

HL7002MG

InGaAsP Laser Diode

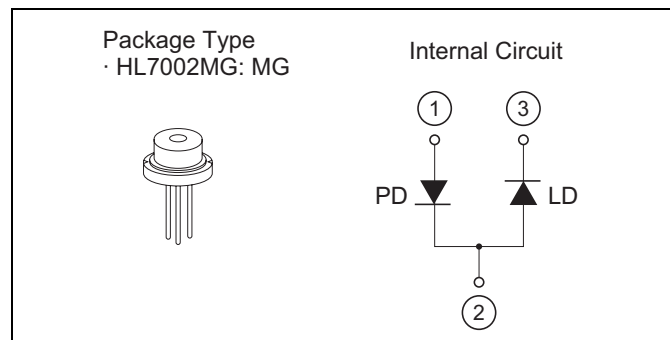
ODE-208-072 (Z)
Target Specification
Rev.0
Apr. 05, 2007

Description

The HL7002MG is 0.7 μm band InGaAsP laser diode with a multi-quantum well(MQW) structure. It is suitable as a light source for medical sensor applications and various other types of optical equipment.

Features

- Infrared light output: $\lambda_p = 705\text{nm}$ Typ
- Optical output power: 40mW (CW)
- Low operating current: 75mA Typ
- Built-in monitor photodiode
- Single longitudinal mode



Absolute Maximum Ratings

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

| Item | Symbol | Ratings | Unit |
|-----------------------------|-----------------------|------------|------------------|
| Optical output power | P_O | 40 | mW |
| Optical output power(pulse) | $P_{O(\text{pulse})}$ | 50 | mW |
| LD reverse voltage | $V_{R(\text{LD})}$ | 2 | V |
| PD reverse voltage | $V_{R(\text{PD})}$ | 30 | V |
| Operating temperature | T_{opr} | -10 to +60 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -40 to +85 | $^\circ\text{C}$ |

Note : Pulse condition : Pulse width = 1 μs , duty \leq 50%

Optical and Electrical Characteristics

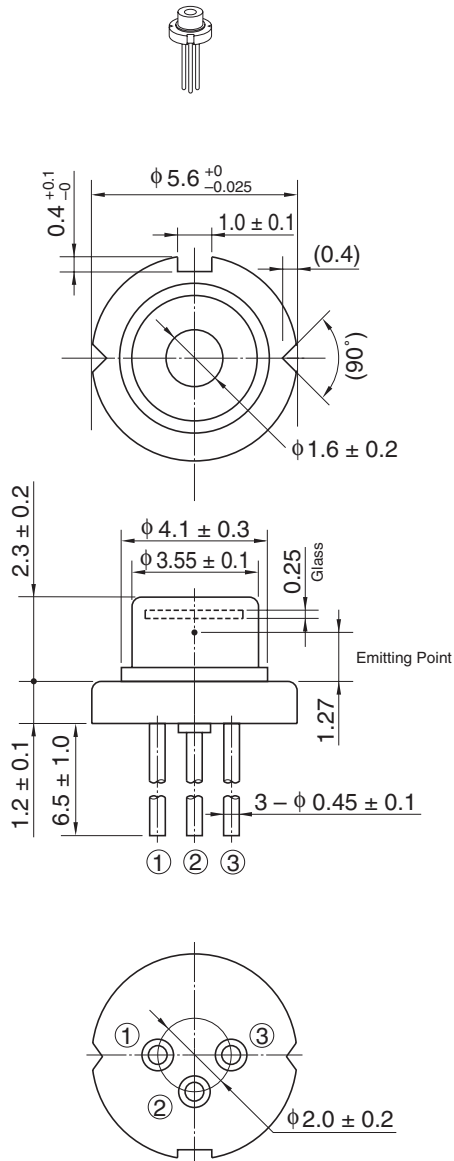
($T_C = 25^\circ\text{C}$)

| Item | Symbol | Min | Typ | Max | Unit | Test Conditions |
|---|------------------|-----|------|-----|----------|--|
| Threshold current | I_{th} | — | 30 | 60 | mA | — |
| Slope efficiency | η_s | 0.7 | 0.9 | 1.4 | mW/mA | $24 \text{ (mW)} / (I_{(32\text{mW})} - I_{(8\text{mW})})$ |
| Operating current | I_{OP} | — | 75 | 100 | mA | $P_O = 40 \text{ mW}$ |
| Operating voltage | V_{OP} | — | 2.5 | — | V | $P_O = 40 \text{ mW}$ |
| Beam divergence parallel to the junction | $\theta_{//}$ | 7 | 9 | 14 | $^\circ$ | $P_O = 40 \text{ mW}$, FWHM |
| Beam divergence perpendicular to the junction | θ_{\perp} | 14 | 18 | 25 | $^\circ$ | $P_O = 40 \text{ mW}$, FWHM |
| Lasing wavelength | λ_p | 695 | 705 | 715 | nm | $P_O = 40 \text{ mW}$ |
| Monitor current | I_s | — | 0.05 | — | mA | $P_O = 40 \text{ mW}$, $V_{R(\text{PD})} = 5 \text{ V}$ |

Note: This is under development. Therefore, the specification may be changed without anynotice.

Package Dimensions

As of July, 2002
Unit: mm



| | |
|------------------------|-------|
| OPJ Code | LD/MG |
| JEDEC | — |
| JEITA | — |
| Mass (reference value) | 0.3 g |

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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



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