HL6319G/20G

AlGaInP Laser Diodes

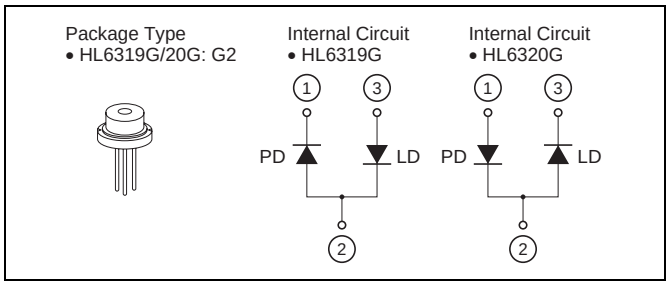
ODE2011-00 (M)
Rev.0
Aug. 01, 2008

Description

The HL6319G/20G are 0.63 μm band AlGaInP laser diodes with a multi-quantum well (MQW) structure. They are suitable as light sources for laser levelers and optical equipment for measurement.

Features

- Visible light output: 635 nm Typ
- Single longitudinal mode
- Optical output power: 10 mW CW
- Low operating current: 95 mA Max
- Low operating voltage: 2.7 V Max
- TM mode oscillation



Absolute Maximum Ratings

(T_C = 25°C)

Item	Symbol	Ratings	Unit
Optical output power	P_O	10	mW
LD reverse voltage	$V_{R(LD)}$	2	V
PD reverse voltage	$V_{R(PD)}$	30	V
Operating temperature	Topr	–10 to +50	°C
Storage temperature	Tstg	–40 to +85	°C

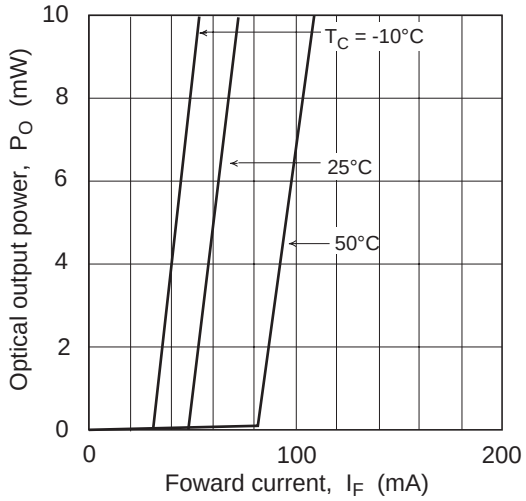
Optical and Electrical Characteristics

(T_C = 25°C)

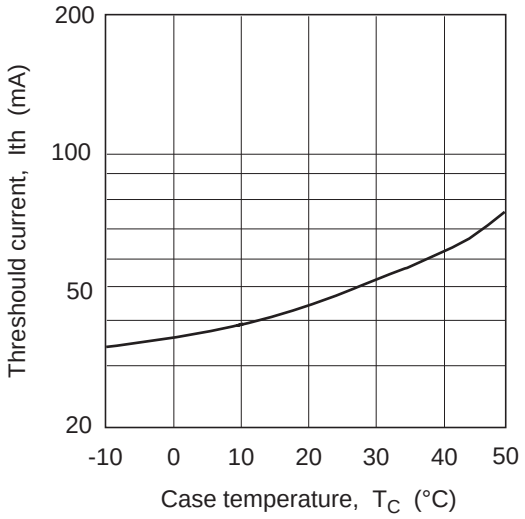
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	Ith	20	50	75	mA	—
Operating current	I_{OP}	—	70	95	mA	P_O = 10 mW
Operating voltage	V_{OP}	—	—	2.7	V	P_O = 10 mW
Slope efficiency	ηs	0.3	0.5	0.7	mW/mA	6 (mW) / ($I_{(8mW)}$ – $I_{(2mW)}$)
Beam divergence parallel to the junction	θ//	5	8	11	°	P_O = 10 mW
Beam divergence perpendicular to the junction	θ⊥	25	31	37	°	P_O = 10 mW
Astigmatism	A_S	—	5	—	μm	P_O = 10 mW, NA = 0.55
Lasing wavelength	λp	625	635	640	nm	P_O = 10 mW
Monitor current	I_S	0.05	0.17	0.30	mA	P_O = 10 mW, $V_{R(PD)}$ = 5 V

Typical Characteristic Curves

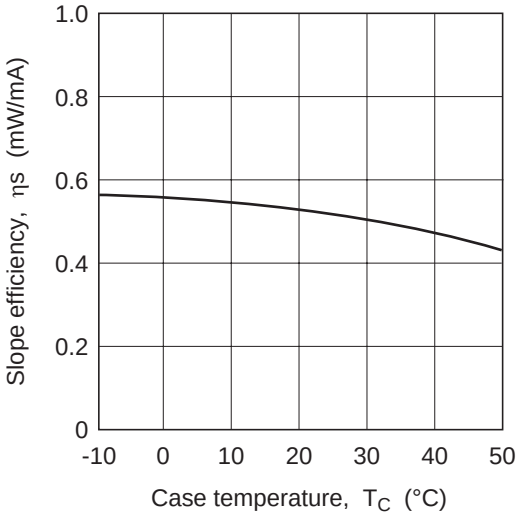
Optical Output Power vs. Foward Current



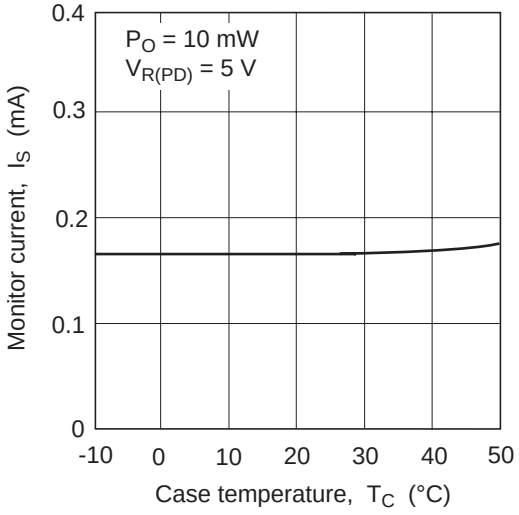
Threshold Current vs. Case Temperature



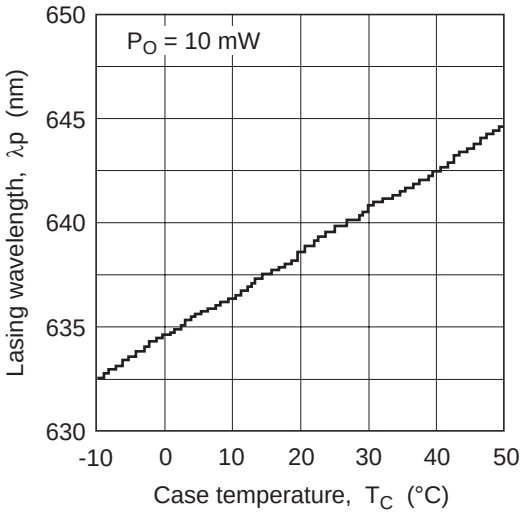
Slope Efficiency vs. Case Temperature



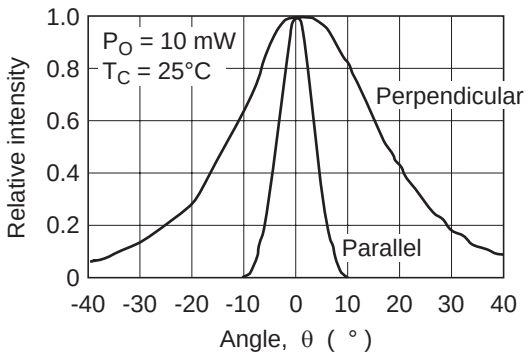
Monitor Current vs. Case Temperature



Lasing Wavelength vs. Case Temperature



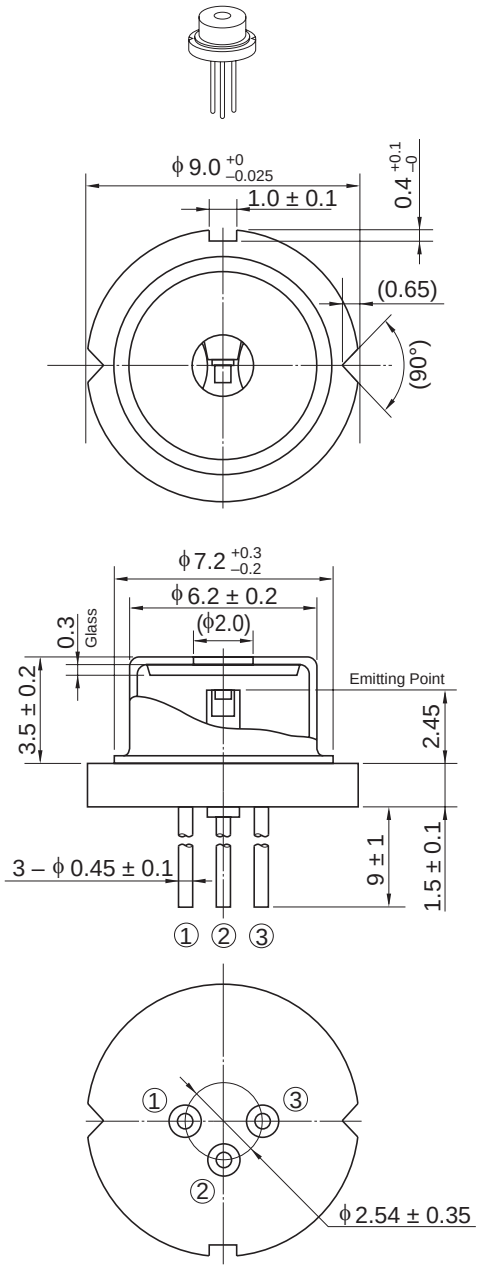
Far Field Pattern



Package Dimensions

As of July, 2002

Unit: mm



OPJ Code	LD/G2
JEDEC	—
JEITA	—
Mass (reference value)	1.1 g

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3. Definition of items shown in this CAS is in accordance with that shown in Opto Device Databook issued by OPJ unless otherwise specified.

Sales Offices

Opnext Japan, Inc.
Takagi Bldg., 3F, 1-3-9, Iwamoto-cho, Chiyoda-ku, Tokyo 101-0032, Japan
Tel: (03) 3865-5591

For the detail of Opnext, Inc., see the following homepage:

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