

Features

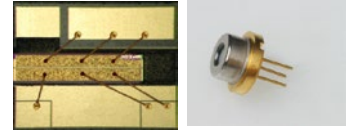
- Up to 300mW CW output power.
- High Quality, Reliability, & Performance

Applications

- Optical Data Storage
- Laser Ranging
- Graphics

Product Specifications

905/915nm Single-Mode Laser Diodes



Description:

High brightness, high quality, and high reliability are the foundation of our single mode product line. Sheumann's 905/915nm single mode laser diodes are available with up to 300mW of continuous output power from a single emitter chip. Sheumann's trademark laser chip design offers un-measurable degradation and long lifetimes that make our chips among the most reliable in the industry today. Our 905/915nm single mode line serves a broad range of applications including optical data storage, laser ranging, and graphics.

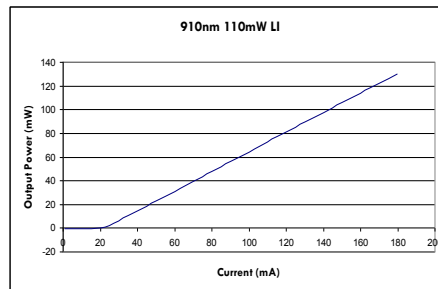
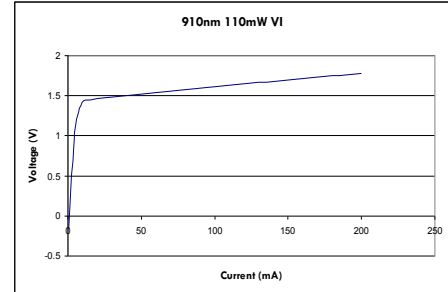
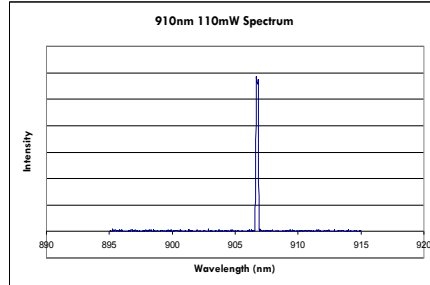
Packaging options include a 9mm TO-can or chip on sub-mount package. More options are available upon request. Please view our website for mechanical drawings of all of our sub-mounts.

Standard Product Specifications for 915nm Single-mode Diodes

Parameter	Unit	100mW Series			200mW Series			300mW Series		
		Min.	Typical	Max.	Min.	Typical	Max.	Min.	Typical	Max.
Wavelength	nm	900	905	910	910	915	920	910	915	920
Spectrum FWHM	nm	-	0.5	2.0	-	0.5	2.0	-	0.5	2.0
Operating Power (P _o)	mW	-	100	-	-	200	-	-	300	-
Operating Current (I _o)	mA	-	140	170	-	260	300	-	370	420
Operating Voltage (V _o)	V	-	1.9	2.2	-	1.9	2.2	-	1.9	2.2
Kink-Free Power	mW	110	-	-	220	-	-	330	-	-
Lifetime	hour	100,000	-	-	100,000	-	-	100,000	-	-
Vertical Far Field	deg, FWHM	-	28	30	-	28	30	-	28	30
Parallel Far Field	deg, FWHM	-	8	10	-	8	10	-	8	10
Threshold (I _{th})	mA	-	30	50	-	30	50	-	30	50
Slope Efficiency (dP/dI)	W/A	0.8	0.9	-	0.8	0.9	-	0.8	0.9	-
Storage Temperature	°C	-40	-	80	-40	-	80	-40	-	80
Operating Temperature (T _{op})	°C	-20	25	50	-20	25	50	-20	25	50
Lead Soldering Temp. (5 sec)	°C	-	-	250	-	-	250	-	-	250

- Note:** 1) Specifications are subject to change without notice.
2) All Sheumann Laser products are TE polarized

915nm Single Mode Performance Data Graphs



Determining Your Product number:

MM—WWW—PPPP—XYZ—(custom add-ons)
(package)-(wavelength)-(power)-(options)

Standard Product Configurations

200mW Series

- C2-915-0200-S50
- M9-915-0200-S50
- M9-915-0200-S5D
- M9-915-0200-D5P

100mW Series

- C2-905-0100-S50
- M5-905-0100-S50
- M5-905-0100-S5D
- M9-905-0100-D5P
- M9-905-0100-S50
- M9-905-0100-S5D
- M9-905-0100-D5P

300mW Series

- C2-915-0300-S50
- M9-915-0300-S50
- M9-915-0300-S5D
- M9-915-0300-D5P

Package:

- C2 2.1mm COS
- M5 5.6mm TO-can
- M9 9mm TO-can

X Option (aperture size)

- S single-mode (cathode ground)
- D single-mode (anode ground)

Wavelength:

- 905 905nm
- 915 915nm

Y Option (wavelength tolerance)

- 5 ±5 nm

Power Options:

- 0100 100mW
- 0200 200mW
- 0300 300mW

Z Option (additional options)

- O none
- D w/ photodiode (anode ground)
- P w/ photodiode (cathode ground)

Safety

Caution: Laser light emitted from any diode laser is invisible and may be harmful to the human eye. Avoid looking directly into the diode laser aperture when the device is in operation.

Note: The use of optical instruments with this product will increase eye hazard.

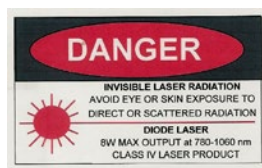
ESD Caution

Always handle diode lasers with extreme care to prevent electrostatic discharge, the primary cause of unexpected diode failure. You can prevent ESD by always wearing wrist straps, grounding all applicable work surfaces, and following extremely rigorous anti-static techniques when handling diode lasers.

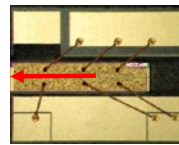
Operating Considerations

Operating the diode laser outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the component must be employed such that the maximum peak optical power cannot be exceeded. CW diode lasers may be damaged by excessive drive current or switching transients. When using power supplies, the diode laser should be connected with the main power on and the output voltage at zero. The current should be increased slowly while monitoring the diode laser output power and the drive current. Device degradation accelerates with increased temperature, and therefore careful attention to minimize the case temperature is advised. A proper heat-sink for the diode laser on a thermal radiator will greatly enhance laser life.

Power Output Danger Label



WARNING! Invisible laser radiation is emitted from devices as shown below



21 CFR 1040.10 Compliance

Because of the small size of these devices, each of the labels shown are attached to the individual shipping container. They are illustrated here to comply with 21 CFR 1040.10 as applicable under the Radiation Control for Health and Safety Act of 1968.