Product Status Information

HL83013MG is Not Recommended for New Design (NRND) status. Please refer to successor product below for new design and adoption.

NRND Product	Successor Product
HL83013MG	HL85023MG
https://www.ushio.co.jp/jp/products/product_file/file/UIE_DS_HL83013MG.pdf	https://www.ushio.co.jp/jp/products/product_file/file/UIE_DS_HL85023MG.pdf

For the “Product Life Cycle” definition, please refer to below link.

Japanese; https://www.ushio.co.jp/jp/laser/news/500958.html

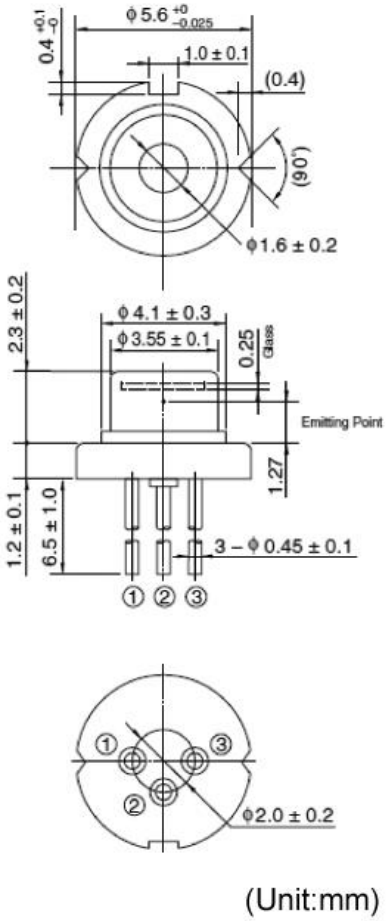
English; https://www.ushio.co.jp/en/laser/news/500958.html

Data Sheet

HL83013MG

830nm / 50mW GaAlAs Laser Diode

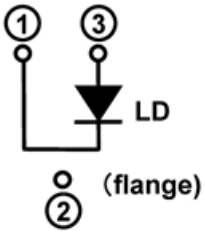
Outline



(Unit:mm)

Internal Circuit

HL83013MG



Features

- Operation temperature: -10~+60°C
- Optical output power: 50mW(CW)
- Infrared lasing: 830nm Typ.
- Low operating voltage: 2.4V Max.
- Package: ϕ5.6mm
- Single transverse mode
- TE mode oscillation

Application

- Sensor application
- Night vision
- Machine vision
- Light source of optical equipments

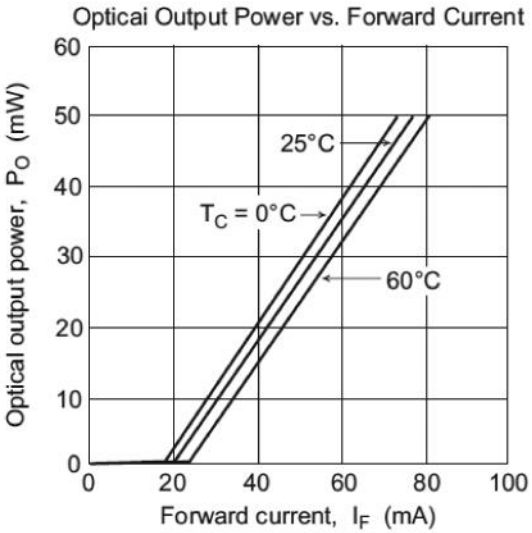
Absolute Maximum Ratings (Tc=25°C)

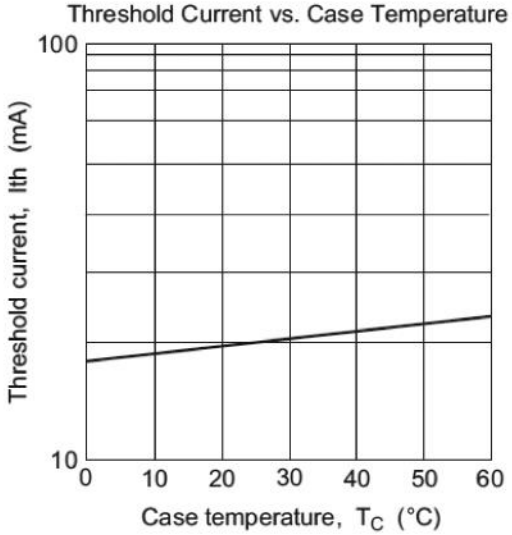
Item	Symbol	Ratings	Unit
Optical output power	Po	50	mW
LD Reverse Voltage	$V_{R(LD)}$	2	V
Operating Temperature	Topr	-10 ~ +60	°C
Storage Temperature	Tstg	-40 ~ +85	°C

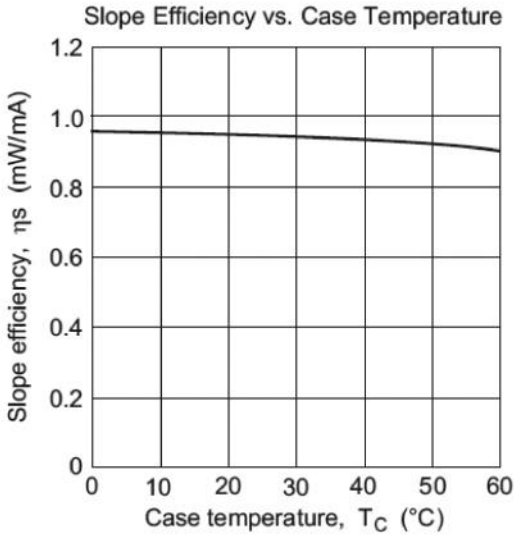
Optical and Electrical Characteristics (Tc=25°C)

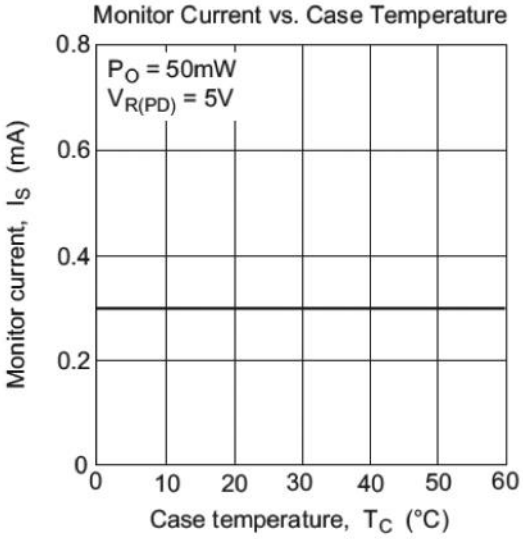
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	Ith	-	20	40	mA	-
Operating current	Iop	-	75	100	mA	Po=50mW
Operating voltage	Vop	-	1.9	2.4	V	Po=50mW
Beam divergence Parallel to the junction	θ//	6	9	12	°	Po=50mW, FWHM
Beam divergence Perpendicular to the junction	θ⊥	18	22	26	°	Po=50mW, FWHM
Lasing Wavelength	λp	820	830	840	nm	Po=50mW

Typical Characteristic Curves









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