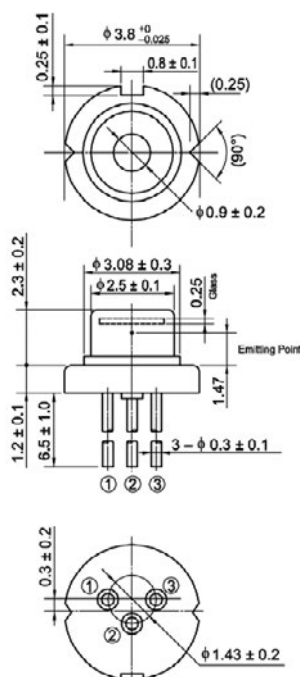


## Data Sheet

# HL63603TG

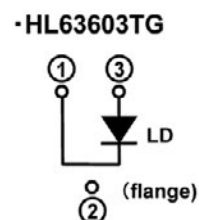
638nm / 120mW AlGaInP Laser Diode

### 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)

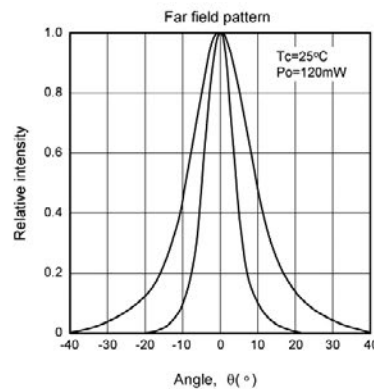
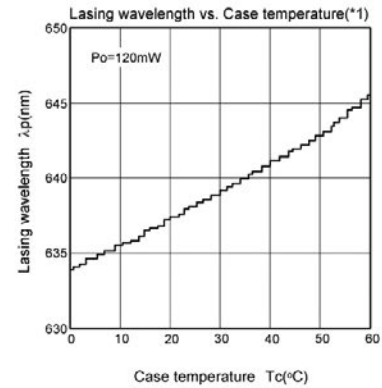
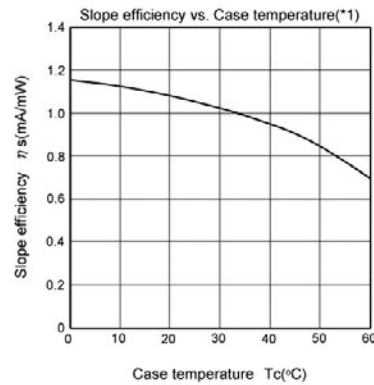
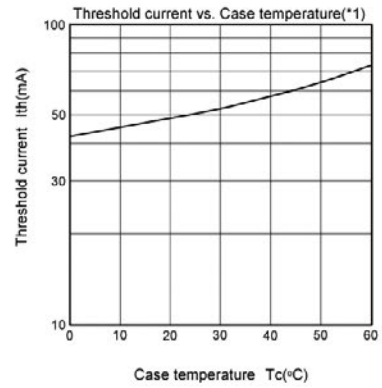
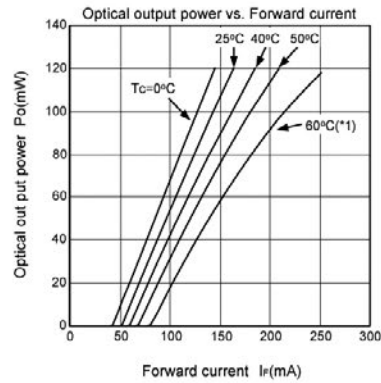
Item	Symbol	Ratings	Unit
Optical output power(1) (-10 to +50 °C)	Po (1)	120	mW
Optical output power(2) (+50 to +60 °C)	Po (2)	90	mW
LD Reverse Voltage	V <sub>R(LD)</sub>	2	V
Operating Temperature	Topr	-10 ~ +60	°C
Storage Temperature	Tstg	-40 ~ +85	°C

### 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

Data Sheet HL63603TG Rev0. Oct. 28. 2014

### Typical Characteristic Curves



(\*1) The data of  $P_o > 90\text{mW}$  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.  
 $P_o(1) = 120\text{mW}$  ( $T_{opr} = -10 \sim 50^\circ\text{C}$ )  
 $P_o(2) = 90\text{mW}$  ( $T_{opr} = +50 \sim +60^\circ\text{C}$ )

Data Sheet HL63603TG Rev0. Oct. 28. 2014

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- 2.This product (without violet laser diode) contains gallium arsenide (GaAs), which may seriously endanger your health even at very low doses. Please avoid treatment which may create GaAs powder or gas, such as disassembly or performing chemical experiments, when you handle the product. When disposing of the product, please follow the laws of your country and separate it from other waste such as industrial waste and household garbage.

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Data Sheet HL63603TG Rev0. Oct. 28. 2014