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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* <sup>1</sup>	$I_{MAX}$		200	mA
Reverse Voltage	$V_R$		2	V
Operating Temperature* <sup>1</sup>	$T_{OPR}$	- 20	+ 60	°C
Storage Temperature	$T_{STG}$	- 40	+ 85	°C
Soldering Temperature (max. 3s)	$T_{SOL}$		+ 260	°C
Junction Temperature* <sup>1</sup>	$T_J$		+ 150	°C

\* operating outside these conditions may damage the device

\*<sup>1</sup> operating at maximum ratings may influence the life time



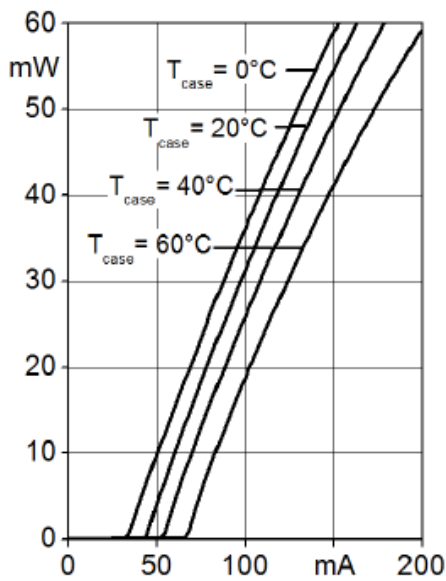
### Electro-Optical Characteristics ( $T_{CASE} = 25^{\circ}C, P_O = 50mW$ )

Parameter	Symbol	Values			Unit	
		Min.	Typ.	Max.		
<b>Peak Wavelength</b>	$\lambda_P$	<b>510</b>	<b>520</b>	<b>530</b>	<b>nm</b>	
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	$\Theta_{\perp}$	16	22	25	deg.
Thermal Resistance (junction to case)	$R_{th}$		34		K/W	
Monitor Current	$I_M$					

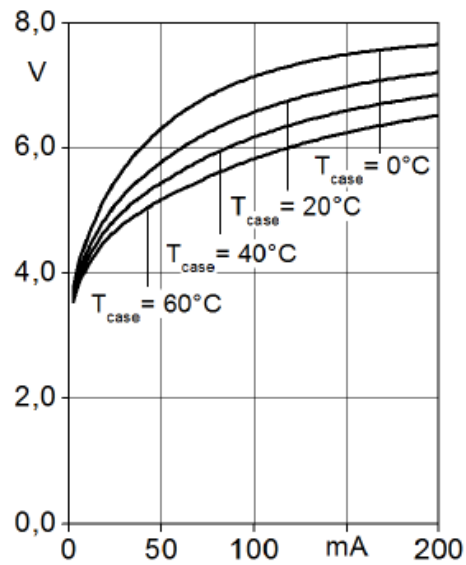


## Performance Characteristics

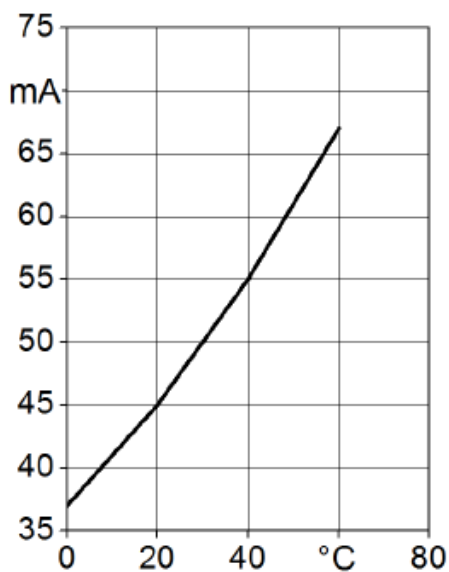
### Optical Output Power vs. Operating Current



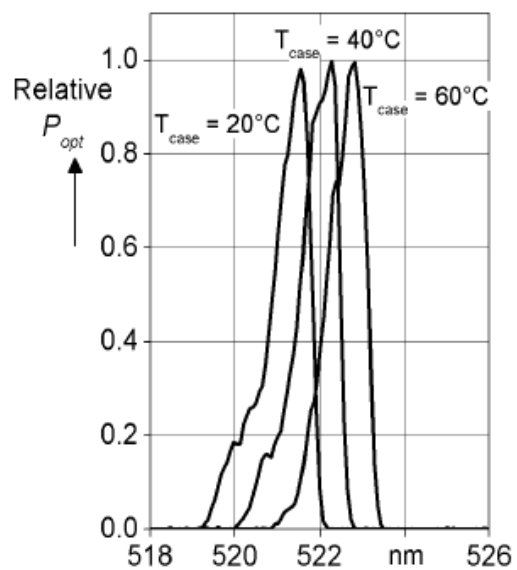
### Operating Voltage vs. Operating Current



### Threshold Current vs. Temperature

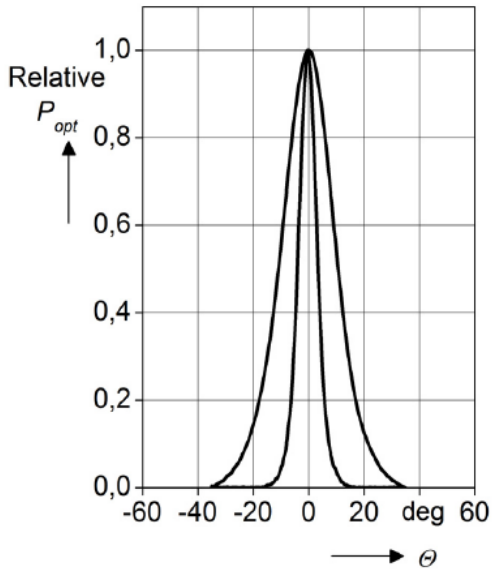


### Relative Output Power vs. Wavelength

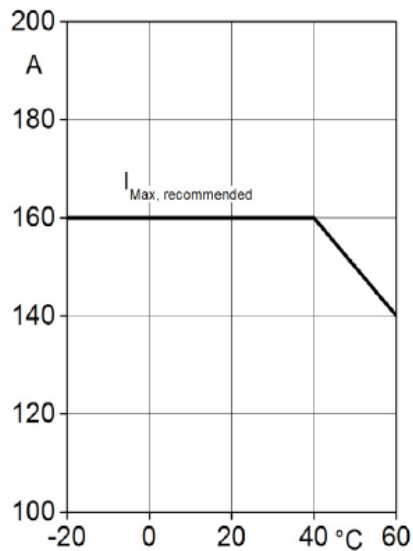




## Beam Divergence



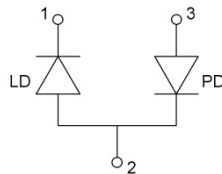
## Max. operating Current vs. Temperature



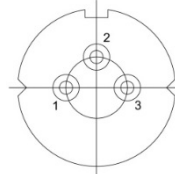
## Electrical Connection

### Pin Configuration

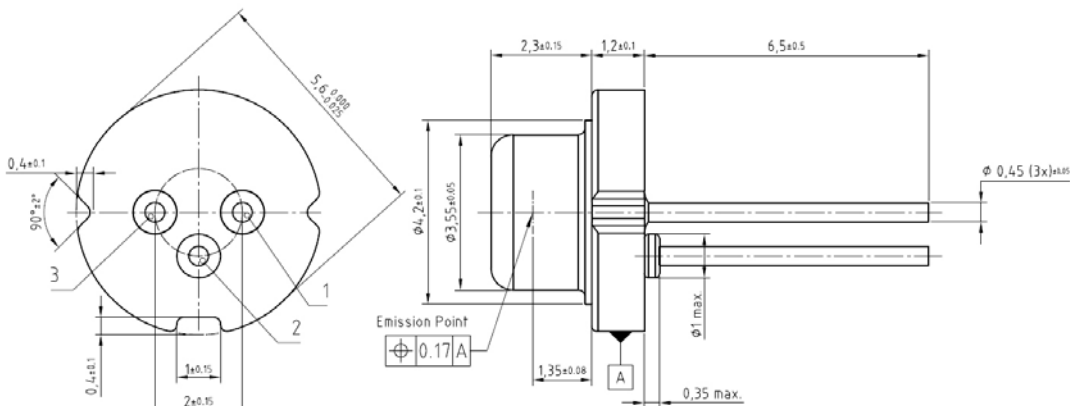
Pin #	Function
Pin 1	LD Cathode
Pin 2	LD Anode, PD Cathode
Pin 3	PD Anode



### Bottom View



## Outline Dimensions



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

All dimensions in mm