ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
TEL. +43 1 586 52 43 -0, FAX. -44 OFFICE@ROITHNER-LASER.COM

v 2.0 12.01.2016

VL905P50

- IR Pulse Laser Diode
- 905 nm, 50 W
- Single Emitter
- 5mm Epoxy Package
- Life Time > 10.000 h

Description

VL905P50 is a IR 905 nm single emitter pulse laser diode in 5 mm epoxy package with output power of 50 W at 100 ns pulse width and 0.05 % duty cycle. It is ideally suited for range finding applications. Based on a compact epoxy package and capable of exceeding 10000 hours of life time, it provides a very cost effective solution.

Maximum Ratings

Parameter	Symbol	Values Min.	Values Max.	Unit
Peak power	P_P		65	W
Peak forward current	I_P		40	A
Puls width	t_p		200	ns
Duty cycle	d.c.		0.1	%
Reverse Voltage	V_R		3	V
Operating temperature	T_{CASE}	- 40	+85	°C
Storage temperature	T_{STG}	- 40	+100	°C
Soldering temperature	T_S		260	°C

Laser Characteristics (T_{CASE} = 25°C)

Parameter	Symbol	Values Min.	Values Typ.	Values Max.	Unit
Peak output power	P_O	45	50	65	W
Threshold current	I_{th}	0.5	0.75	1	A
Emission wavelength	λ	895	905	915	nm
Spectral Width (FWHM)	$\Delta\lambda$		7		nm
Beam Divergence (FWHM)	$\Theta II \times \Theta\perp$		11x25		deg
Puls Width	T_W		100		ns
Duty Cycle*	D		0.05		%
Peak Current	I_D		30		A
Wavelength Temp. Coefficient			0.28		nm/°C

**Standard operating conditions: 100 ns, 5 kHz, 25A*

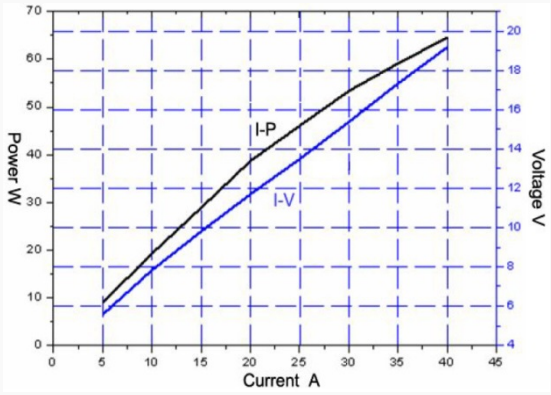
Safety Advice

Caution: Depending on the mode of operation, this laser diode does emit highly concentrated infrared light which can be **extremely hazardous to the human eye and skin**. Products which do incorporate this laser diode must comply with safety precautions following IEC 60825-1

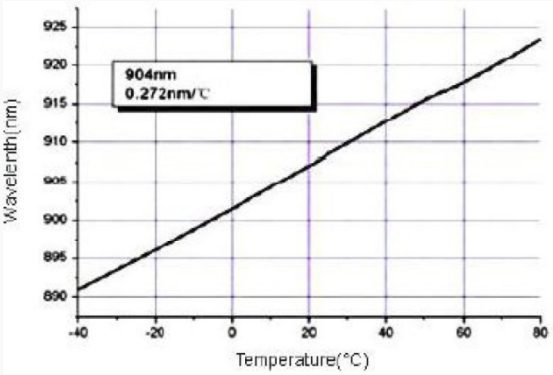
ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
TEL. +43 1 586 52 43 -0, FAX. -44 OFFICE@ROITHNER-LASER.COM

Typical performance

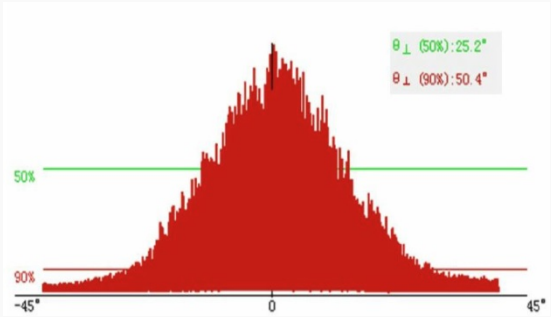
Power / Voltage vs. Current



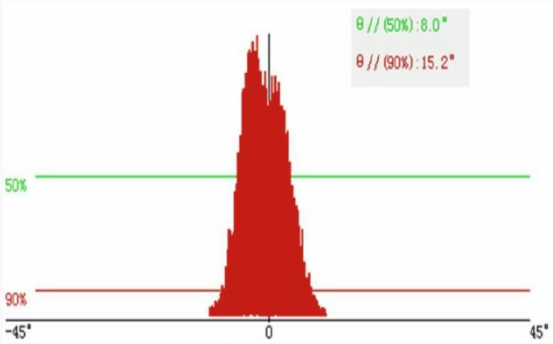
Wavelength vs. Temperature



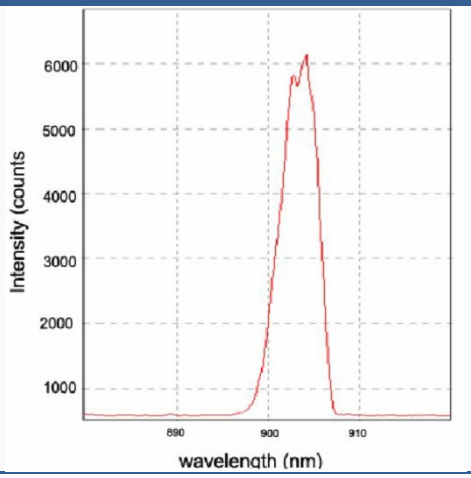
Perpendicular divergence angle



Parallel divergence angle



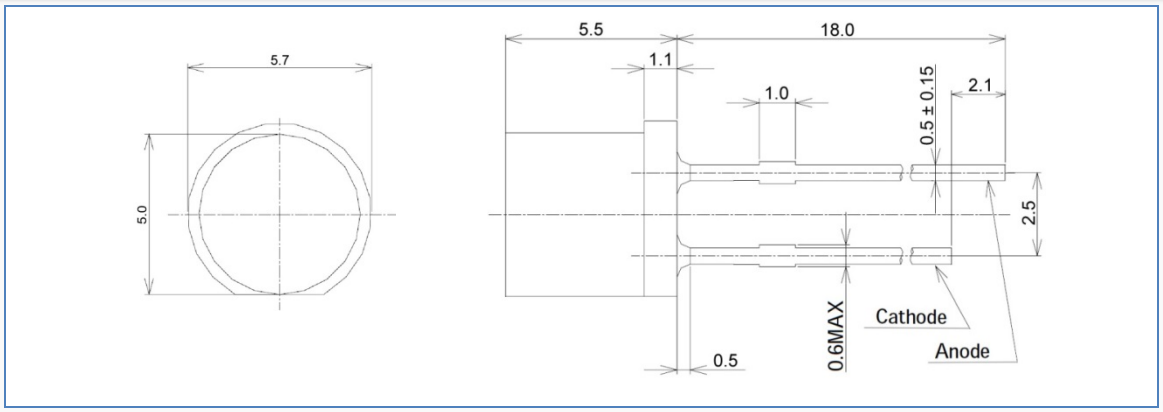
Spectral emission



Near-field illumination

ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
TEL. +43 1 586 52 43 -0, FAX. -44 OFFICE@ROITHNER-LASER.COM

Drawing



All dimensions in mm

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