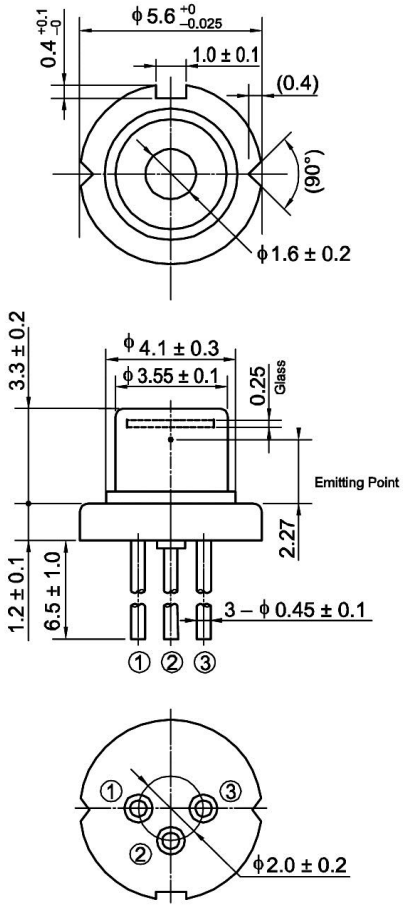
Data Sheet

HL63391DG/92DG

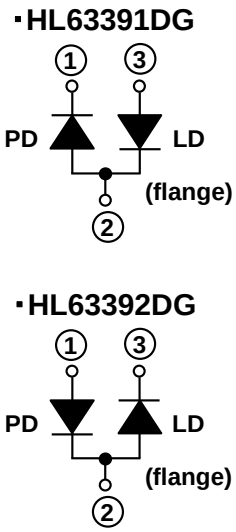
639nm/200mW/Built-in monitor PD
AlGaInP Laser Diode

USHIO

Outline



Internal Circuit



(Unit: mm)

Features

- Shorter wavelength: 639nm Typ.
- High optical output power: 200mW
- Built in monitor PD
- Operating temperature: +60°C
- Small package: ϕ5.6mm
- Single transverse mode
- TE mode oscillation

Application

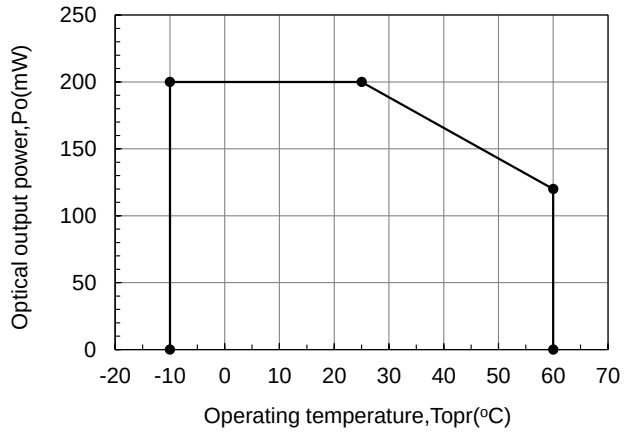
- Laser module
- Leveller
- Measurement
- Medical
- Light source of optical equipment

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Optical output power (1) (Tc=25 °C) Note2)	Po(1)	200	mW
Optical output power (2) (Tc=60 °C) Note2)	Po(2)	120	mW
LD Reverse Voltage	$V_{R(LD)}$	2	V
PD Reverse Voltage	$V_{R(PD)}$	30	V
Operating Temperature Note1) 2)	Topr	-10 ~ +60	°C
Storage Temperature	Tstg	-40 ~ +85	°C

Note1) 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.

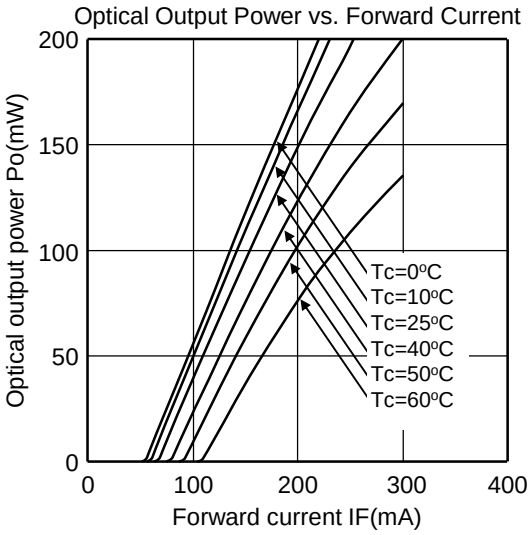
Note2) The relation of optical output power vs operating temperature is based on the following figure.

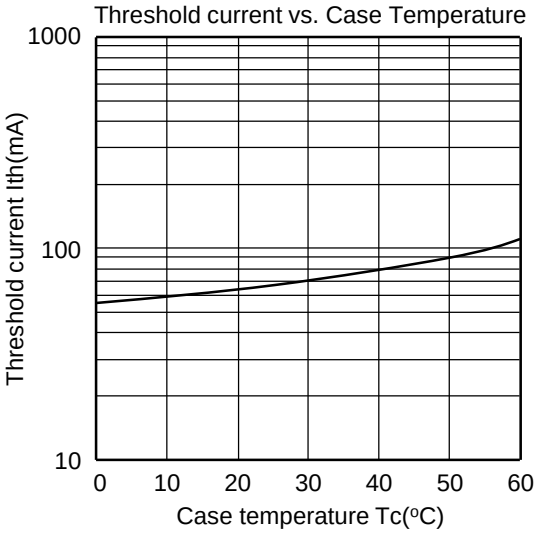


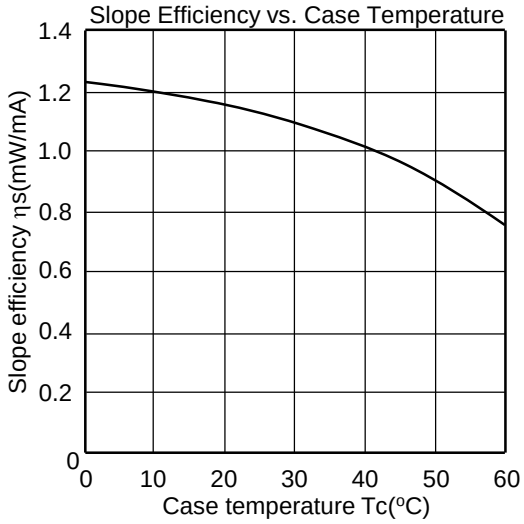
Optical and Electrical Characteristics (Tc=25°C)

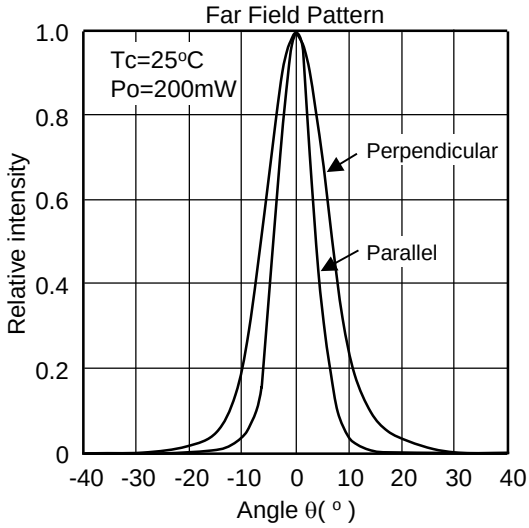
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	Ith	-	65	80	mA	-
Operating current	Iop	-	255	290	mA	Po=200mW
Operating voltage	Vop	-	2.8	3.3	V	Po=200mW
Beam divergence Parallel to the junction	θ//	5	8.5	13	o	Po=200mW, FWHM
Beam divergence Perpendicular to the junction	θ⊥	10	14	18	o	Po=200mW, FWHM
Lasing Wavelength	λp	633	639	643	nm	Po=200mW
Monitor Current	Is	0.4	0.8	1.3	mA	Po=200mW, $V_{R(PD)}$=5V

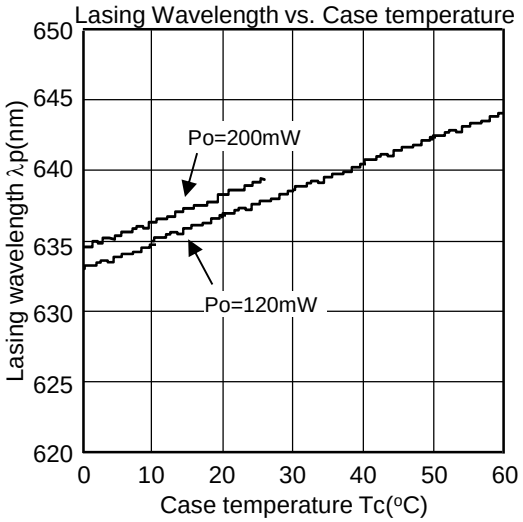
Typical Characteristic Curves

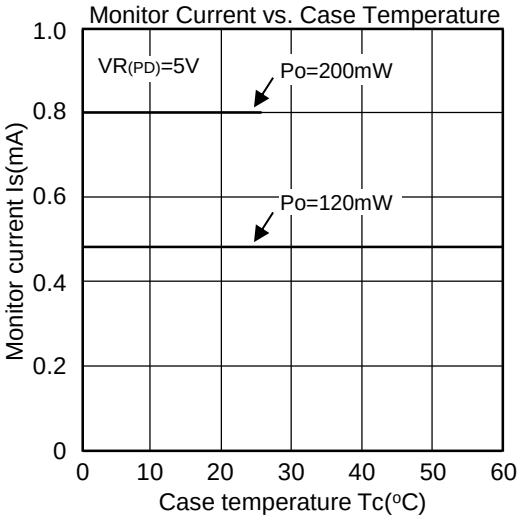












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