

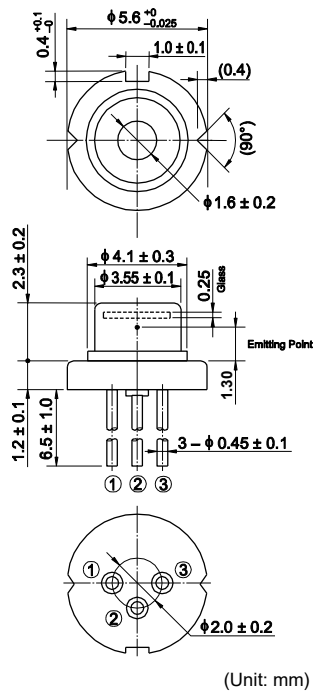
USHIO *Applying Light to Life*

Preliminary Data Sheet

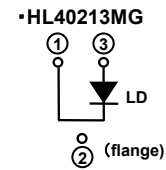
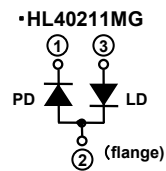
HL40211MG/213MG

405nm/400mW Violet Laser Diode

Outline



Internal Circuit



Features

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

Application

- Bio & Medical
- Measurement
- 3D Printer

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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

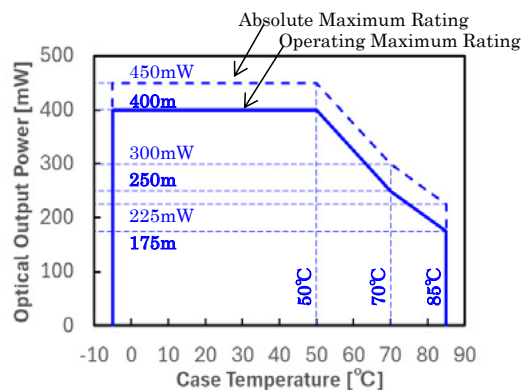
*1 See the graph for the "Recommended Operating Range".

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 Parallel to the junction	θ//	(6)	8	(10)	°	Po=400mW, FWHM
Beam divergence Perpendicular to the junction	θ⊥	(15)	20	(25)	°	Po=400mW, FWHM
Lasing Wavelength	λp	400	405	410	nm	Po=400mW
Monitor Current (*2)	Is	-	(0.30)	-	mA	Po=400mW VR(PD)=5V

*2 for only initial checking and for only HL40211MG type

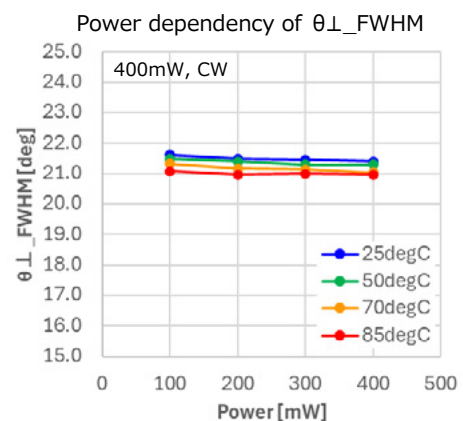
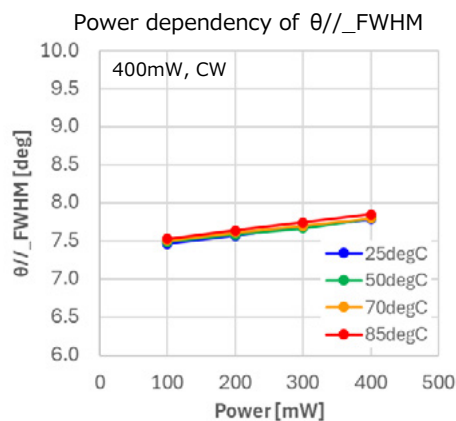
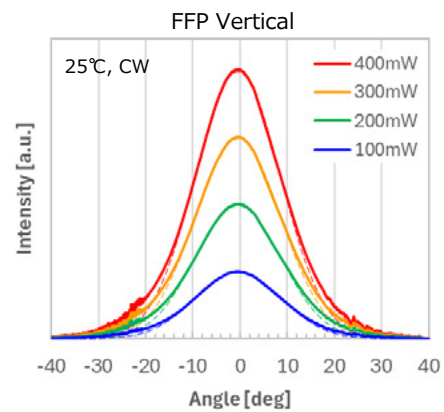
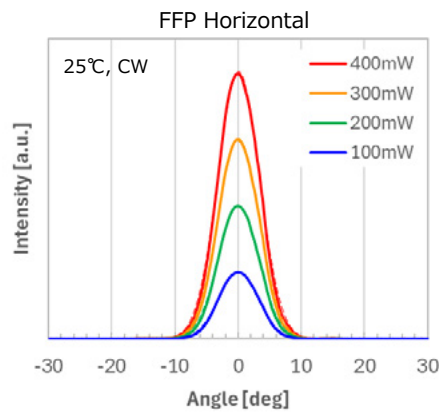
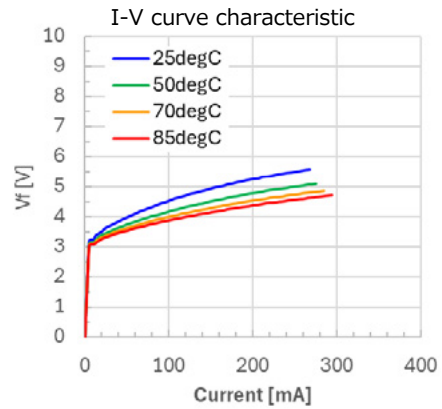
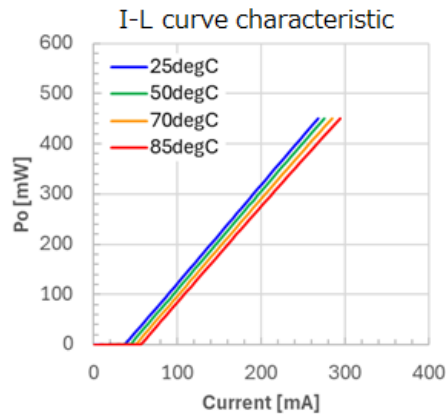
Recommended Operating Range



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Typical Characteristic Curves



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