Product Status Information

HL6312G-A is Not Recommended for New Design (NRND) status. Please refer to successor product below for new design and adoption.

NRND Product	Successor Product
HL6312G-A	HL63102MG
https://www.ushio.co.jp/jp/products/product_file/file/UIE_DS_HL6312G.pdf	https://www.ushio.co.jp/jp/products/product_file/file/UIE_DS_HL63102MG.pdf

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

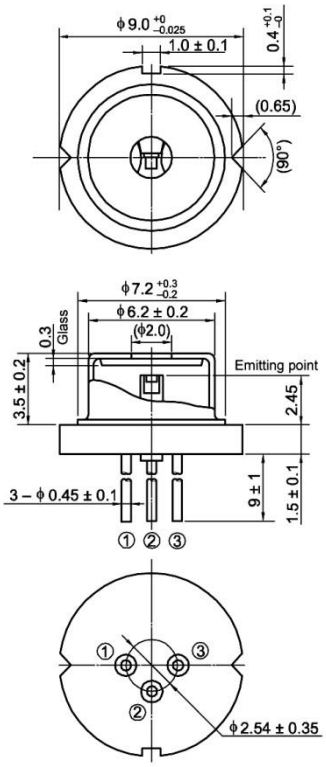
Japanese; https://www.ushio.co.jp/jp/laser/news/500958.html

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

HL6312G-A

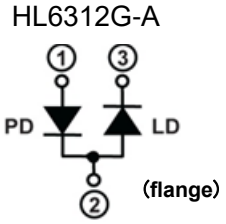
638nm / 5mW AlGaInP Laser Diode

Outline



(unit: mm)

Internal Circuit



Features

- Visible light output: 638nm Typ.
- Optical output power: 5mW (CW)
- Low operating voltage: 2.7V Max.
- Built-in photodiode for monitoring laser output
- TM mode oscillation
- Single transverse mode

Application

- Laser leveler
- Bar code reader
- Distance meter
- Light source of optical equipments

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Optical output power	Po	5	mW
Pulse optical output power	Po (pulse)	6*	mW
LD Reverse Voltage	$V_{R(LD)}$	2	V
PD Reverse Voltage	$V_{R(PD)}$	30	V
Operating Temperature	Topr	-10 ~ +50	°C
Storage Temperature	Tstg	-40 ~ +85	°C

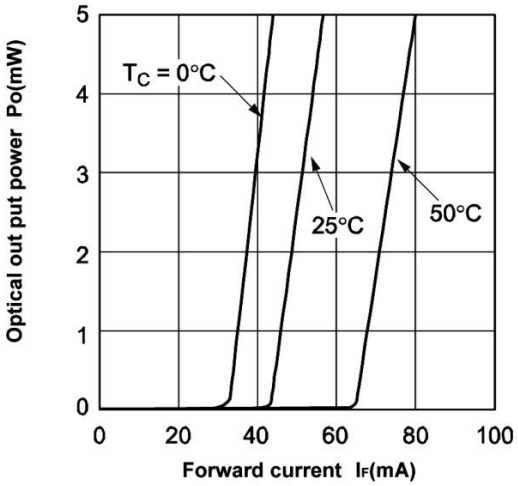
* Pulse condition: Pulse width≤1μs, duty≤50%

Optical and Electrical Characteristics (Tc=25°C)

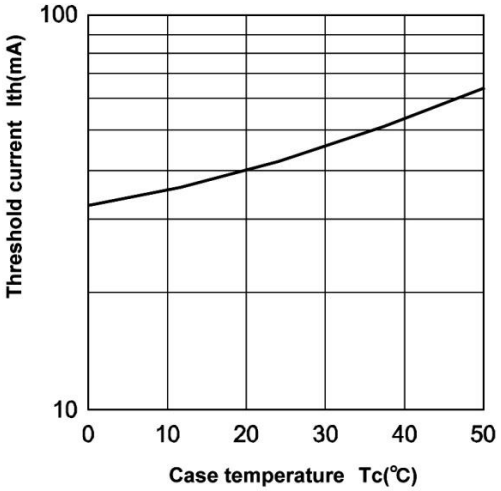
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	Ith	20	45	70	mA	-
Operating current	Iop	-	55	85	mA	Po=5mW
Operating voltage	Vop	-	-	2.7	V	Po=5mW
Beam divergence Parallel to the junction	θ//	5	8	11	°	Po=5mW FWHM
Beam divergence Perpendicular to the junction	θ⊥	25	31	37	°	Po=5mW FWHM
Astigmatism	As	-	8	-	μm	Po=5mW, NA=0.55
Lasing Wavelength	λp	625	638	640	nm	Po=5mW
Monitor current	Is	0.2	0.4	0.8	mA	Po=5mW, $V_{R(PD)}$=5V

Typical Characteristic Curves

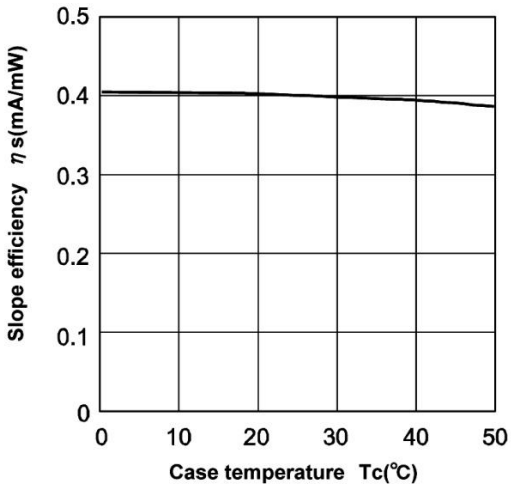
Optical output power vs. Forward current



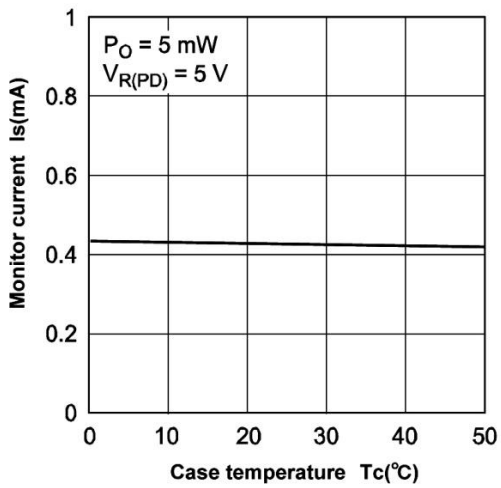
Threshold current vs. Case temperature



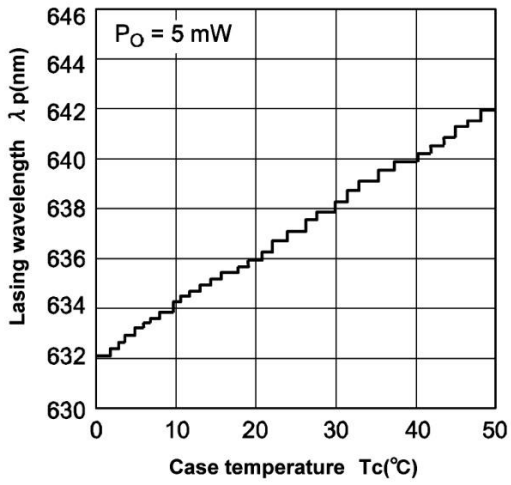
Slope efficiency vs. Case temperature



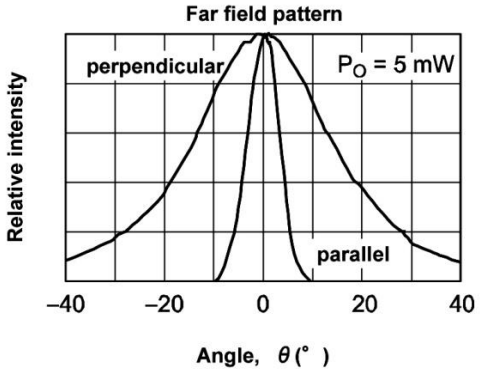
Monitor current vs. Case temperature



Lasing wavelength vs. Case temperature



Far field pattern



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