

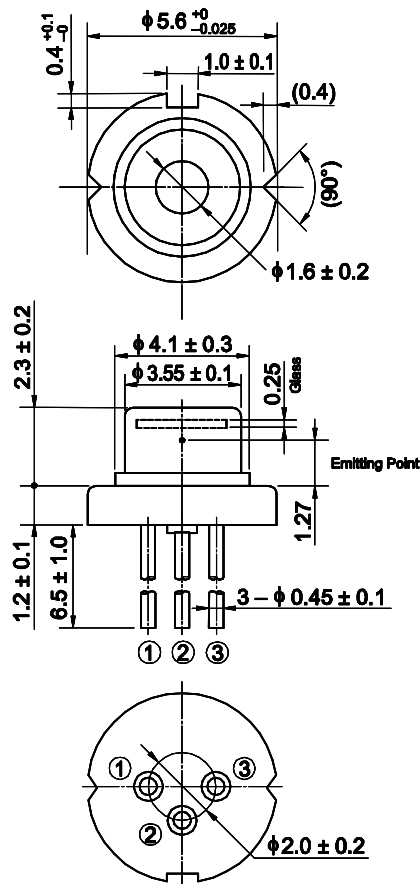
# Data Sheet

# HL63613MG

638nm / 700mW AlGaInP Laser Diode



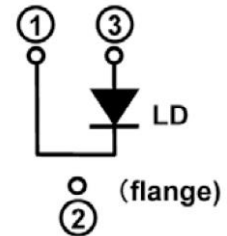
## Outline



(unit:mm)

## Internal Circuit

### HL63613MG



## Features

- Visible light output: 638 nm Typ.
- Optical output power: 700mW (CW)
- Multi transverse mode
- Small package  $\phi 5.6$ mm
- TM mode oscillation

## Application

- Show Laser
- Light source of optical equipments

## Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Optical output power(1) (-10 to +30°C) <sup>Note2)</sup>	Po (1)	700	mW
Optical output power(2) (+30 to +40°C) <sup>Note2)</sup>	Po (2)	550	mW
Pulse optical output power <sup>Note2),3),4)</sup>	Po(pulse)	1000	mW
LD Reverse Voltage	V <sub>R(LD)</sub>	2	V
Operating Temperature <sup>Note2)</sup>	Topr	-10 ~ +40	°C
Storage Temperature	Tstg	-40 ~ +85	°C

Note1) These values should not be exceeded under any conditions.

Note2) Operating temperature “Topr” is defined by Case temperature “Tc”. LD chip temperature is getting higher during operation due to its high current density and small package. Thus, without proper heat dissipation less optical output power than specified one could be observed or it results to LD degradation. It is advised that sufficient heat dissipation should be taken not to exceed the maximum operating temperature during actual operation.

Note3) Pulse condition: Pulse frequency ≥ 50Hz, duty ≤ 33%

Note4) The long term reliability such as lifetime is not guaranteed.

## Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	I <sub>th</sub>	-	200	300	mA	-
Operating current	I <sub>op</sub>	-	820	1000	mA	Po=700mW
Operating voltage	V <sub>op</sub>	-	2.2	3.0	V	Po=700mW
Beam divergence Parallel to the junction	θ <sub>//</sub>	1	9	20	°	Po=700mW, FWHM
Beam divergence Perpendicular to the junction	θ <sub>⊥</sub>	25	35	45	°	Po=700mW, FWHM
Lasing Wavelength	λ <sub>p</sub>	632	638	645	nm	Po=700mW

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