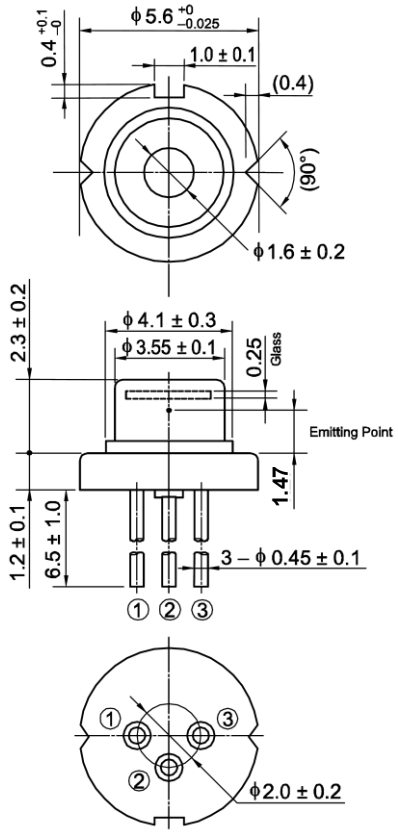
Preliminary Data Sheet

HL85021MG/022MG/023MG

850nm/260mW Infrared Laser Diode

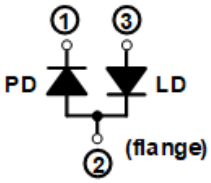
Outline



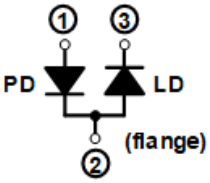
(Unit: mm)

Internal Circuit

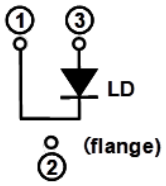
HL85021MG



HL85022MG



HL85023MG



Features

- Infrared light output: 850nm Typ.
- High optical output power: 260mW (CW)
- Operating current: 270mA Typ. at 250mW
- Wide operating temperature: -20 ~ +75°C
- Single transverse mode
- TE mode oscillation

Application

- Night vision
- Sensor application
- Laser module

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Optical output power	Po	260	mW
LD reverse voltage	$V_{R(LD)}$	2	V
PD reverse voltage Note1)	$V_{R(PD)}$	30	V
Operating temperature	Topr	-20 ~ +75	°C
Storage temperature	Tstg	-40 ~ +85	°C

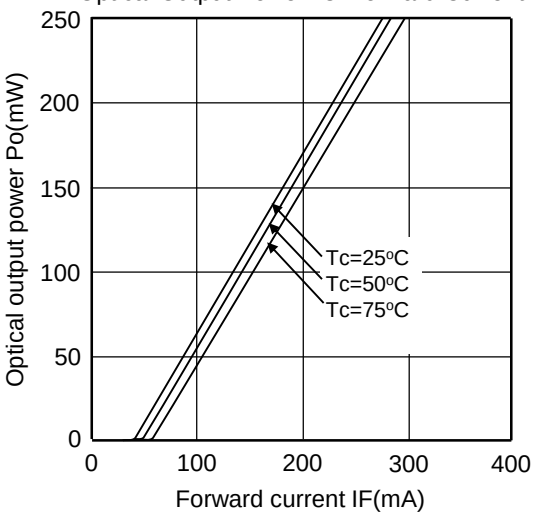
Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	Ith	-	45	-	mA	-
Operating current	Iop	-	270	-	mA	Po=250mW
Operating voltage	Vop	-	2.6	-	V	Po=250mW
Beam divergence Parallel to the junction	θ//	-	7.5	-	°	Po=250mW, FWHM
Beam divergence Perpendicular to the junction	θ⊥	-	15	-	°	Po=250mW, FWHM
Lasing Wavelength	λp	840	850	860	nm	Po=250mW
Monitor current Note1)	Is	-	1.2	-	mA	Po=250mW, $V_{R(PD)}$=5V

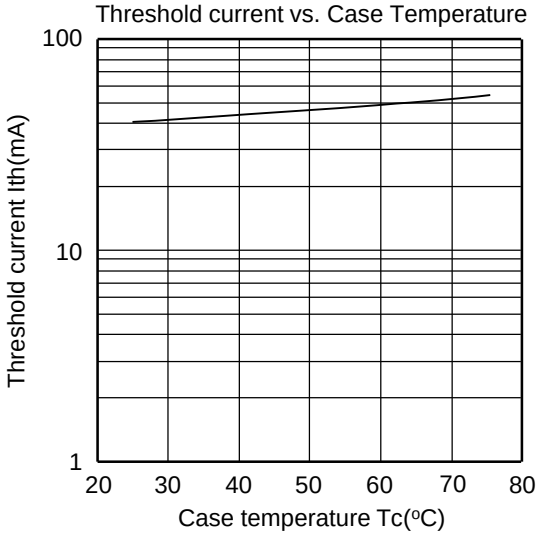
Note1) Not applicable to HL85023MG.

Typical Characteristic Curves

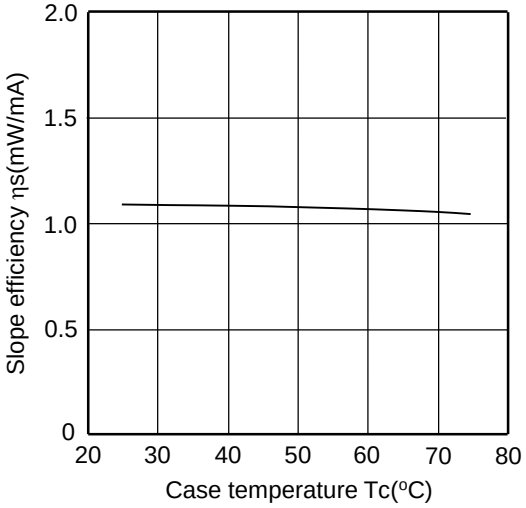
Optical Output Power vs. Forward Current



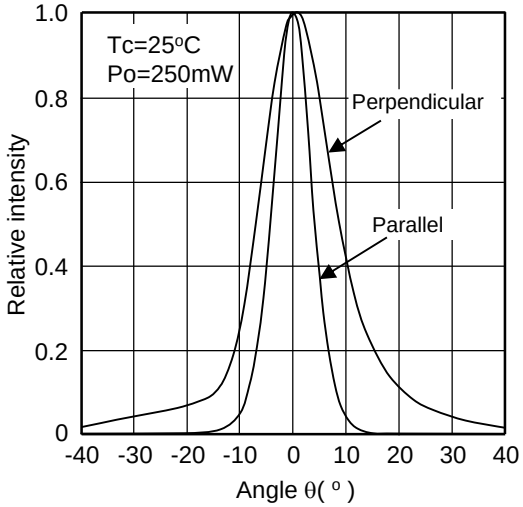
Threshold current vs. Case Temperature



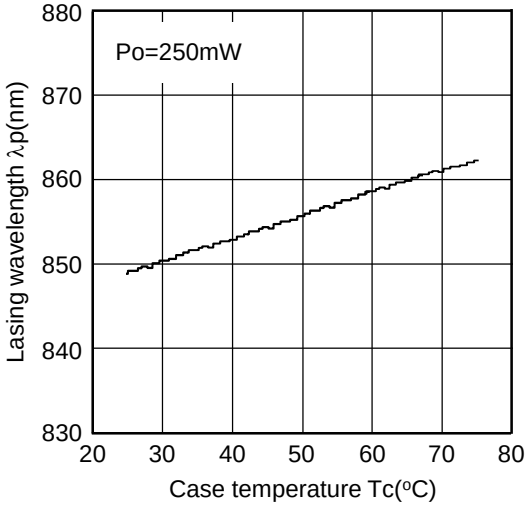
Slope Efficiency vs. Case Temperature



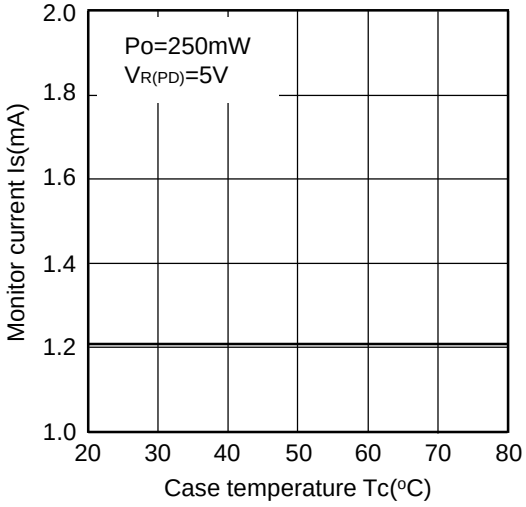
Far Field Pattern



Lasing Wavelength vs. Case temperature



Monitor Current vs. Case Temperature



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