

HL40023MG - 405nm band / 500mW -

GaN Violet High Power Laser Diode

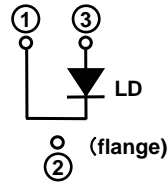
Preliminary
Rev.2
24. Nov. 2010

Applications

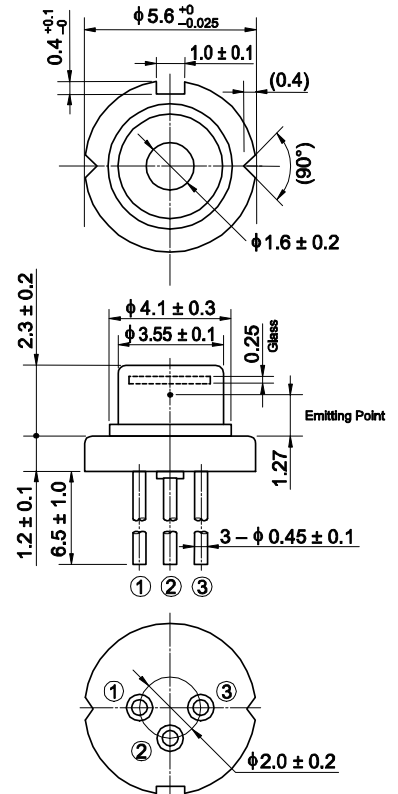
- Direct Imaging for PCB
- Industry

Internal circuit

HL40023MG



Outline



Features

- Optical output power: $P_o=400\text{mW(CW)}$
- Violet lasing: $\lambda_p=398\sim 410\text{nm}$
- Low operating current: $I_{op}=390\text{mA Typ.}$
- Low operating voltage: $V_{op}=5.5\text{V Max.}$
- Small package: $\phi 5.6\text{mm}$
- Multi transverse mode oscillation

Absolute Maximum Ratings($T_c=25^\circ\text{C}$)

| Item | Symbol | Ratings | Unit |
|-----------------------|-------------|-----------|------------------|
| Optical output power | P_o | 500 | mW |
| LD Reverse Voltage | $V_{R(LD)}$ | 2 | V |
| Operating Temperature | T_{opr} | 0 ~ +30 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -40 ~ +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} | - | - | 160 | mA | - |
| Operating current | I_{op} | - | 390 | 420 | mA | $P_o=400\text{mW}$ |
| Operating voltage | V_{op} | - | - | 5.5 | V | $P_o=400\text{mW}$ |
| Lasing Wavelength | λ_p | 398 | - | 410 | nm | $P_o=400\text{mW}$ |
| Beam divergence Parallel to the junction | $\theta_{//}$ | 5 | - | 25 | $^\circ$ | $P_o=400\text{mW}$, Full angle $1/e^2$ |
| Beam divergence Perpendicular to the junction | θ_{\perp} | 30 | - | 60 | $^\circ$ | $P_o=400\text{mW}$, Full angle $1/e^2$ |

Note : This type is underdevelopment. Therefore, this data sheet may be changed without any notice.

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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 (without violet laser diode) 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.
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