ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
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LDMP-1550-020W-91 TECHNICAL DATA

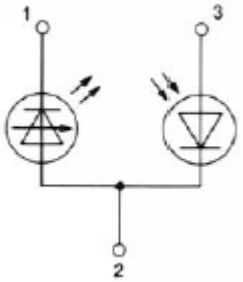
Pulsed Infrared Laser Diode

Structure: **InGaAsP/InGaAsP MQW structure, MOCVD**
Lasing wavelength: **1050 nm**
Peak power: **20 W**
Package: **9 mm**

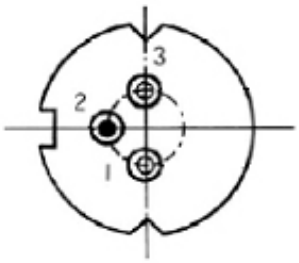
NOTE!
LASERDIODE MUST BE COOLED!

ATTENTION
OBSERVE PRECAUTIONS FOR HANDLING
ELECTROSTATIC SENSITIVE DEVICE

PIN CONNECTION:



1) Laserdiode cathode
2) Laserdiode anode and photodiode anode
3) Photodiode cathode



Absolute Maximum Ratings (Tc = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Peak Output Power	P_o	20	mW
Peak Reverse Voltage	V_{rm}	2	V
Operating Case Temperature	T_C	-55 .. +65	°C
Storage Temperature	T_{STG}	-55 .. +85	°C

Optical-Electrical Characteristics (Tc = 25°C) **Pulse width 150ns, duty cycle 0.1%, 6KHz**

CHARACTERISTIC	SYMBOL	TEST CONDITION	TYP	UNIT
Center Wavelength	λ_p	P_o = 20 W	1050	nm
Wavelength Tolerance		P_o = 20 W	±30	nm
Peak Output Power	P_o	pulsed mode	20	W
Peak Forward Current	I_f	P_o = 20 W	55	A
Pulse Width Max.	T_W	P_o = 20 W	100	ns
Duty Factor	D_F	P_o = 20 W	0.01	%
Threshold Current	I_{th}	P_o = 20 W	2.5	A
Peak Forward Voltage	V_f	P_o = 20 W	30	V
Beam Divergence FWHM	$\Theta_{//}$	P_o = 20 W	20	degree
Beam Divergence FWHM	$\Theta_{\perp}$	P_o = 20 W	40	degree
Soursce Size	WxH		370x100	µm
Number of Laser Diode Element			2	pcs.

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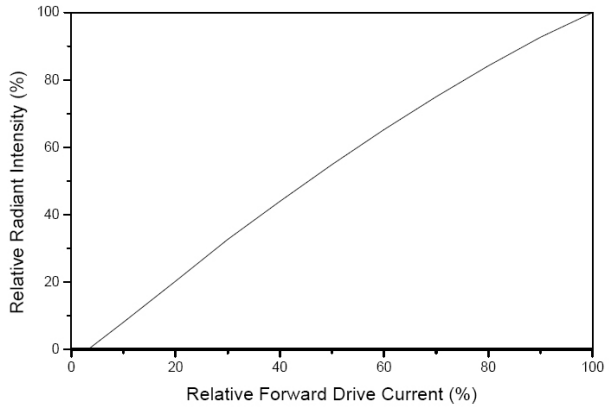
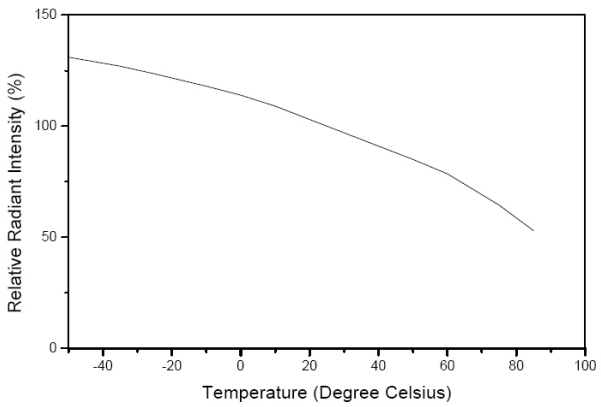
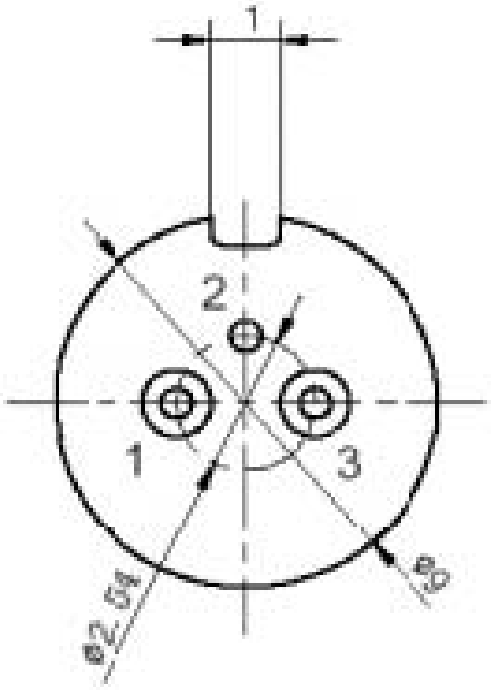
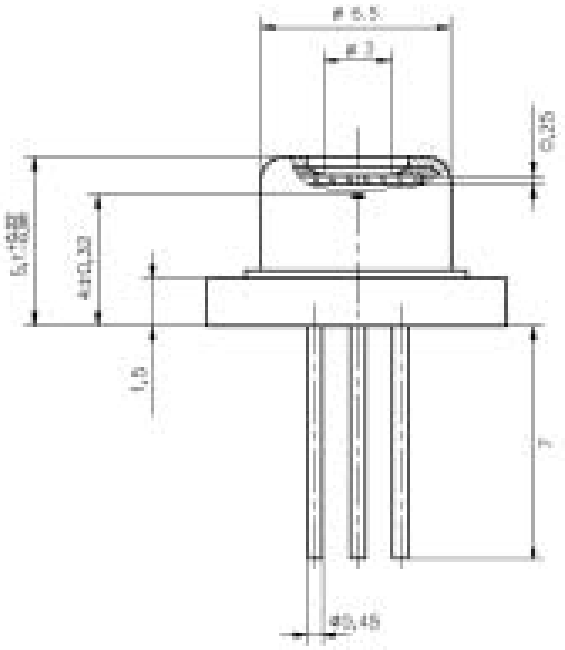
TYPICAL PREFORMANCE:





PACKAGE DIMENSIONS:





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Operating notes:

1. The LDMP series LD should 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 constant current source.
2. 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.
3. 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. Pleaser sure that the power supply have no current overshoot at any time. The current overshoot can damage the laser diodes.
4. Be careful to keep the facet cleaning. Contamination of facet will result in rapid degradation of devices.
5. The high power laser diode is very sensitive to static. Please caution about static during operating with the laser diode.
6. Caution! Don’t look at the laser light directly, because it’s harmful to eyes.
7. A clean, dry and ventilated environment should be available when storing and operation. Dew can damage the laser diodes.
8. Take care of the mentioned storage temperature.