



## LD-520-80SG

- Green Laser Diode
- 520 nm, 80 mW
- Single transverse mode
- TO38 package, Flat Window



### Description

**LD-520-80SG** is a direct emitting, **GaN based**, 520 nm green laser diode in 3.8 mm TO-Can. 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>	$I_{MAX}$		300	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>	$T_J$		+ 120	°C

\* operating outside these conditions may damage the device

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



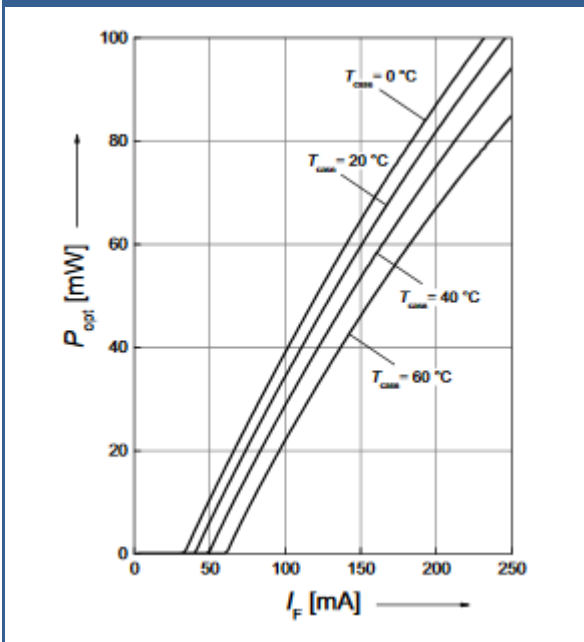
### Electro-Optical Characteristics ( $T_{CASE} = 25^{\circ}C, P_O = 80mW$ )

Parameter	Symbol	Values			Unit	
		Min.	Typ.	Max.		
<b>Peak Wavelength</b>	$\lambda_P$	<b>515</b>	<b>520</b>	<b>530</b>	<b>nm</b>	
Spectral Width (FWHM)	$\Delta\lambda$		2		nm	
Operating Voltage	$V_F$		6.4	8.0	V	
Threshold Current	$I_{th}$		40	70	mA	
Operating Current	$I_F$		200	240	mA	
Modulation Frequency	$f$		>100		MHz	
Polarization	$P_{GR}$		100:1			
Beam Divergence (FWHM)	parallel	$\Theta_{  }$	5	6.3	7.5	deg.
	perpendicular	$\Theta_{\perp}$	18	22.5	25	deg.
Thermal Resistance (junction to case)	$R_{th}$		38		K/W	

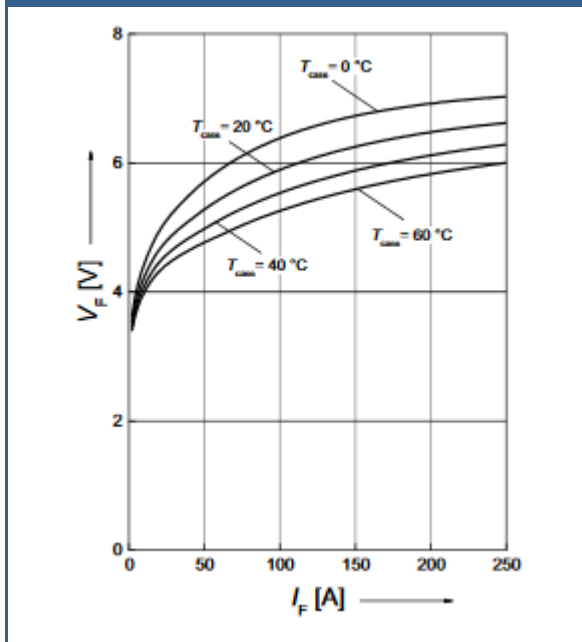


## Performance Characteristics

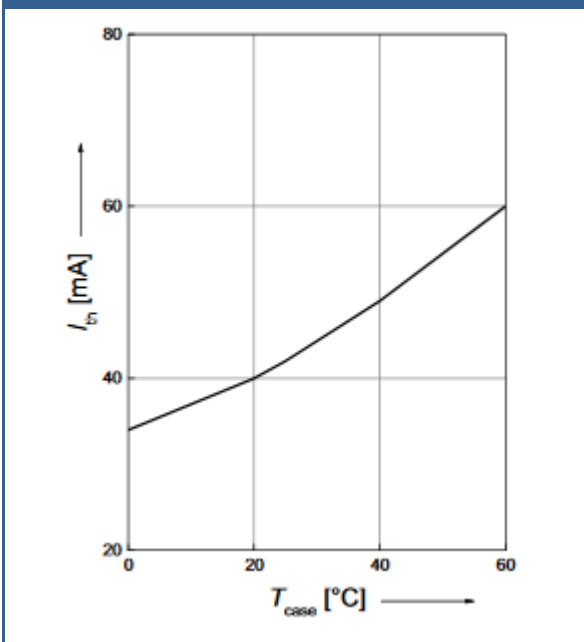
### Optical Output Power vs. Operating Current



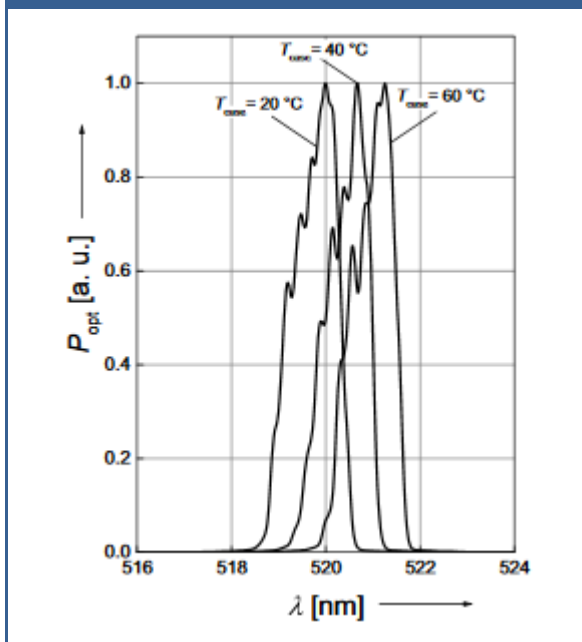
### Operating Voltage vs. Operating Current



### Threshold Current vs. Temperature

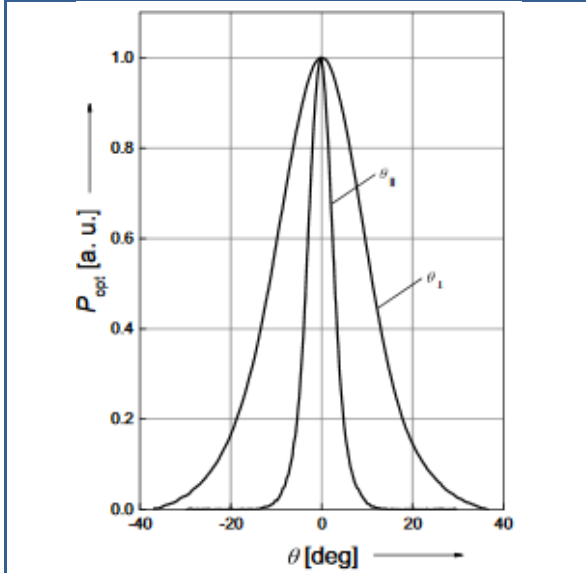


### Relative Output Power vs. Wavelength

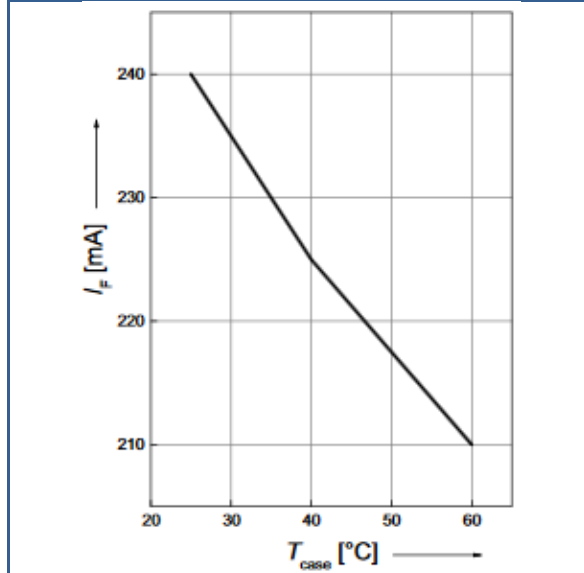




## Beam Divergence



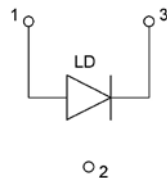
## Max. operating Current vs. Temperature



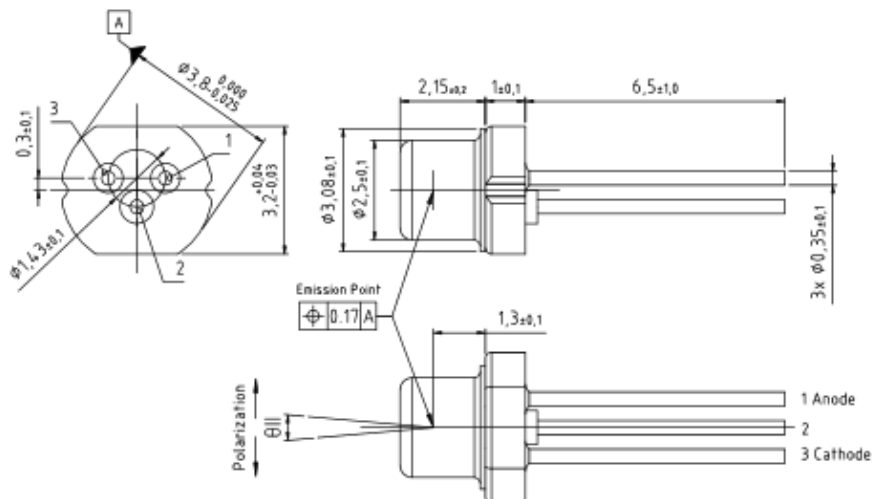
## Electrical Connection

### Pin Configuration

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



## Outline Dimensions



All dimensions in mm