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LD-520-50MG

- Green Laser Diode
- 520 nm, 50 mW
- Single transverse mode
- TO56 package, Flat Window



Description

LD-520-50MG is a direct emitting, **GaN based**, 520 nm green laser diode in 5.6 mm TO-Can **with integrated photodiode**. It offers single transverse mode emission and >100 Mhz modulation bandwidth. It is an efficient radiation source for many applications like **laser projection**, holography, metrology, or biomedical application.

Maximum Rating* ($T_{CASE} = 25^{\circ}C$)

| Parameter | Symbol | Values | | Unit |
|-------------------------------------|-----------|--------|-------|------|
| | | Min. | Max. | |
| Operating Current* ¹ | I_{MAX} | | 200 | mA |
| Reverse Voltage | V_R | | 2 | V |
| Operating Temperature* ¹ | T_{OPR} | - 20 | + 60 | °C |
| Storage Temperature | T_{STG} | - 40 | + 85 | °C |
| Soldering Temperature (max. 3s) | T_{SOL} | | + 260 | °C |
| Junction Temperature* ¹ | T_J | | + 150 | °C |

* operating outside these conditions may damage the device

*¹ operating at maximum ratings may influence the life time



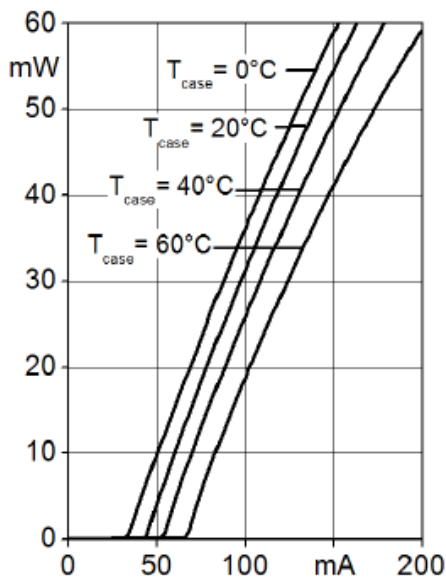
Electro-Optical Characteristics ($T_{CASE} = 25^{\circ}C, P_O = 50mW$)

| Parameter | Symbol | Values | | | Unit | |
|---------------------------------------|-----------------|------------------|------------|------------|-----------|------|
| | | Min. | Typ. | Max. | | |
| Peak Wavelength | λ_P | 510 | 520 | 530 | nm | |
| Spectral Width (FWHM) | $\Delta\lambda$ | | 2 | | nm | |
| Operating Voltage | V_F | | 7.0 | 8.0 | V | |
| Threshold Current | I_{th} | | 45 | 75 | mA | |
| Operating Current | I_F | | 150 | 160 | mA | |
| Modulation Frequency | f | | >100 | | MHz | |
| Polarization | P_{GR} | | 100:1 | | | |
| Beam Divergence (FWHM) | parallel | $\Theta_{ }$ | 4 | 7 | 11 | deg. |
| | perpendicular | Θ_{\perp} | 16 | 22 | 25 | deg. |
| Thermal Resistance (junction to case) | R_{th} | | 34 | | K/W | |
| Monitor Current | I_M | | | | | |

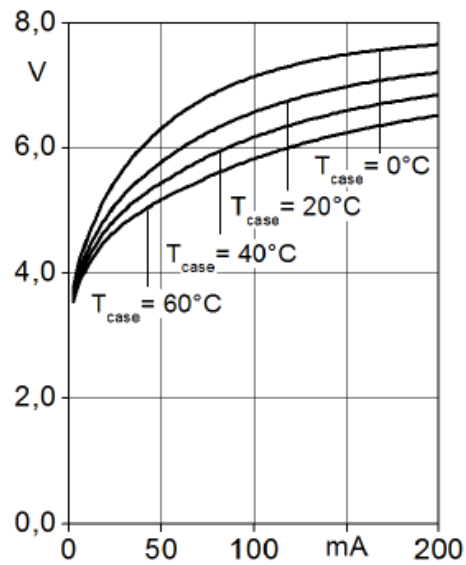


Performance Characteristics

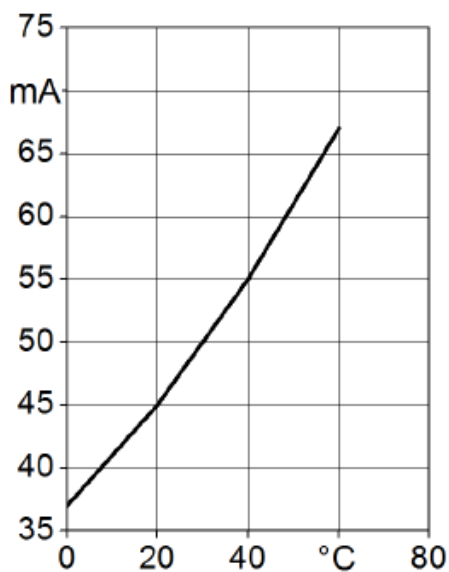
Optical Output Power vs. Operating Current



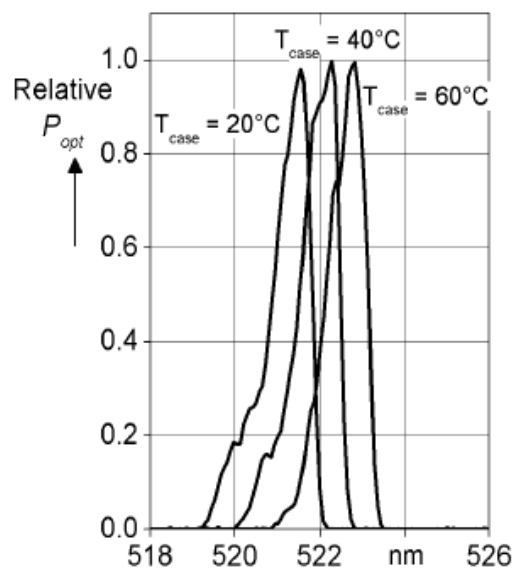
Operating Voltage vs. Operating Current



Threshold Current vs. Temperature

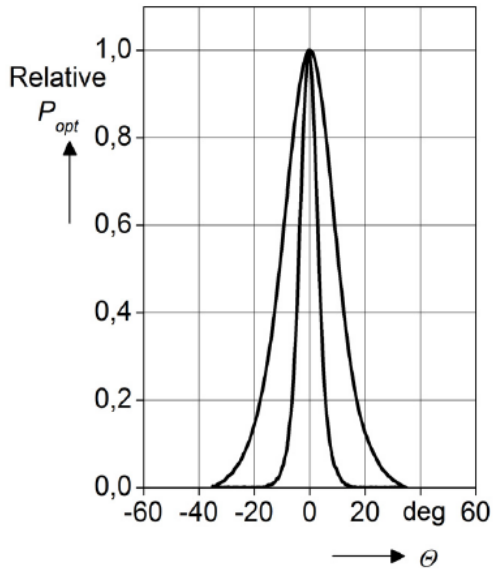


Relative Output Power vs. Wavelength

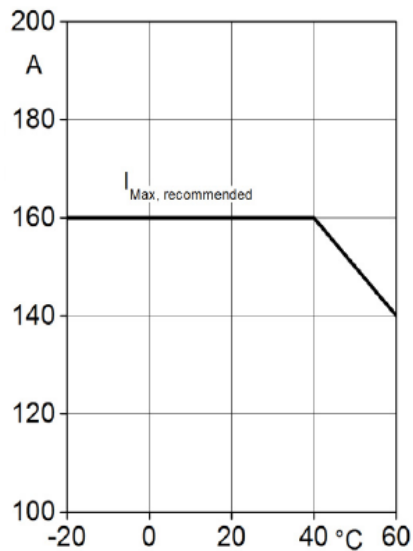




Beam Divergence



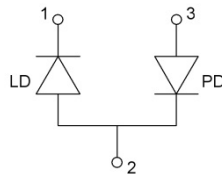
Max. operating Current vs. Temperature



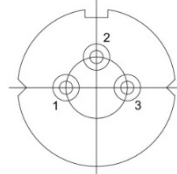
Electrical Connection

Pin Configuration

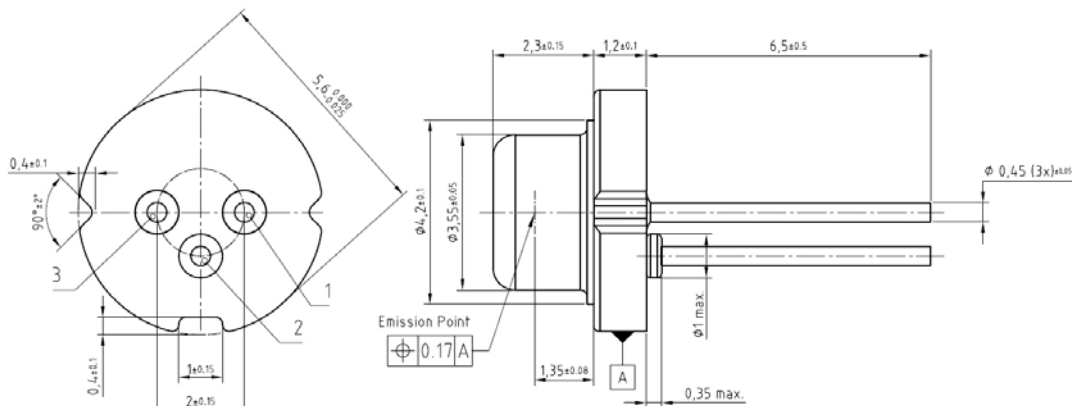
| Pin # | Function |
|-------|----------------------|
| Pin 1 | LD Cathode |
| Pin 2 | LD Anode, PD Cathode |
| Pin 3 | PD Anode |



Bottom View



Outline Dimensions



- 1: Cathode LD
- 2: Anode LD, Cathode PD
- 3: Anode PD

All dimensions in mm