Laser Diodes

SHEAUMANN

LASER COMPONENTS

Features

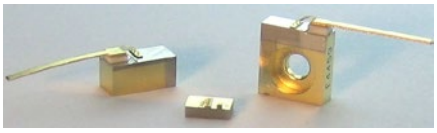
- **Up to 3W CW output power**
- **High Quality, Reliability, & Performance**

Applications

- **Graphics**
- **Laser Ranging**
- **Medical**
- **Defense**
- **Material Processing**

Product Specifications

915nm Multi-Mode Laser Diodes (3W)



Description:

High brightness, high quality, and high reliability are the foundation of our multi mode product line. Sheaumann's 915nm multi mode laser diodes are available with up to 3W of continuous output power from a single emitter chip. Sheaumann's trademark laser chip design creates un-measurable degradation and long lifetimes that make our chips among the most reliable in the industry today. Our 915nm multi mode line serves a broad range of applications including graphics, laser ranging, medical, defense, and material processing.

Packaging options include an industry standard 9mm TO-can, C-mount B-mount, and QA-mount. More product options are available upon request. Please view our website for mechanical drawings of our sub-mounts for these specifications.

Performance Data for 915nm Multi-Mode Diodes

		500 mW Series			1W Series			2 W Series			3 W Series		
Parameter	**Unit**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**
Wavelength	nm	900	905	910	910	915	920	910	915	920	910	915	920
Spectrum FWHM	nm	-	3	5	-	3	5	-	3	5	-	3	5
Operating Power (P_o)	W	-	0.5	-	-	1.0	-	-	2.0	-	-	3.0	-
Operating Current (I_o)	A	-	0.64	0.70	-	1.4	1.8	-	2.5	2.9	-	3.6	4.0
Operating Voltage (V_o)	V	-	1.8	2.0	-	1.9	2.2	-	1.9	2.2	-	1.9	2.2
Lifetime	hour	10,000	-	-	10,000	-	-	10,000	-	-	10,000	-	-
Vertical Far Field	deg, FWHM	-	35	40	-	35	40	-	35	40	-	35	40
Parallel Far Field	deg, FWHM	-	8	10	-	9	12	-	9	12	-	9	12
Threshold (I_{th})	mA	-	100	120	-	250	550	-	250	550	-	250	550
Slope Efficiency (dP/dI)	W/A	0.8	0.9	-	0.8	0.9	-	0.8	0.9	-	0.8	0.9	-
Storage Temp.	°C	-40	-	80	-40	-	80	-40	-	80	-40	-	80
Operating Temp. (T_{op})	°C	-20	25	50	-20	25	50	-20	25	50	-20	25	50
Lead Soldering Temp.(5 sec)	°C	-	-	250	-	-	250	-	-	250	-	-	250

Note: Specifications are subject to change without notice. All Sheaumann Laser products are TE polarized

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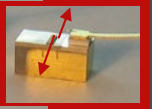
LASER COMPONENTS

Power Output Danger Label

WARNING!

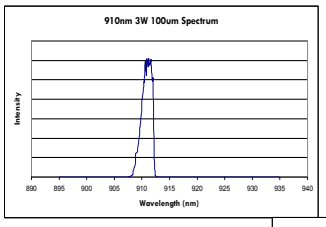
Invisible laser radiation is emitted from devices as shown below

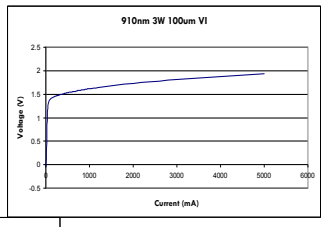


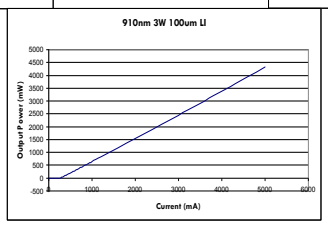
21 CFR 1040.10 Compliance

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.

Product Performance Data Graphs







Determining Your Product Number

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

Package:

CM	CM-mount
BM	BM-mount
QA	QA-mount
M9	9mm TO-can
M5	5.6mm TO-can
C4	chip on 4mm submount

Wavelength:

905	905nm
915	915nm

Y Option (wavelength tolerance)

5	±5 nm

Power Options:

0500	500mW
1000	1W
2000	2W
3000	3W

X Option (aperture size)

0	50um aperture
1	100um aperture

Z Option (additional options)

0	none
R	w/ thermistor
P	w/ photodiode

Standard Product Configurations

500mW Series	1W Series	2W Series
CM-905-0500-050	CM-915-1000-150	CM-915-2000-150
BM-905-0500-050	C4-915-1000-150	C4-915-2000-150
QA-905-0500-050	BM-915-1000-150	BM-915-2000-150
QA-905-0500-05R	QA-915-1000-150	QA-915-2000-150
M5-905-0500-050	QA-915-1000-15R	QA-915-2000-15R
M5-905-0500-05P	M9-915-1000-150	**3W Series**
M9-905-0500-050	M9-915-1000-15P	CM-915-3000-150
M9-905-0500-05P		C4-915-3000-150
		BM-915-3000-150

Note: These are our standard product configurations. Other options may be available, please inquire about any additional options that you may require when contacting our Sales Team.

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.

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