

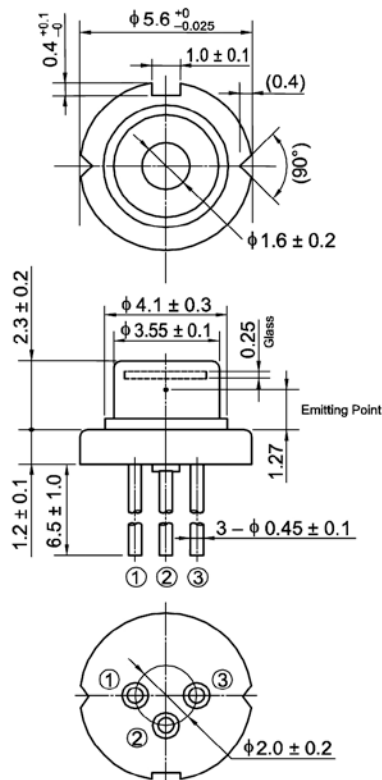
# Data Sheet

## HL40053MG

404nm / 500mW Violet Laser Diode

USHIO

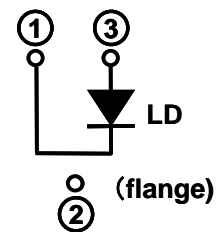
### Outline



(Unit: mm)

### Internal Circuit

• HL40053MG



### Features

- Optical output power: 400mW (CW)
- Violet Lasing: 398~410nm
- Low operating current: 370mA Typ.
- Low operating voltage: 4.9V Max.
- Package:  $\phi 5.6$ mm
- Multiple transverse mode
- TE mode oscillation

### Application

- Bio & Medical
- Measurement

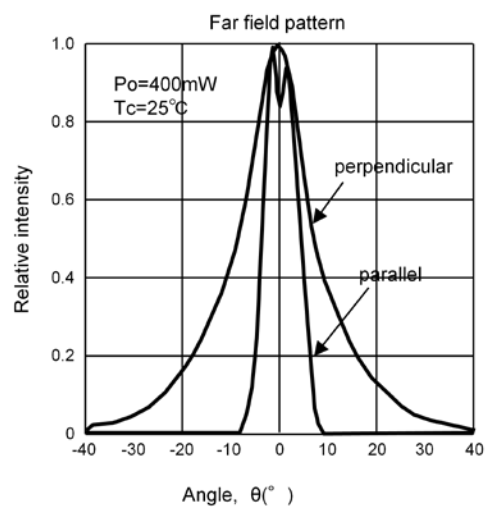
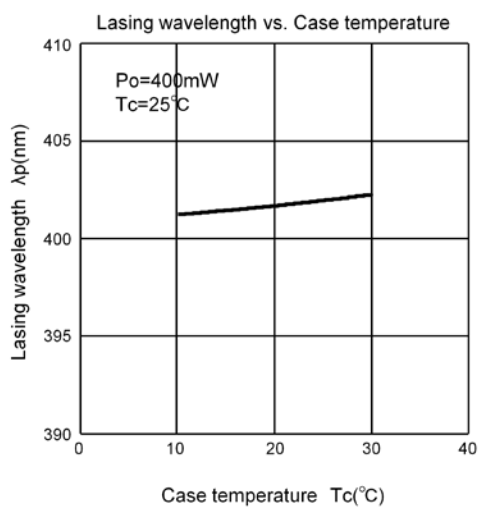
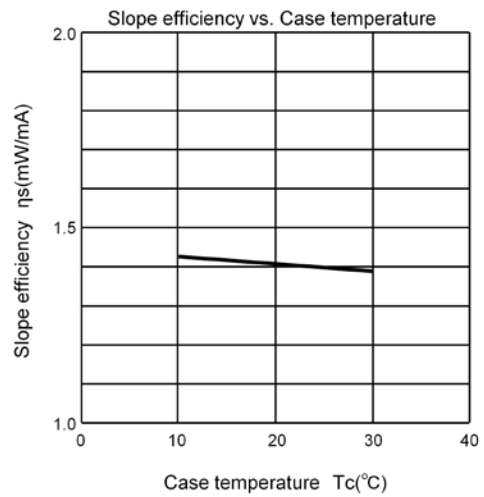
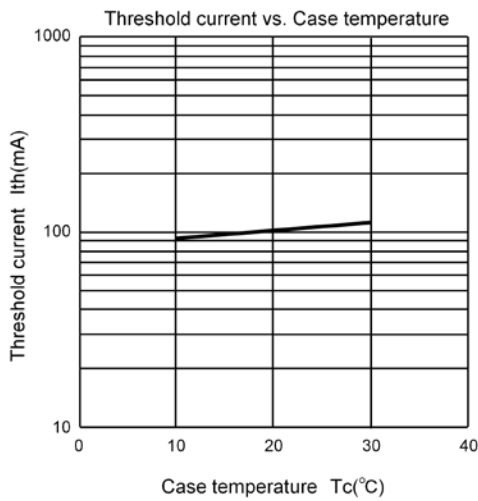
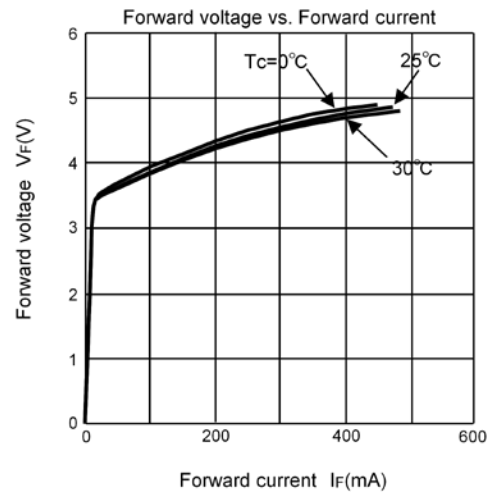
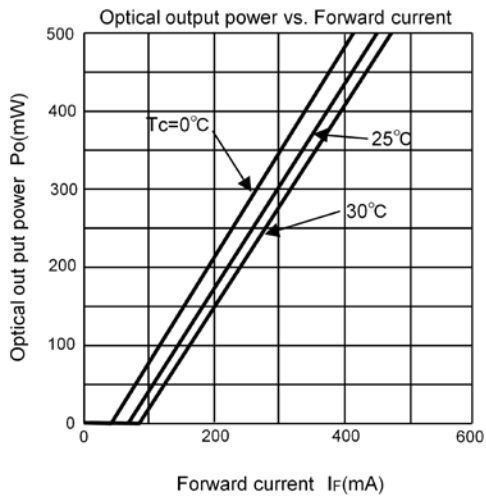
## Absolute Maximum Ratings (Tc=25°C)

| Item                  | Symbol | Ratings   | Unit |
|-----------------------|--------|-----------|------|
| Optical output power  | Po     | 500       | mW   |
| LD Reverse Voltage    | VR(LD) | 5         | V    |
| Operating Temperature | Topr   | 0 ~ +30   | °C   |
| Storage Temperature   | Tstg   | -35 ~ +85 | °C   |

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

| Parameter  | Symbol           | Min | Typ | Max | Unit | Test Condition                  |
|--|------------------|-----|-----|-----|------|---------------------------------|
| Threshold current                                | Ith              | -   | 110 | 130 | mA   | -                               |
| Operating current                                | Iop              | -   | 370 | 410 | mA   | Po=400mW                        |
| Operating voltage                                | Vop              | -   | -   | 4.9 | V    | Po=400mW                        |
| Beam divergence<br>Parallel to the junction      | $\theta_{//}$    | 5   | 13  | 25  | °    | Po=400mW,<br>Full angle $1/e^2$ |
| Beam divergence<br>Perpendicular to the junction | $\theta_{\perp}$ | 30  | 42  | 50  | °    | Po=400mW,<br>Full angle $1/e^2$ |
| Lasing Wavelength                                | $\lambda_p$      | 398 | 404 | 410 | nm   | Po=400mW                        |

## Typical Characteristic Curves



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