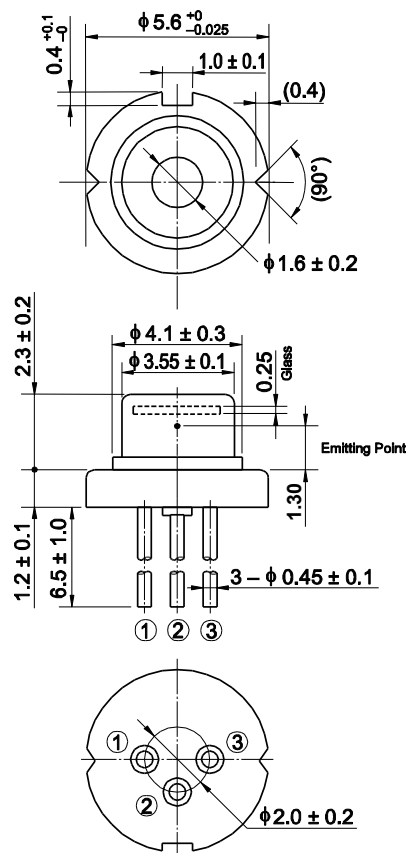


## HL40161MG/162MG/163MG

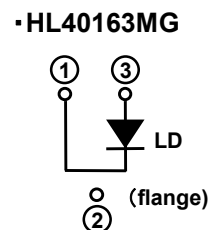
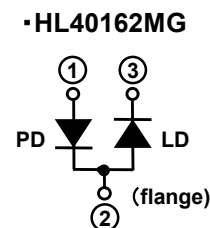
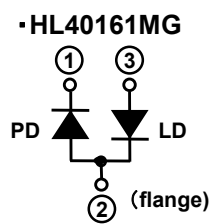
405nm/175mW Violet Laser Diode

### Outline



(Unit: mm)

### Internal Circuit



### Features

- Operation temperature: -5~+85°C
- Optical output power: 175mW (CW)
- Violet Lasing: 405nm Typ.
- Low operating voltage: 5.0V Typ.
- Package:  $\phi 5.6\text{mm}$
- Single transverse mode
- TE mode oscillation

### Application

- Bio & Medical
- Measurement
- 3D Printer

# HL40161MG/162MG/163MG

Data Sheet

## Absolute Maximum Ratings (Tc=25°C)

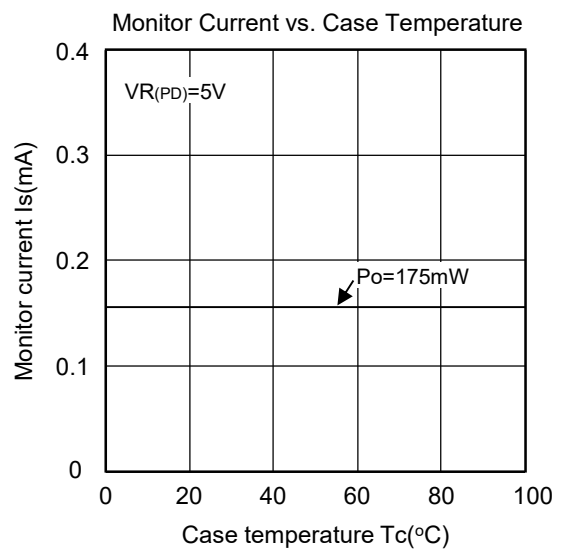
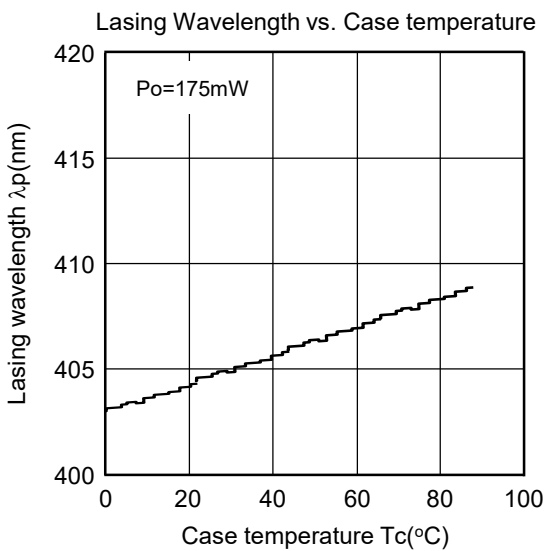
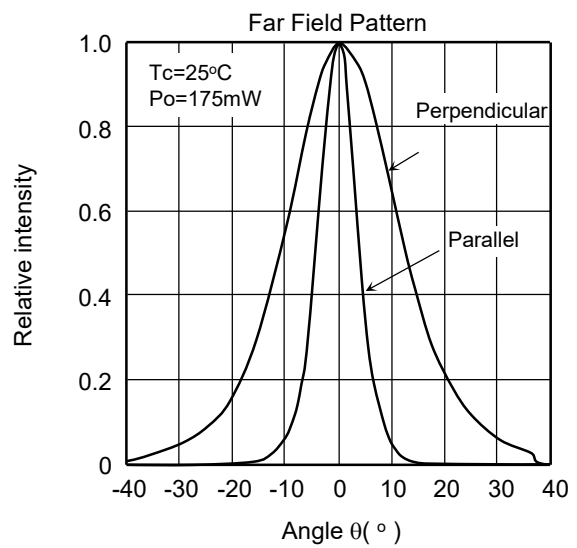
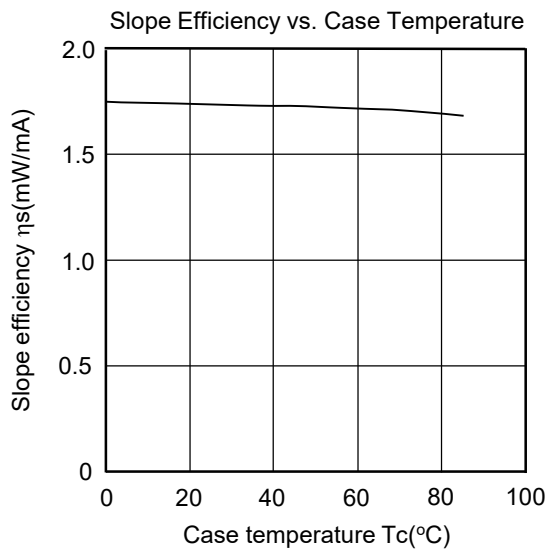
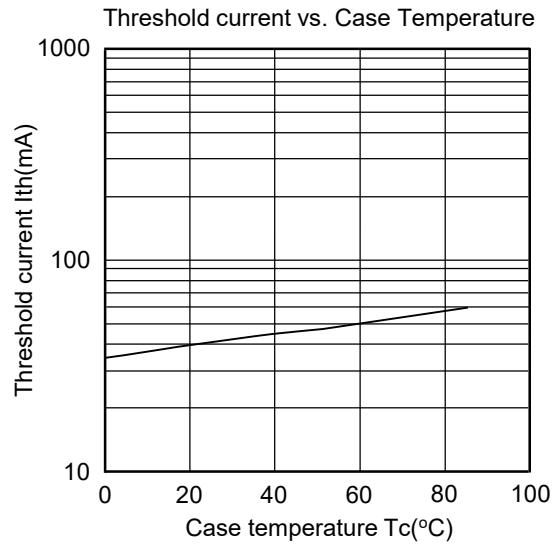
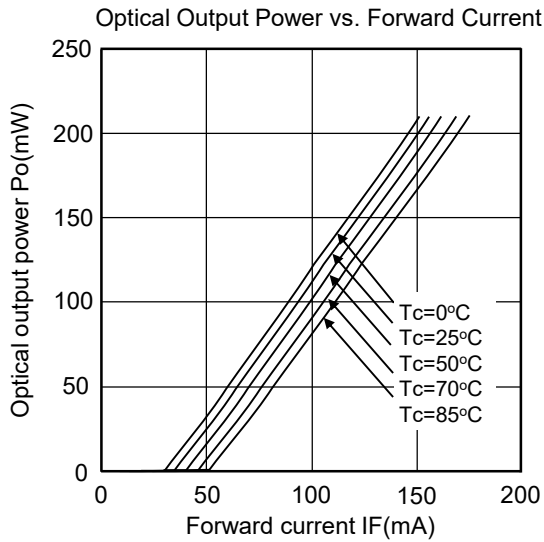
Item	Symbol	Ratings	Unit
Optical output power	Po	210	mW
LD Reverse Voltage	V <sub>R(LD)</sub>	2	V
PD Reverse Voltage (*1)	V <sub>R(PD)</sub>	15	V
Operating Temperature	T <sub>opr</sub>	-5 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +85	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	I <sub>th</sub>	-	35	55	mA	-
Operating current	I <sub>op</sub>	-	150	200	mA	Po=175mW
Operating voltage	V <sub>op</sub>	-	5.0	6.5	V	Po=175mW
Beam divergence Parallel to the junction	θ <sub>//</sub>	6	9	12	°	Po=175mW, FWHM
Beam divergence Perpendicular to the junction	θ <sub>⊥</sub>	15	20	25	°	Po=175mW, FWHM
Lasing Wavelength	λ <sub>p</sub>	400	405	410	nm	Po=175mW
Monitor Current (*1)	I <sub>s</sub>	0.05	0.15	0.50	mA	Po=175mW V <sub>R(PD)</sub> =5V

\*1 for only initial checking and for HL40161MG/162MG type

## Typical Characteristic Curves



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2. This product (without violet laser diode) contains gallium arsenide (GaAs), which may seriously endanger your health even at very low doses. Please avoid treatment which may create GaAs powder or gas, such as disassembly or performing chemical experiments, when you handle the product. When disposing of the product, please follow the laws of your country and separate it from other waste such as industrial waste and household garbage.

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