



## LD-450-100SG

- *Royal Blue Laser Diode*
- *450 nm, 100 mW*
- *Single Transverse Mode*
- *Structure: GaN*



### Description

**LD-450-100SG** is a direct emitting, **GaN based**, 450nm blue laser diode in TO38 package **without 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, biomedical application...

### Maximum Ratings

Parameter	Symbol	Values		Unit
		Min.	Max.	
Optical Output Power	$P_{OM}$		120	mW
Operating Current	$I_F$		165	mA
Reverse Voltage	$V_R$		2	V
Operating Temperature	$T_{CASE}$	+ 10	+ 70	°C
Storage Temperature	$T_{STG}$	- 40	+ 85	°C
Soldering Temperature (max. 10 s)	$T_{SOLDER}$		260	°C

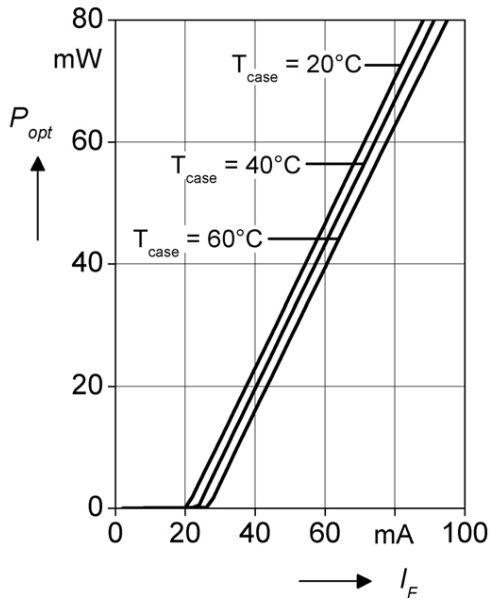
### Laser Characteristics ( $T_{CASE} = 25^{\circ}C$ , $P_o = 80$ mW)

Parameter	Symbol	Min.	Values		Unit
			Typ.	Max.	
Emission Wavelength	$\lambda_{peak}$	440	450	460	nm
Spectral Width	$\Delta\lambda$		2		nm
Threshold Current	$I_{th}$		30	60	mA
Operating Current	$I_F$		100	165	mA
Operating Voltage	$V_F$		5.8	7.0	V
Beam Divergence (FWHM)	$\theta_{  } \times \theta_{\perp}$	4x18		11x25	deg
Polarization	$P_{GR}$	20:1			
Modulation Frequency	$f$		>100		MHz

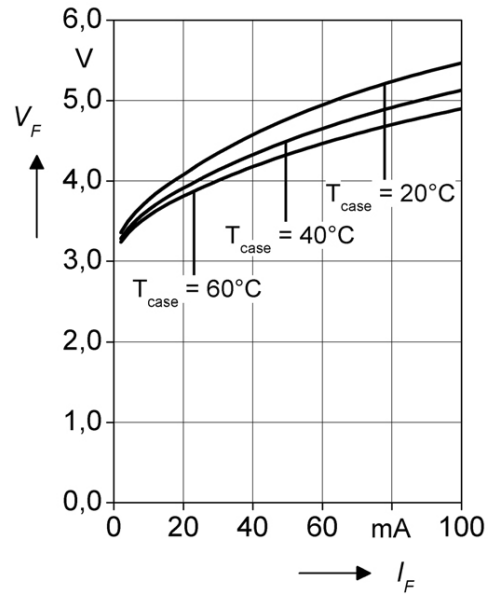


## Performance Characteristics

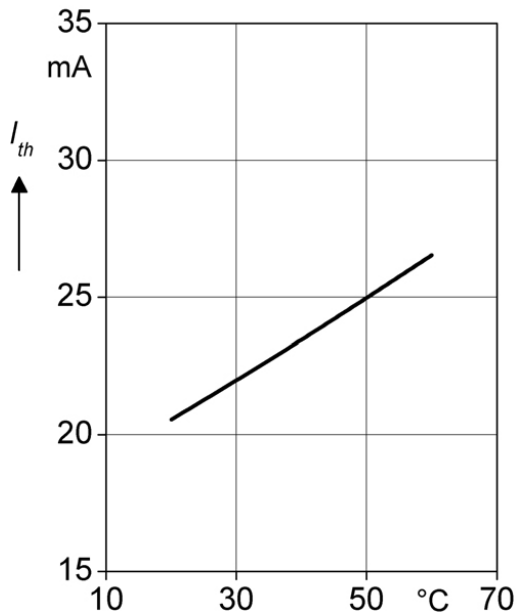
### Optical Output Power



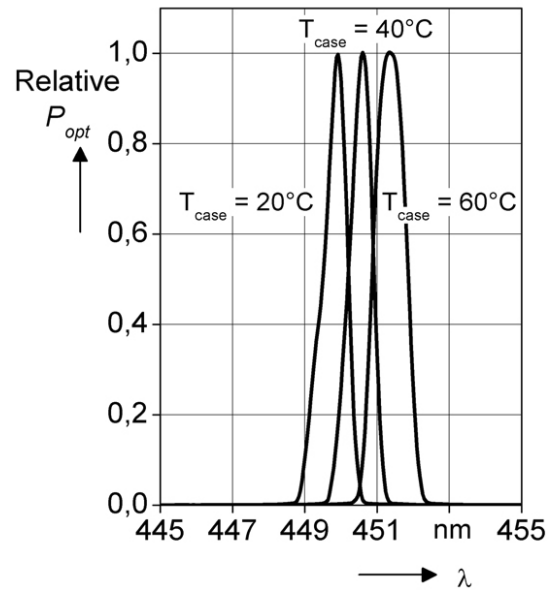
### Operating Voltage



### Threshold Current

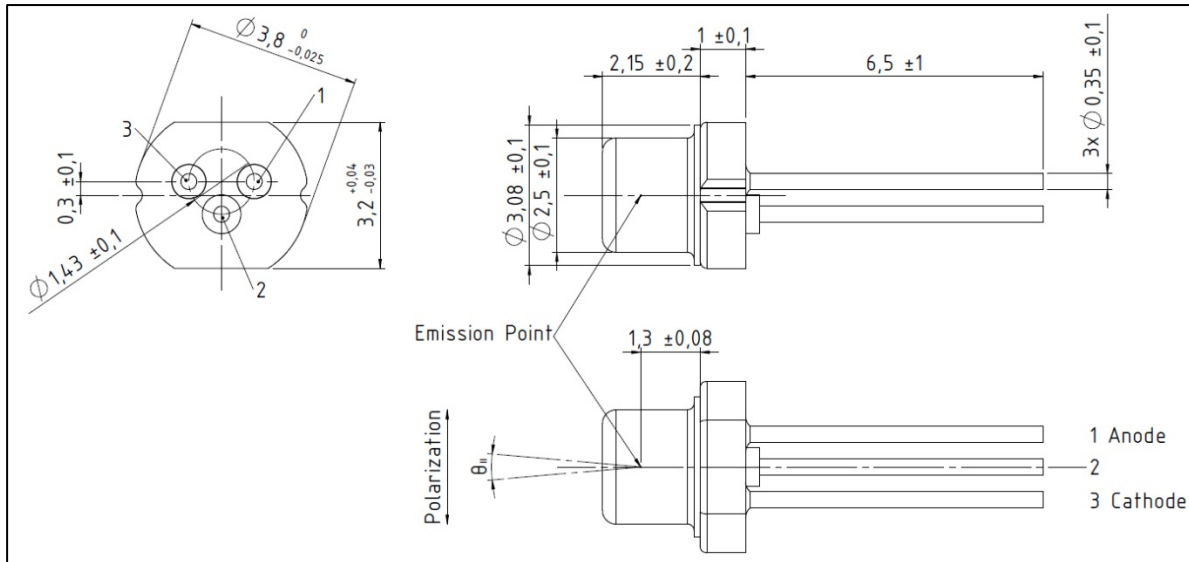


### Spectrum





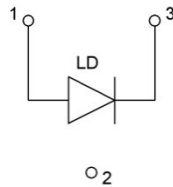
## Drawing



Dimensions in mm

## Electrical Connection

Lead	Description
Pin 1	LD Anode
Pin 2	Case
Pin 3	LD Cathode



## Mounting Instruction

In order to maintain lifetime and stability of the laser diode it is essential to provide efficient heat management. Heat dissipation is possible through the base plate only. For long time stable operation proper contact between laser diode base plate and heat sink is mandatory

## Safety Advice

This laser diode emits highly concentrated visible light which can be **hazardous to the human eye**. This diode is classified as **Class 3B laser product** according to **IEC 60825-1**. Actual laser light emitted and precautions necessary strongly depend on mode of operation.