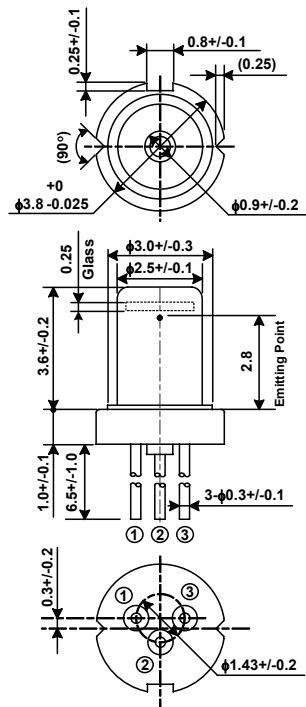


Data Sheet

# HL63153AT

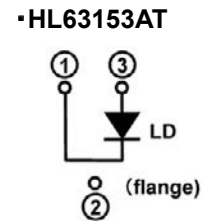
638nm / 150mW AlGaInP Laser Diode

**Outline**



(unit:mm)

**Internal Circuit**



**Features**

- Visible light output: 638nm Typ.
- Optical output power: 150mW (CW)
- Single transverse mode
- Low operating current: 230mA 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)	150	mW
Optical output power(2) (+50 to +60 °C)	Po (2)	120	mW
LD Reverse Voltage	V <sub>R(LD)</sub>	2	V
Operating Temperature	Topr	-10 ~ +60	°C
Storage Temperature	Tstg	-40 ~ +85	°C

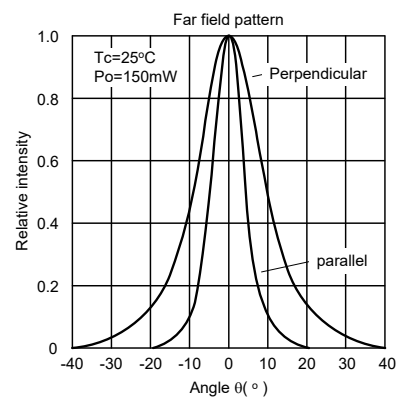
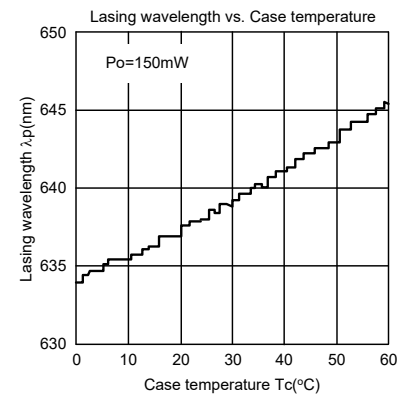
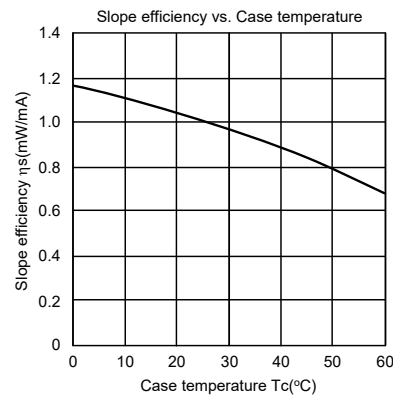
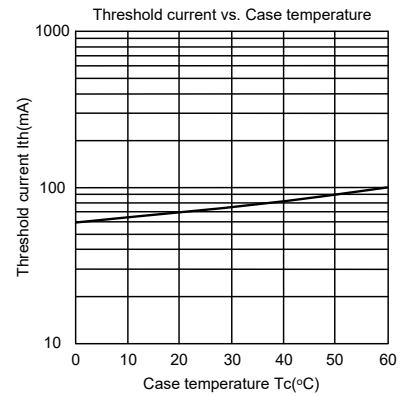
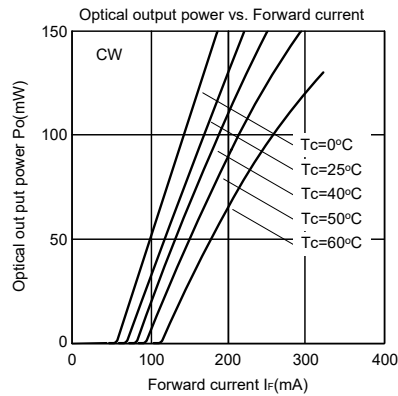
Note: Operating temperature is defined by Case temperature "Tc". High increase in temperature of LD chip itself is expected during operation due to high current density. Thus, without proper heat dissipation, it is observed that no specific output power is achieved or it results to LD degradation. It is advised that sufficient measure of heat dissipation should be taken so that LD's maximum operating temperature is not exceeded during actual operation.

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	I <sub>th</sub>	-	75	100	mA	-
Operating current	I <sub>op</sub>	-	230	300	mA	Po=150mW
Operating voltage	V <sub>op</sub>	-	2.7	3.1	V	Po=150mW
Beam divergence Parallel to the junction	θ <sub>//</sub>	5	8.5	13	°	Po=150mW, FWHM
Beam divergence Perpendicular to the junction	θ <sub>⊥</sub>	13	18	23	°	Po=150mW, FWHM
Lasing Wavelength	λ <sub>p</sub>	632	638	643	nm	Po=150mW

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### Typical Characteristic Curves



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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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