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LD-450-1400MG

- Blue Laser Diode
- 450 nm, 1400 mW
- Multi Transverse Mode
- 5.6mm TO-Can

RoHS COMPLIANT Pb-Free

Description

LD-450-1400MG is a blue multi transverse mode laser diode emitting at typically 450nm with rated output power of 1400 mW CW, in a standard 5.6 mm TO package.

Maximum Ratings

Parameter	Symbol	Values		Unit
		Min.	Max.	
Operating Current	I_F		1.6	A
Reverse Voltage	V_R		5	V
Operating Temperature	T_{CASE}	+ 10	+ 70	°C
Storage Temperature	T_{STG}	- 40	+ 85	°C
Soldering Temperature	T_{SOLDER}		260	°C
Junction Temperature	T_J		150	°C

Laser Characteristics (T_{CASE} = 25°C, I_F = 1.2 A)

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Emission Wavelength	λ_{peak}	440	450	460	nm
Spectral Width	$\Delta\lambda$		4		nm
Treshold Current	I_{th}		0.2	0.3	A
Operating Current	I_F		1.2	1.5	A
Operating Voltage	V_F			6.0	V
Beam Divergence (FWHM)	$\Theta_{\parallel} \times \Theta_{\perp}$	n/ax18		15x25	deg
Polarization	P_{GR}	20:1			
Thermal resitance	R_{th}		18		K/W

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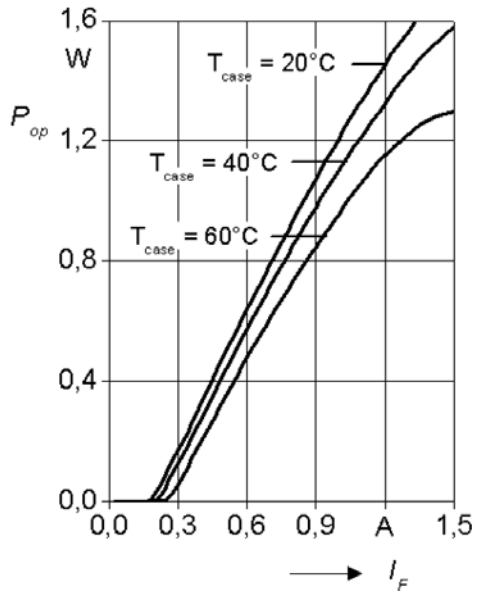
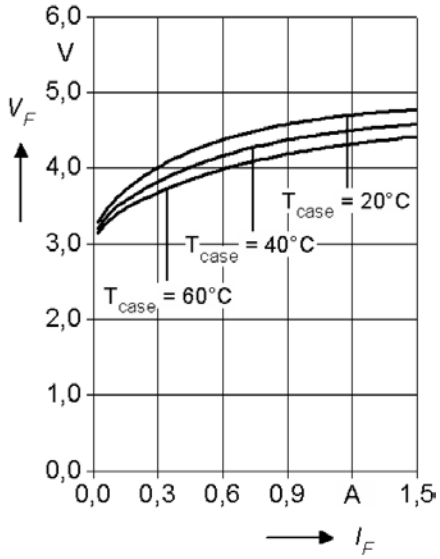
Performance Characteristics

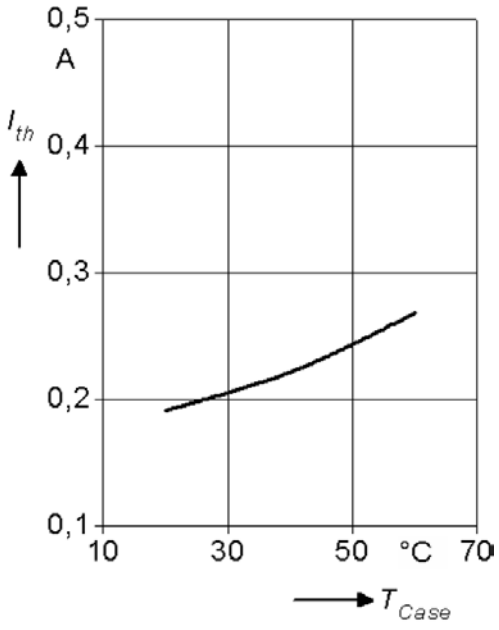
Optical Output Power



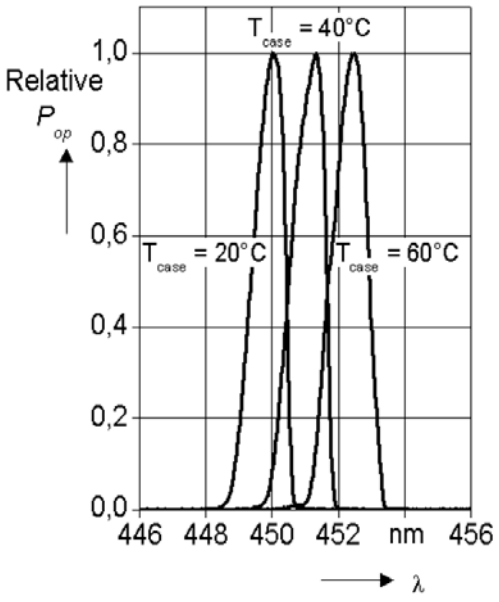
Operating Voltage



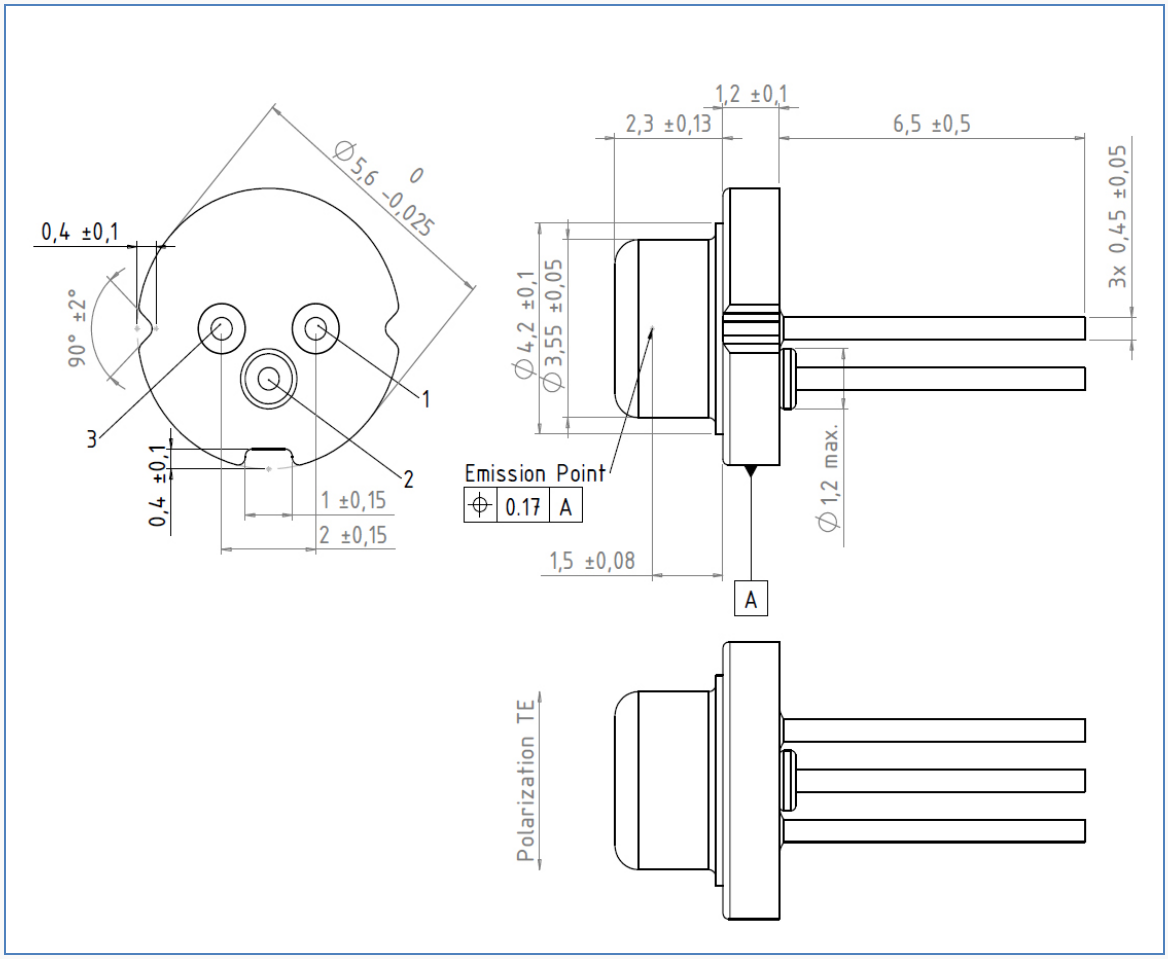
Threshold Current



Spectrum



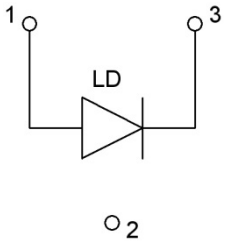
Drawing



All dimensions in mm

Electrical Connection

Lead	Description
Pin 1	LD anode
Pin 2	Case
Pin 3	LD cathode



ESD Caution

Always do handle laser diodes with extreme caution to prevent electrostatic discharge, the primary cause of unexpected diode failure. ESD failures can be prevented by always wearing wrist straps, only using a grounding workplace, and following strict anti-static guidelines when handling the laser diode

Safety Advice

This laser diode emits highly concentrated blue light which can be **hazardous to the human eye and skin**. This diode is classified as **CLASS 4 laser product** according to **IEC 60825-1** and **21 CFR Part 1040.10 Safety Standards**.

Operating Considerations

Operating the laser diode outside of its maximum ratings may cause failure or a safety hazard.
The diode may be damaged by excessive drive currents or switching transients. If the diode is operated using a power supply, it is strongly recommended to connect the diode with the output voltage set to zero. The voltage should then be increased slowly and with great caution, while at the same time carefully monitoring the laser diodes output power and drive current. The laser diode will show accelerated degradation with increased temperature, and it is advised to keep the case temperature low therefor, by means of heat sinking the device.