



LDMP-1550-020W-91

- Pulsed Infrared Laser Diode
- 1550 nm, 20 W pulse
- 9 mm TO
- Structure: InGaAsP/InGaAsP MQW



Complies with RoHS 2002/95/WE directive

Description

LDMP-1550-020W-91 is a Pulsed Infrared Laser Diode emitting at 1550 nm with rated pulse output power of 20 W at room temperature, mounted into standard 9 mm TO package.

Maximum Ratings

Parameter	Symbol	Values		Unit
		Min.	Max.	
Peak Output Power	P_O		20	W
Peak Reverse Voltage	V_R		2	V
Operating Temperature	T_{CASE}	- 35	+ 65	°C
Storage Temperature	T_{STG}	- 55	+ 85	°C
Soldering Temperature	T_{SOLDER}		260	°C

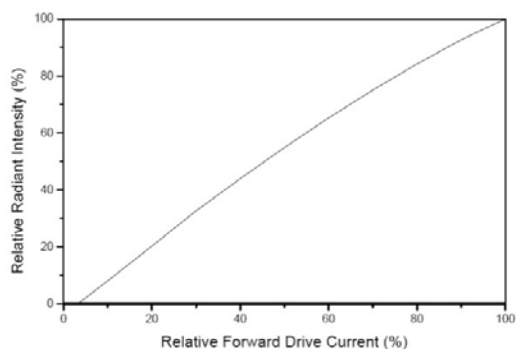
Laser Characteristics ($T_{CASE} = 25^{\circ}\text{C}$, $P_O = 20\text{ W}$)

Parameter	Symbol	Min.	Values		Unit
			Typ.	Max.	
Emission Wavelength	λ_{peak}	-	1550	-	nm
Wavelength Tolerance		30	-	30	nm
Peak Output Power	P_O	-	20	-	W
Threshold Current	I_{TH}	-	2.5	-	A
Peak Operating Current	I_{FP}	-	55	-	A
Peak Operating Voltage	V_{FP}	-	30	-	V
Pulse Width Maximum	T_W	-	100	-	ns
Duty Factor	D_F	-	0.01	-	%
Beam Divergence (FWHM)	$\theta_{ } \times \theta_{\perp}$	-	20x40	-	deg.
Source Size	$W \times H$	-	370x100	-	μm
Number of Laser Diode Elements			2		pcs.

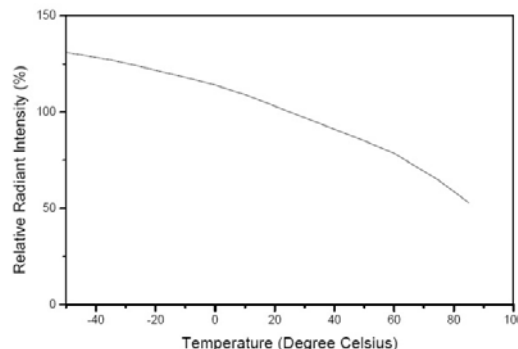


Performance Characteristics

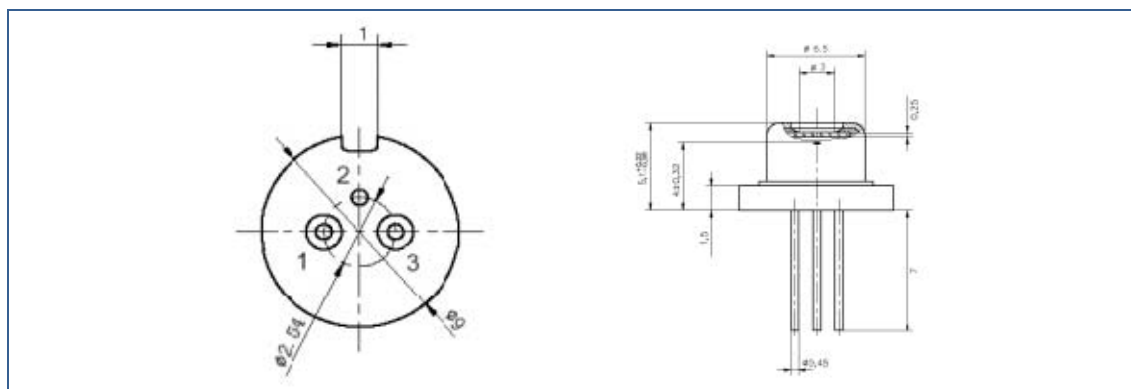
Output Power vs. Forward Current



Output Power vs. Temperature



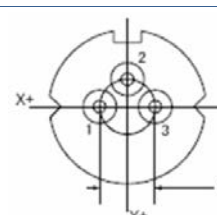
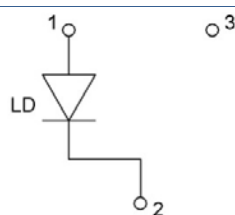
Drawing



Dimensions in mm

Electrical Connection

Lead	Description
Pin 1	LD Anode
Pin 2	LD Cathode
Pin 3	Not connected



Bottom View, dimensions in mm





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.

Operating Notes

Those LDMP series LDs should only work at pulse condition. It means that the working current must be pulse, not CW. The pulse width should be less than 150ns. The duty cycle is no more than 0.1%. The power supply should be a constant current source.

Be sure that the operating current is not exceed the specified operating current, or else which will accelerate aging, shorten lifetime or even damage devices.

Increase the current gradually to the specified operating value. For shutting down the laser diode, please decrease the current to zero gradually, and then turn off the power. Please sure that the power supply have no current overshoot at any time. The current overshoot can damage the laser diodes.

Be careful to keep the facet cleaning. Contamination of facet will result in rapid degradation of devices.

The high power laser diode is very sensitive to static. Please caution about static during operating with the laser diode.

Caution! Don't look at the laser light directly, because it's harmful to eyes.

A clean, dry and ventilated environment should be available when storing and operation. Dew can damage the laser diodes.

Take care of the mentioned storage temperature.

Safety Advice

This laser diode emits highly concentrated infrared light which can be **hazardous to the human eye**. This diode is classified as **Class 4 laser product** according to **IEC 60825-1** and **21 CFR Part 1040.10 Safety Standards**. Actual laser light emitted and precautions necessary strongly depend on mode of operation.



This product is comply with 21 CFR Part 1040.10