

Features

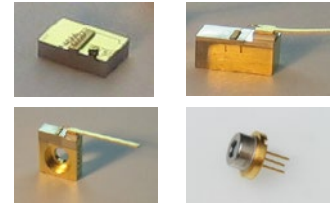
- Up to 1.5W CW output power
- High Quality, Reliability, & Performance

Applications

- Solid State Pumping
- Graphics
- Medical/Dental
- Laser Display
- Defense

Product Specifications

808nm Multi-Mode Laser Diodes 50µm emitter (200mW-1.5W)



Description

High brightness, high quality, and high reliability are the foundation of our multi mode product line. Sheaumann's 808nm multi mode laser diodes are available with up to 1.5W of continuous output power from a 50µm 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 808m multi mode line serves a broad range of applications including solid state pumping, laser display, graphics, medical, dental, industrial, and defense.

Packaging options include 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 all of our sub-mounts.

Performance Data for 808nm Multi-Mode Diodes

Parameter	Unit	200mW Series			500mW Series			1W Series			1.5W Series		
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max
Wavelength	nm	805	808	811	805	808	811	805	808	811	805	808	811
Spectrum FWHM	nm	-	2	4	-	2	4	-	2	4	-	2	4
Operating Power (P _o)	W	-	0.2	-	-	0.5	-	-	1.0	-	-	1.5	-
Operating Current (I _o)	A	-	0.24	0.29	-	0.54	0.60	-	1.1	1.3	-	1.60	1.80
Operating Voltage (V _o)	V	-	1.9	2.2	-	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	-	32	38	-	32	38	-	32	38	-	32	38
Parallel Far Field	deg, FWHM	-	8	11	-	8	11	-	8	11	-	8	11
Threshold (I _{th})	mA	-	60	90	-	80	110	-	180	220	-	240	260
Slope Efficiency (dP/dI)	W/A	1.0	1.2	-	1.0	1.2	-	1.0	1.2	-	1.0	1.2	-
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

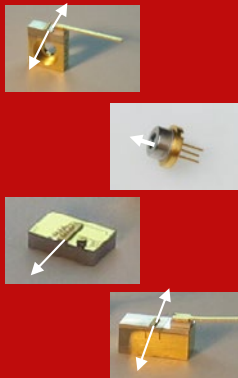
Note: Specifications are subject to change without notice. All Sheaumann Laser products are TE polarized

Power Output Danger Label



WARNING!

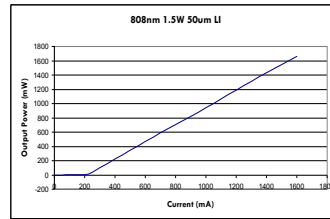
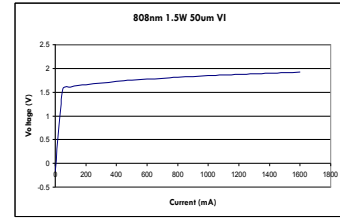
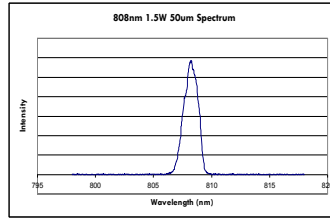
Invisible laser radiation is emitted from devices as shown below



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—PPP—XYZ—(custom add-ons)
(package)-(wavelength)-(power)-(options)

<u>Package:</u>	<u>X Option (aperture size)</u>	<u>Standard Product Configurations</u>	
CM	C-mount	<u>200mW Series</u>	<u>1W Series</u>
BM	B-mount	M5-808-0200-030	CM-808-1000-030
QA	Q-mount	M5-808-0200-03P	BM-808-1000-030
M9	9mm TO-can	<u>500mW Series</u>	QA-808-1000-030
M5	5.6mm TO-can	M5-808-0500-030	QA-808-1000-03R
		M5-808-0500-03P	M9-808-1000-030
		CM-808-0500-030	M9-808-1000-03P
		BM-808-0500-030	<u>1.5W Series</u>
		QA-808-0500-030	CM-808-1500-030
		QA-808-0500-03R	BM-808-1500-030
		M9-808-0500-030	QA-808-1500-030
		M9-808-0500-03P	QA-808-1500-03R

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.