

HL6378DG

Low Operating Current Visible High Power Laser Diode

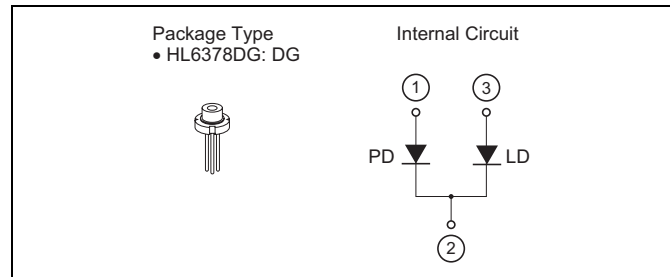
ODE-208-022A (Z)
Rev.1
Dec. 21, 2006

Description

This HL6378DG is 0.63 μm band AlGaInP laser diodes with a multi-quantum well (MQW) structure. They are suitable as light sources for laser display, laser module and optical equipment for measurement.

Features

- Visible light output : 642 nm Typ
- Single longitudinal mode
- Optical output power : 80 mW CW
- Low operating current : 155 mA Typ
- Low operating voltage : 2.7 V Max
- Operating temperature : +50°C
- TE mode oscillation



Absolute Maximum Ratings

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

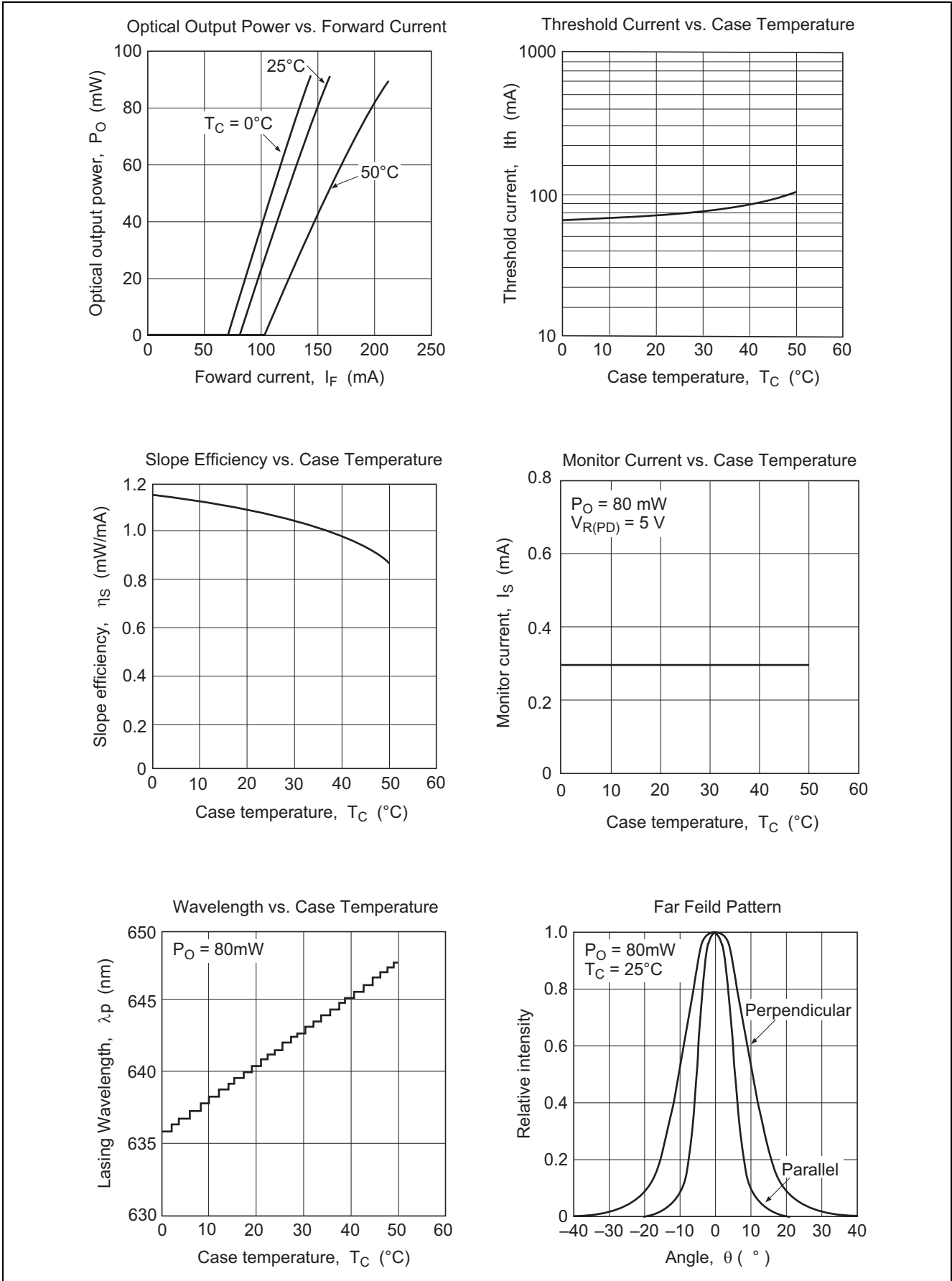
Item	Symbol	Ratings	Unit
Optical output power	P_O	90	mW
LD reverse voltage	$V_{R(LD)}$	2	V
PD reverse voltage	$V_{R(PD)}$	30	V
Operating temperature	T_{opr}	-10 to +50	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$

Optical and Electrical Characteristics

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

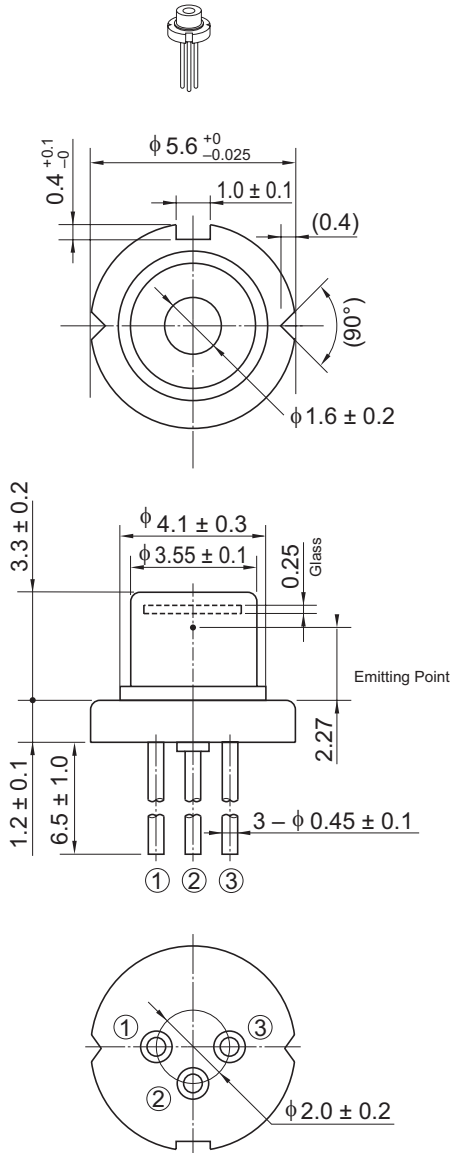
Item	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	I_{th}	—	80	95	mA	—
Operating current	I_{OP}	—	155	175	mA	$P_O = 80 \text{ mW}$
Operating voltage	V_{OP}	—	2.5	2.7	V	$P_O = 80 \text{ mW}$
Beam divergence parallel to the junction	$\theta_{//}$	7	10	13	$^\circ$	$P_O = 80 \text{ mW}$
Beam divergence perpendicular to the junction	θ_{\perp}	16	21	24	$^\circ$	$P_O = 80 \text{ mW}$
Lasing wavelength	λ_p	635	642	645	nm	$P_O = 80 \text{ mW}$
Monitor current	I_s	0.1	0.3	0.5	mA	$P_O = 80 \text{ mW}, V_{R(PD)} = 5 \text{ V}$

Typical Characteristic Curves



Package Dimensions

As of May, 2006
 Preliminary
 Unit: mm



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

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5. This product is not designed to be radiation resistant.
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1. The laser light is harmful to human body especially to eye no matter what directly or indirectly. The laser beam shall be observed or adjusted through infrared camera or equivalent.
2. This product 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.
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



Device Business Unit 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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