

HL63133DG

Low Operating Current Visible High Power Laser Diode

ODE2071-02 (M)

Rev.2

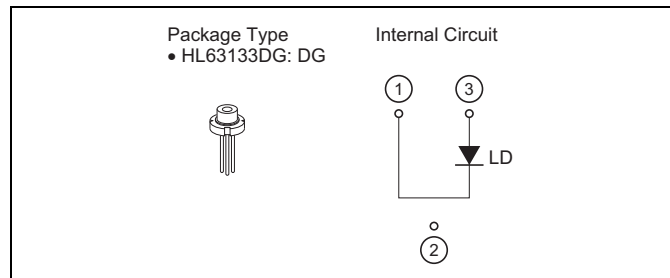
Apr. 13, 2010

Description

The HL63133DG is 0.63 μm band AlGaInP laser diodes with a multi-quantum well (MQW) structure. It is suitable as light sources for pico projector, show laser and optical equipment for measurement.

Features

- Visible light output: 638 nm Typ
- Optical output power: 170 mW CW
- Low operating current: 250 mA Typ
- Low operating voltage: 2.8 V Typ
- Small package: $\phi 5.6\text{mm}$
- Single transverse mode
- TE mode oscillation



Absolute Maximum Ratings

($T_C = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Optical output power	P_O	170	mW
LD reverse voltage	$V_{R(LD)}$	2	V
Operating temperature	T_{opr}	-10 to +40	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$

Note: Operating Temperature is defined by Case Temperature " T_C ". High increase in temperature of LD chip itself is expected during operation due to high current density.

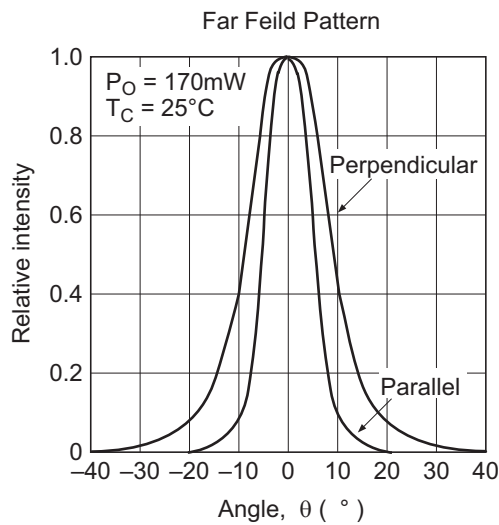
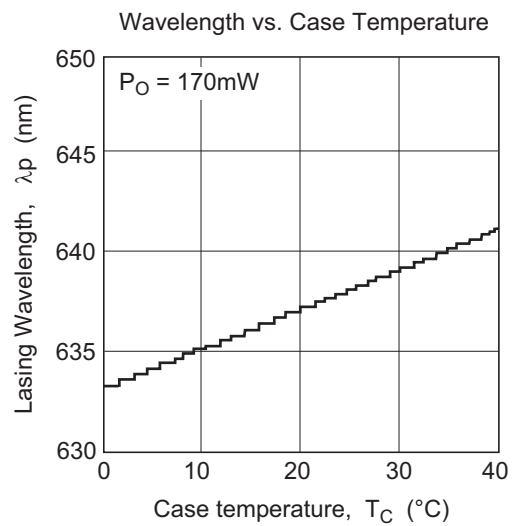
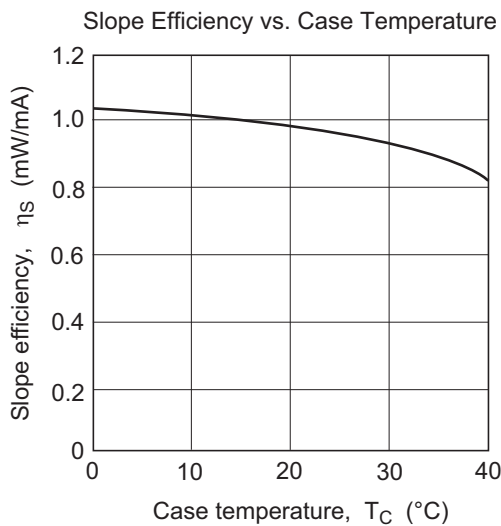
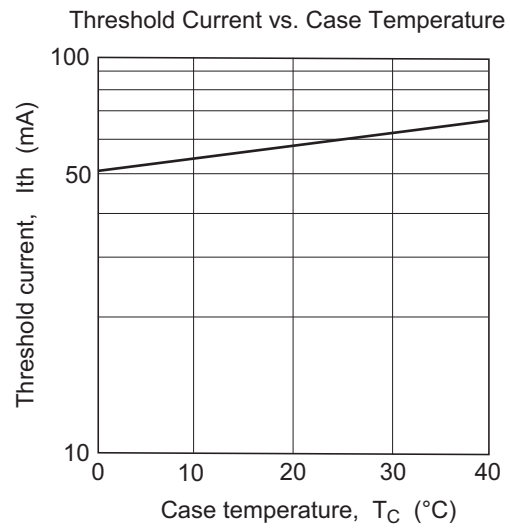
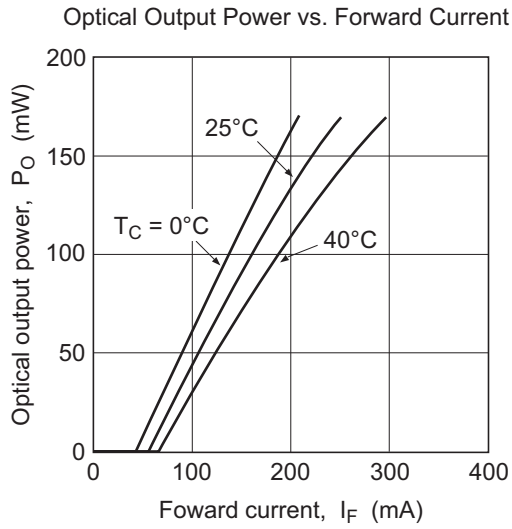
Thus, without proper heat dissipation, it is observed that no specific output power is achieved or it results to LD degradation. It is advised that sufficient measure of heat dissipation should be taken so that LD's maximum operating temperature is not exceeded during actual operation.

Optical and Electrical Characteristics

($T_C = 25^\circ\text{C}$)

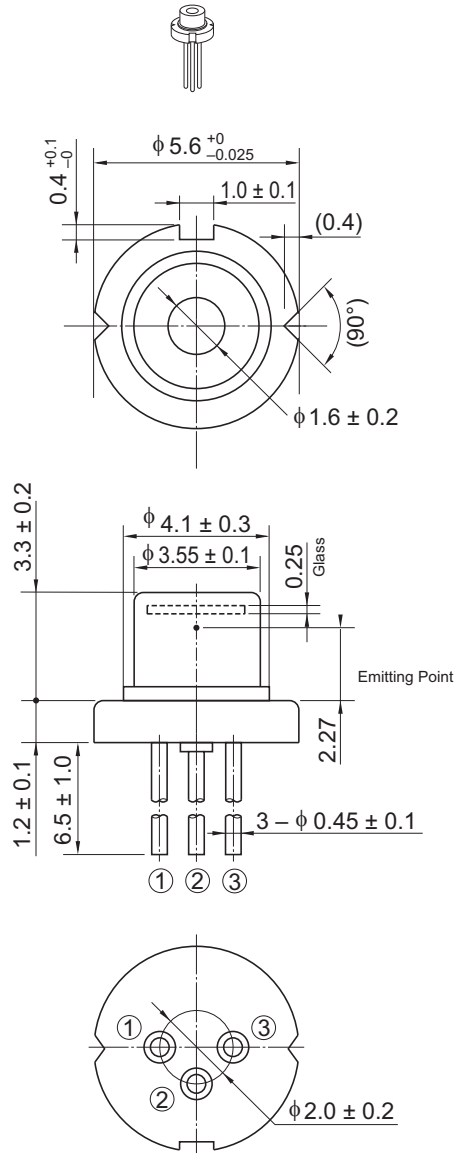
Item	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	I_{th}	—	60	90	mA	—
Operating current	I_{OP}	—	250	320	mA	$P_O = 170\text{ mW}$
Operating voltage	V_{OP}	—	2.8	3.2	V	$P_O = 170\text{ mW}$
Beam divergence parallel to the junction	$\theta_{//}$	5	9	13	$^\circ$	$P_O = 170\text{ mW}$
Beam divergence perpendicular to the junction	θ_{\perp}	13	17	23	$^\circ$	$P_O = 170\text{ mW}$
Lasing wavelength	λ_p	632	638	643	nm	$P_O = 170\text{ mW}$

Typical Characteristic Curves



Package Dimensions

Unit: mm



OPJ Code	LD/DG
JEDEC	—
JEITA	—
Mass (reference value)	0.35g

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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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