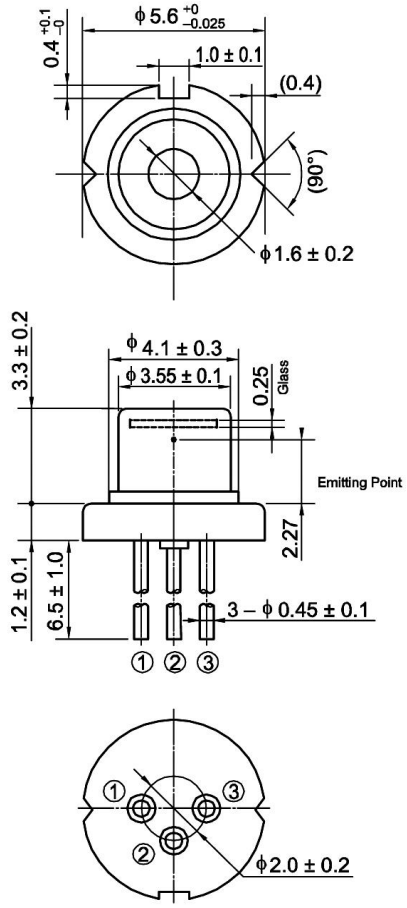
Data Sheet

HL63641DG/642DG/643DG

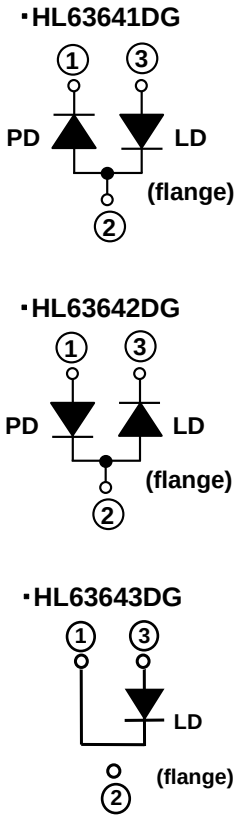
639nm/210mW AlGaInP Laser Diode

Outline



(Unit: mm)

Internal Circuit



Features

- Optical output power: 210mW
- Wavelength: 639nm Typ.
- Low operating current: 225mA at 200mW
- High Wall plug efficiency: 33%
- Single transverse mode
- TE mode oscillation
- φ5.6mm CAN Package
- Built-in Monitor PD (HL63641DG/642DG)

Application

- Leveler
- Show Laser
- Medical
- Laser module
- Measurement
- Light source of optical equipment

Absolute Maximum Ratings (Tc=25°C)

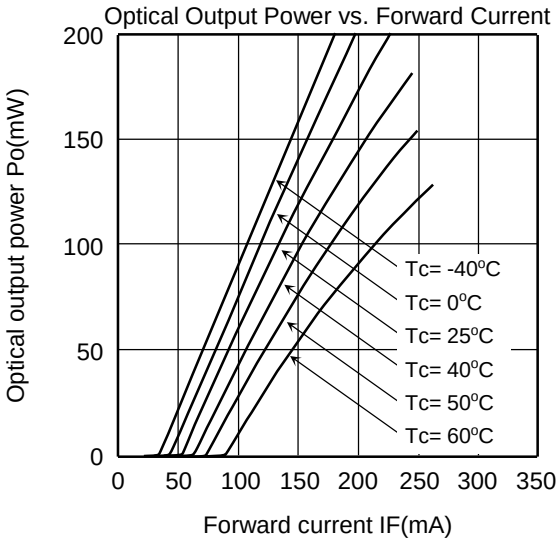
Item	Symbol	Ratings	Unit
Optical output power (1) (Tc=25 ºC)	Po(1)	210	mW
Optical output power (2) (Tc=60 ºC)	Po(2)	125	mW
LD Reverse Voltage	$V_{R(LD)}$	2	V
PD Reverse Voltage	$V_{R(PD)}$	30	V
Operating Temperature Note1) Note2)	Topr	-40 ~ +60	°C
Storage Temperature	Tstg	-40 ~ +85	°C

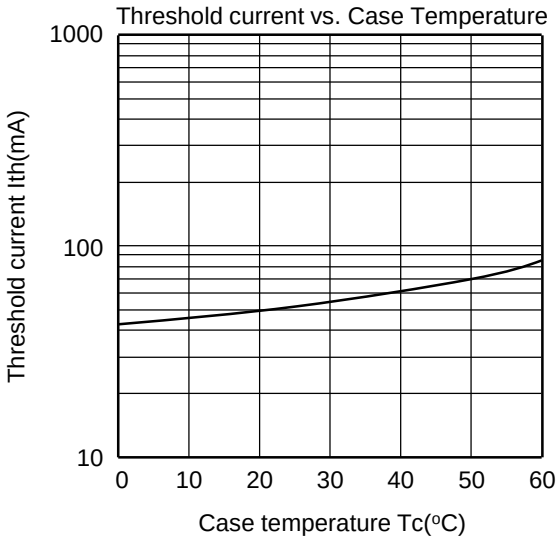
Note1) Operating temperature is defined by Case temperature “Tc”. High increase in temperature of LD chip itself is expected during operation due to high current density. Thus, without proper heat dissipation, it is observed that no specific output power is achieved or it results to LD degradation. It 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) Minus temperature range should be operated under no condensation condition.

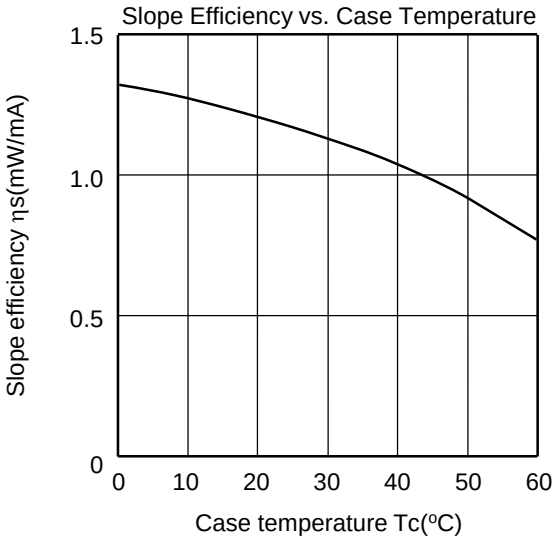
Optical and Electrical Characteristics (Tc=25°C)

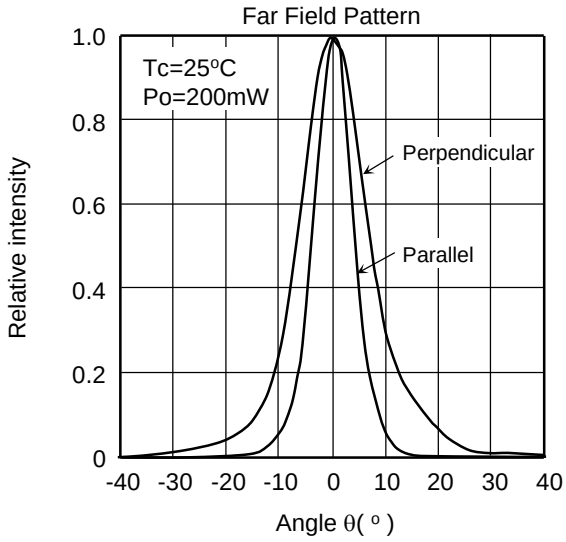
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	Ith	-	50	70	mA	-
Operating current	Iop	-	225	260	mA	Po=200mW
Operating voltage	Vop	-	2.7	3.0	V	Po=200mW
Beam divergence Parallel to the junction	θ//	5	8	13	º	Po=200mW, FWHM
Beam divergence Perpendicular to the junction	θ⊥	10	14	18	º	Po=200mW, FWHM
Lasing Wavelength	λp	634	639	644	nm	Po=200mW
Monitor Current	Is	0.05	0.25	0.90	mA	Po=200mW, $V_{R(PD)}$=5V

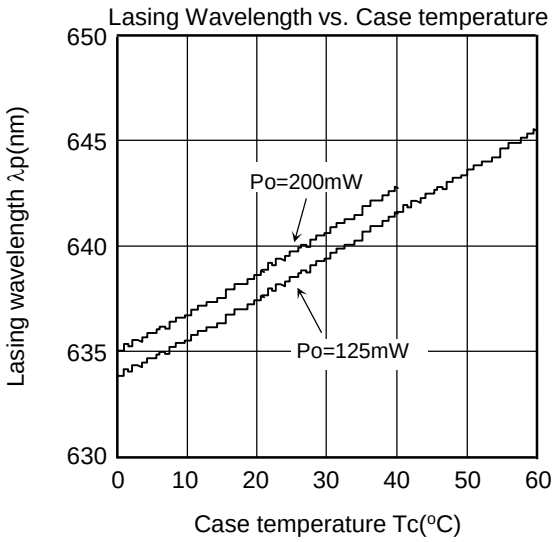
Typical Characteristic Curves

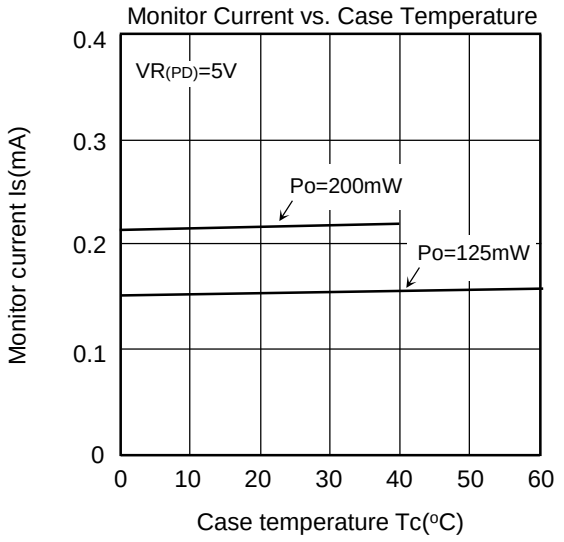












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