

HL6333/34MG

Low Operating Current Visible Laser Diode

HITACHI

ADE-208-820 (Z)
Target Specification
1st Edition
Sep. 1999

Description

The HL6333/34MG are 0.63 μm band AlGaInP 10mW laser diodes with a multi-quantum well (MQW) structure. They are suitable as light sources for laser levelers, laser scanners and optical equipment for measurement.

Application

- Laser leveler
- Laser scanner
- Measurement

Features

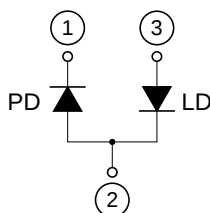
- Visible light output : 635 nm Typ
- Optical output power : 10 mW CW
- Low operating current : 55 mA Typ
- Low operating voltage : 2.4 V Max
- Operating temperature : +50°C
- TM mode oscillation

Internal Circuit

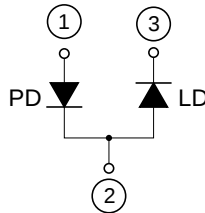
Package Type
• HL6333/34MG: MG



Internal Circuit
• HL6333MG



Internal Circuit
• HL6334MG



Absolute Maximum Ratings (T_C = 25°C)

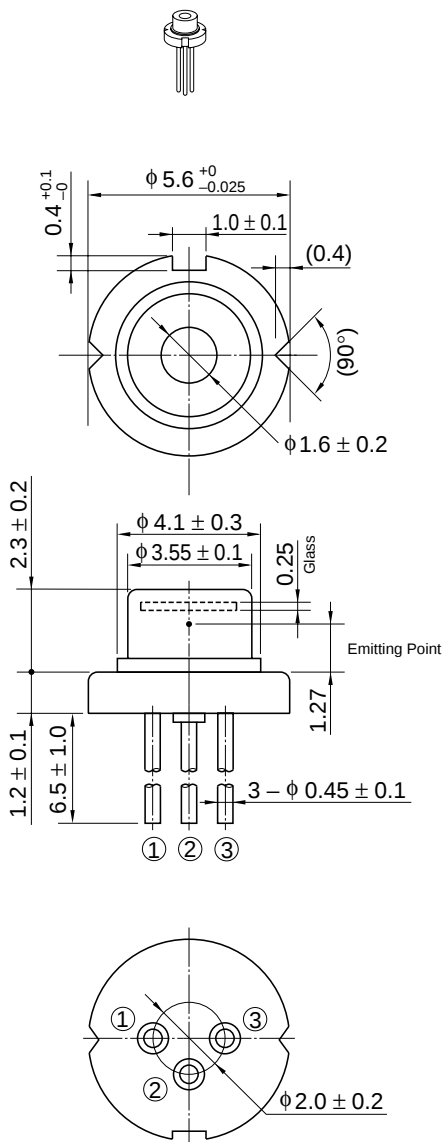
Item	Symbol	Value	Unit
Optical output power	P _O	10	mW
LD reverse voltage	V _{R(LD)}	2	V
PD reverse voltage	V _{R(PD)}	30	V
Operating temperature	T _{opr}	−10 to +50	°C
Storage temperature	T _{stg}	−40 to +85	°C

Optical and Electrical Characteristics (T_C = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Optical output power	P _O	10	—	—	mW	Kink free
Threshold current	I _{th}	—	40	60	mA	
Operating current	I _{op}	—	55	75	mA	P _O = 10 mW
Operating voltage	V _{OP}	—	2.2	2.4	V	P _O = 10 mW
Slope efficiency	η _s	0.3	0.6	0.9	mW/mA	6(mW) / (I _(8mW) − I _(2mW))
Lasing wavelength	λ _p	630	635	640	nm	P _O = 10 mW
Beam divergence parallel to the junction	θ//	6	8	11	deg.	P _O = 10 mW
Beam divergence perpendicular to the junction	θ⊥	25	31	36	deg.	P _O = 10 mW
Monitor current	I _s	—	0.09	—	mA	P _O = 10 mW, V _{R(PD)} = 5V

Package Dimensions

Unit: mm



Hitachi Code	LD/MG
JEDEC	—
EIAJ	—
Weight (reference value)	0.3 g

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