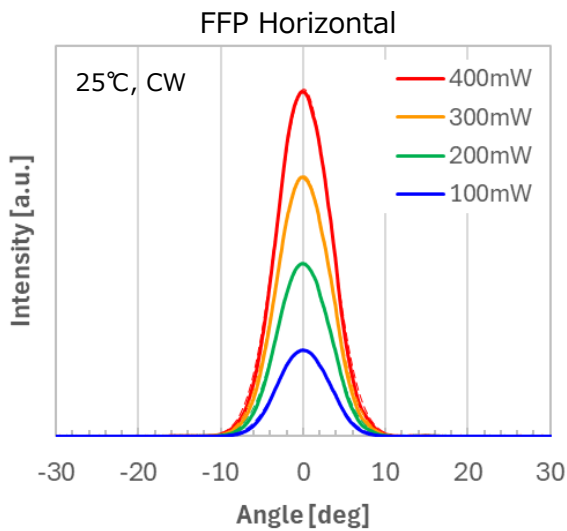
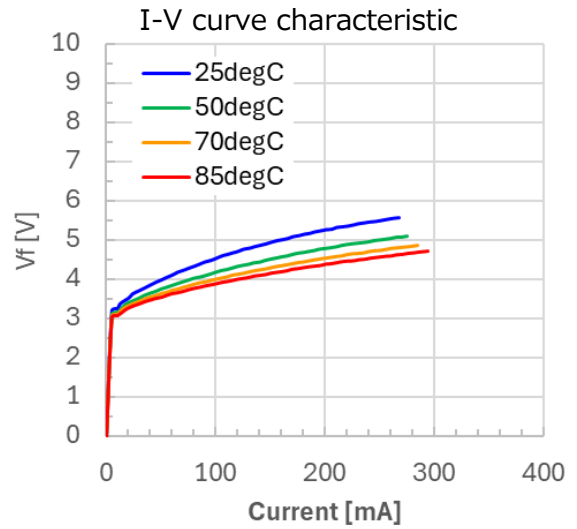
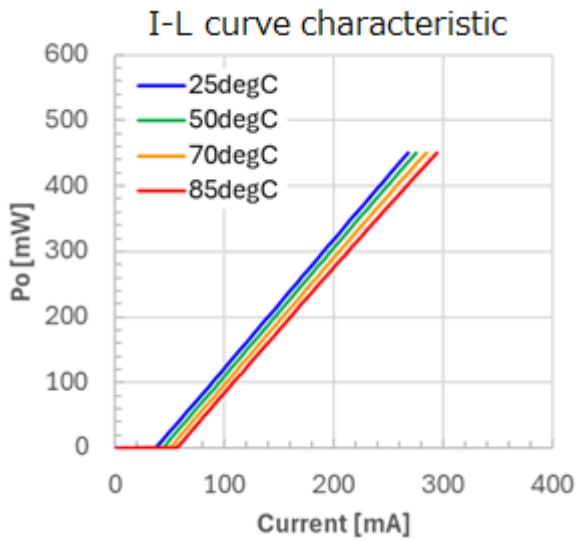
| Parameter  | Symbol           | Min  | Typ    | Max   | Unit | Test Condition        |
|--|------------------|------|--------|-------|------|-----------------------|
| Threshold current                                | Ith              | -    | 40     | (65)  | mA   | -                     |
| Operating current                                | Iop              | -    | 250    | (350) | mA   | Po=400mW              |
| Operating voltage                                | Vop              | -    | 5.5    | (7.0) | V    | Po=400mW              |
| Beam divergence<br>Parallel to the junction      | $\theta_{//}$    | (6)  | 8      | (10)  | °    | Po=400mW,<br>FWHM     |
| Beam divergence<br>Perpendicular to the junction | $\theta_{\perp}$ | (15) | 20     | (25)  | °    | Po=400mW,<br>FWHM     |
| Lasing Wavelength                                | $\lambda_p$      | 400  | 405    | 410   | nm   | Po=400mW              |
| Monitor Current (*2)                             | Is               | -    | (0.30) | -     | mA   | Po=400mW<br>VR(PD)=5V |

\*2 for only initial checking and for only HL40211MG type

## Recommended Operating Range



## Typical Characteristic Curves



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