

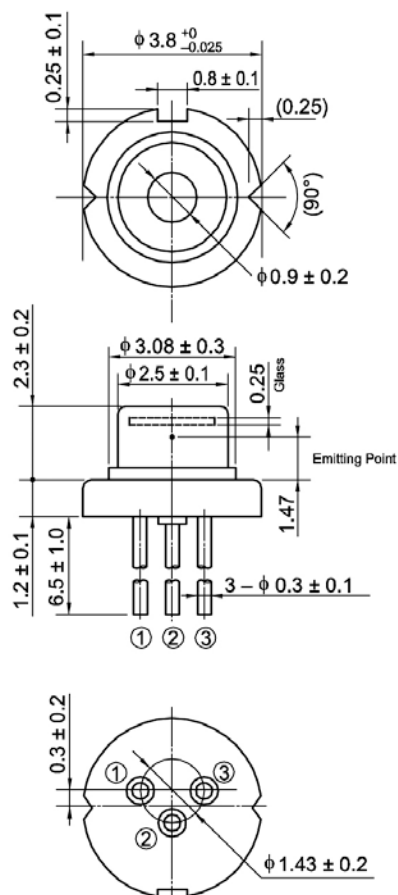
## Data Sheet

# HL63603TG

638nm / 120mW AlGaInP Laser Diode

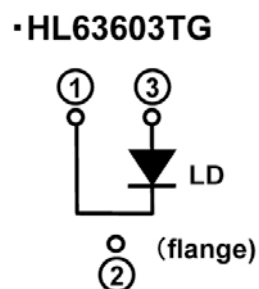
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### Outline



(unit:mm)

### Internal Circuit



### Features

- Visible light output: 638nm Typ.
- Optical output power: 120mW (CW)
- Single transverse mode
- Low operating current: 165mA Typ.
- Low operating voltage: 2.7V Max.
- Small package:  $\phi 3.8$ mm
- TE mode oscillation

### Application

- Pico projector
- Laser module
- Light source of optical equipments

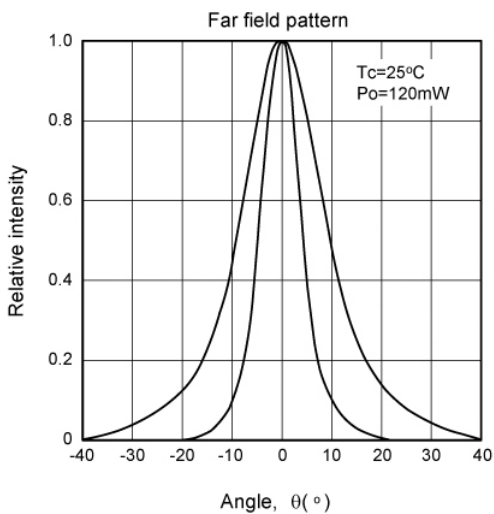
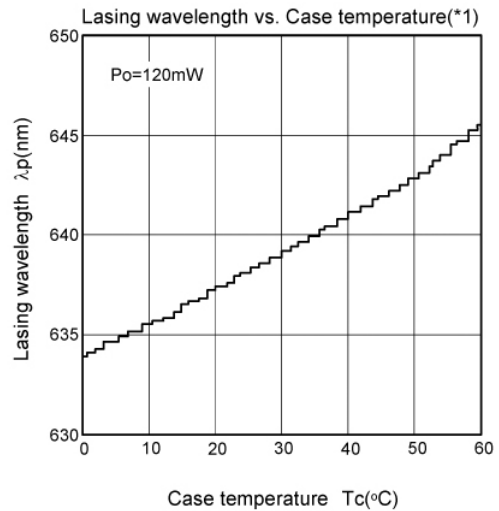
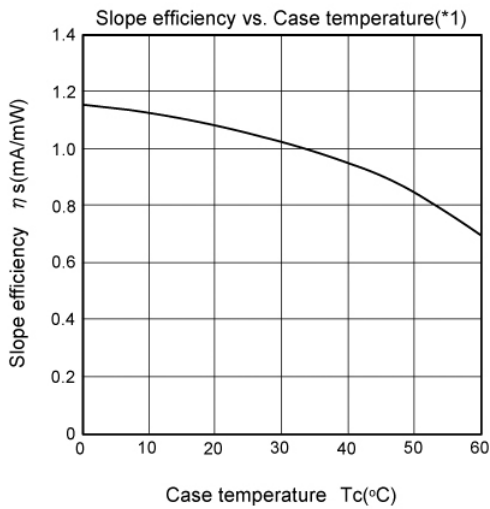
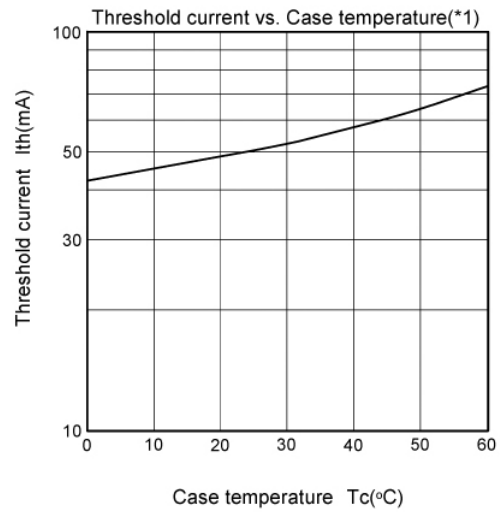
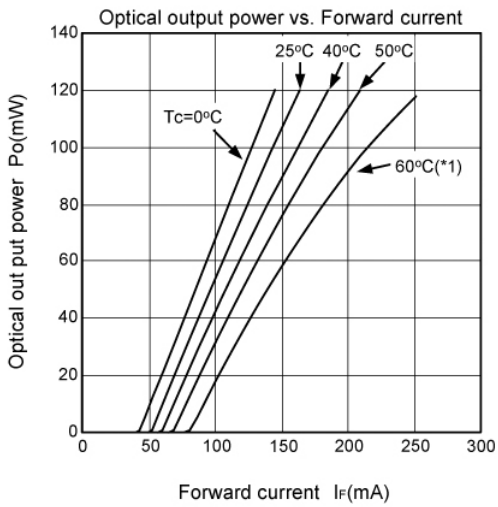
## Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Optical output power(1) (-10 to +50 °C)	Po (1)	120	mW
Optical output power(2) (+50 to +60 °C)	Po (2)	90	mW
LD Reverse Voltage	V <sub>R(LD)</sub>	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	I <sub>th</sub>	-	50	65	mA	-
Operating current	I <sub>op</sub>	-	165	200	mA	Po=120mW
Operating voltage	V <sub>op</sub>	-	2.7	3.0	V	Po=120mW
Beam divergence Parallel to the junction	θ <sub>//</sub>	5	8.5	13	°	Po=120mW, FWHM
Beam divergence Perpendicular to the junction	θ <sub>⊥</sub>	13	18	23	°	Po=120mW, FWHM
Lasing Wavelength	λ <sub>p</sub>	632	638	642	nm	Po=120mW

## Typical Characteristic Curves



(\*1) The data of  $P_o > 90$  mW at  $T_c > 50^\circ\text{C}$  is a reference.

The maximum rating of the optical output power in each operating temperature is as follows.  
 $P_o(1) = 120$  mW ( $T_{opr} = -10 \sim 50^\circ\text{C}$ )  
 $P_o(2) = 90$  mW ( $T_{opr} = +50 \sim +60^\circ\text{C}$ )

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