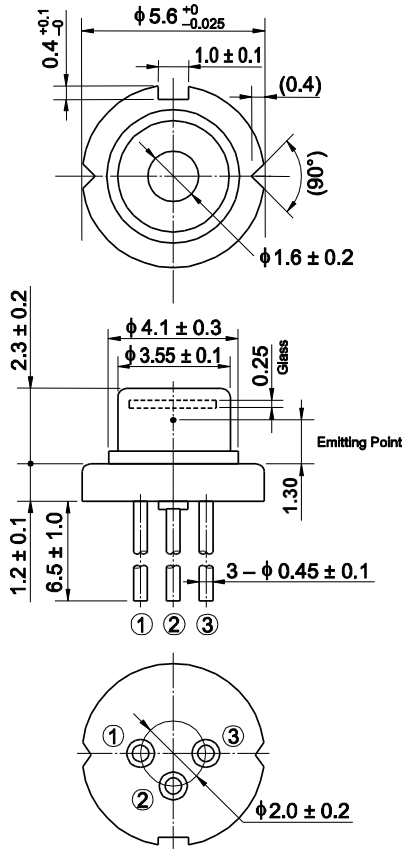
HL40161MG/162MG/163MG

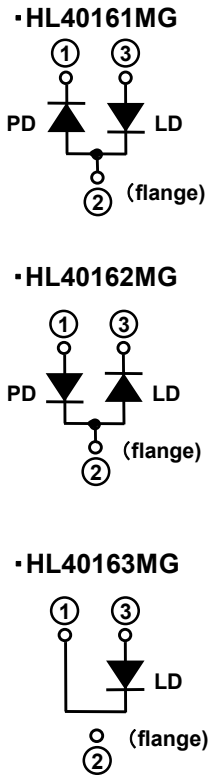
405nm/175mW Violet Laser Diode

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: ϕ5.6mm
- 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	Po	210	mW
LD Reverse Voltage	$V_{R(LD)}$	2	V
PD Reverse Voltage (*1)	$V_{R(PD)}$	15	V
Operating Temperature	Topr	-5 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	°C

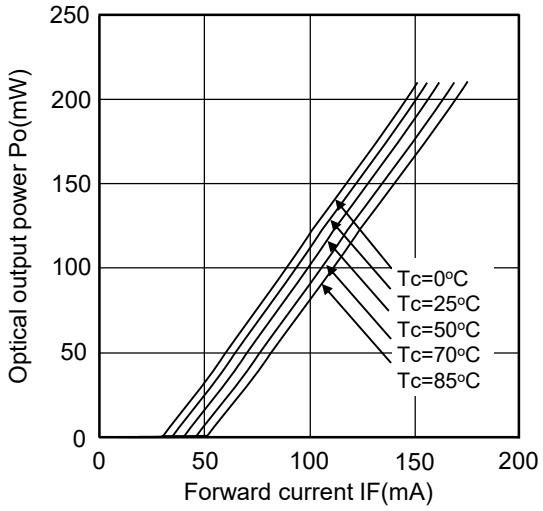
Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	Ith	-	35	55	mA	-
Operating current	Iop	-	150	200	mA	Po=175mW
Operating voltage	Vop	-	5.0	6.5	V	Po=175mW
Beam divergence Parallel to the junction	θ//	6	9	12	°	Po=175mW, FWHM
Beam divergence Perpendicular to the junction	θ⊥	15	20	25	°	Po=175mW, FWHM
Lasing Wavelength	λp	400	405	410	nm	Po=175mW
Monitor Current (*1)	Is	0.05	0.15	0.50	mA	Po=175mW $V_{R(PD)}$=5V

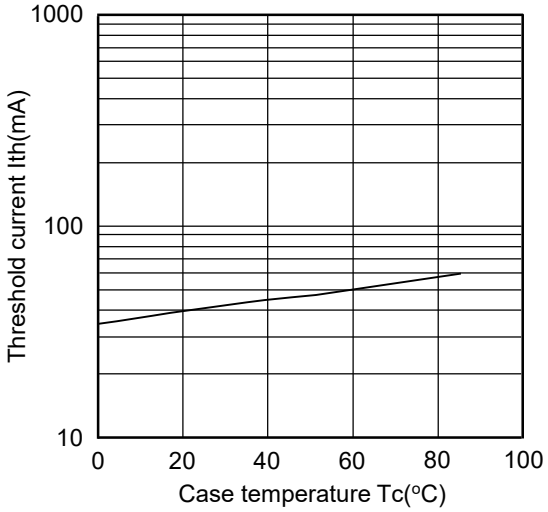
*1 for only initial checking and for HL40161MG/162MG type

Typical Characteristic Curves

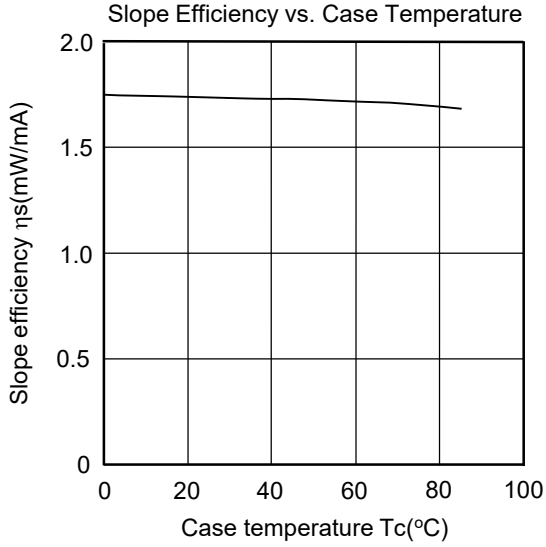
Optical Output Power vs. Forward Current



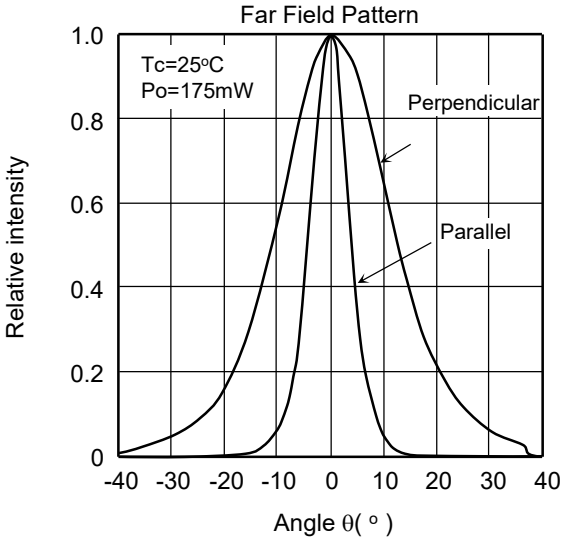
Threshold current vs. Case Temperature



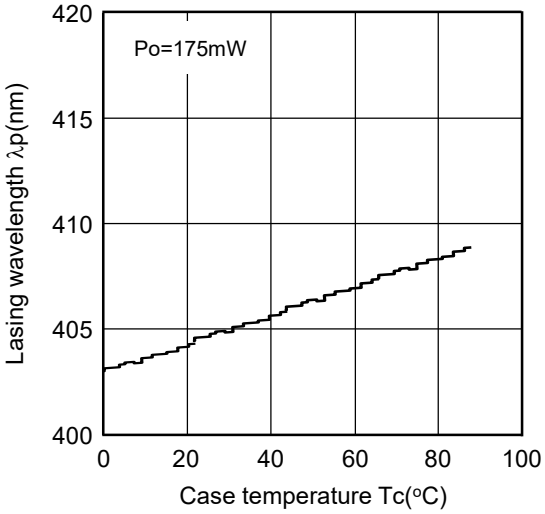
Slope Efficiency vs. Case Temperature



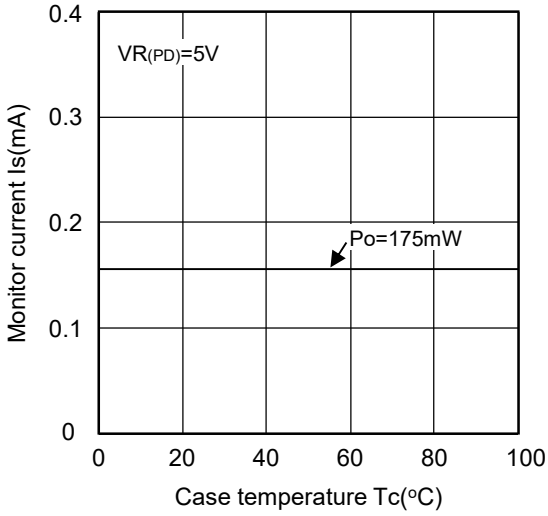
Far Field Pattern



Lasing Wavelength vs. Case temperature



Monitor Current vs. Case Temperature



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