

To request any additional information
please contact us at:

Email: sales@axcelphotonics.com

Phone: (508) 481-9200



Features

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

Applications

- Fiber Lasers
- Optical Data Storage
- 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. Axcel's 905/915nm single mode laser diodes are available with up to 300mW of continuous output power from a single emitter chip. Axcel'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 fiber lasers, optical data storage, 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-mount, mount, and module packages.

Contact us today and learn how Axcel Photonics can accelerate your research and production!

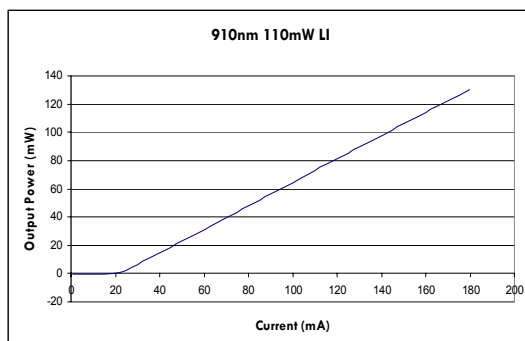
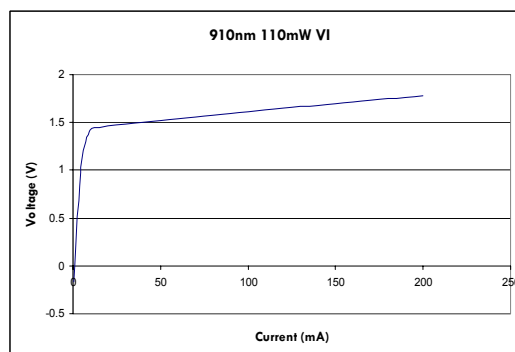
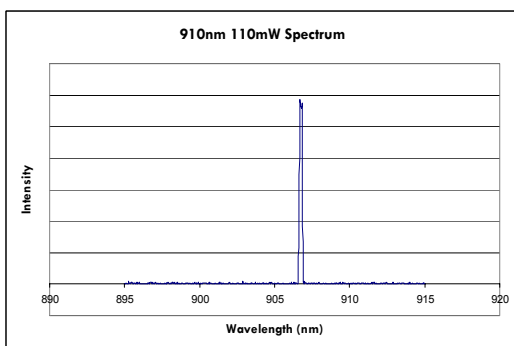
Standard Product Specifications for 915nm Single-mode Diodes

| Parameter | Unit | 300mW Series | | | 200mW Series | | | 100mW Series | | |
|--|-----------|--------------|---------|------|--------------|---------|------|--------------|---------|------|
| | | Min. | Typical | Max. | Min. | Typical | Max. | Min. | Typical | Max. |
| Wavelength | nm | 910 | 915 | 920 | 910 | 915 | 920 | 900 | 905 | 910 |
| Spectrum FWHM | nm | - | 0.5 | 2.0 | - | 0.5 | 2.0 | - | 0.5 | 2.0 |
| Operating Power (P _o) | mW | - | 300 | - | - | 200 | - | - | 100 | - |
| Operating Current (I _o) | mA | - | 370 | 420 | - | 260 | 300 | - | 140 | 170 |
| Operating Voltage (V _o) | V | - | 1.9 | 2.2 | - | 1.9 | 2.2 | - | 1.9 | 2.2 |
| Kink-Free Power | mW | 330 | - | - | 220 | - | - | 110 | - | - |
| 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 | 30 | -20 | 25 | 30 | -20 | 25 | 30 |
| Lead Soldering Temp. (5 sec) | °C | - | - | 250 | - | - | 250 | - | - | 250 |

Note: 1) Specifications are subject to change without notice.

2) All Axcel Photonics 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

Package:

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

Wavelength:

| | |
|-----|-------|
| 905 | 905nm |
| 915 | 915nm |

Power Options:

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

X Option (aperture size)

S single-mode

Y Option (wavelength tolerance)

5 ±5 nm

Z Option (additional options)

0 none

P w/ photodiode

Please 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

100mW Series

C2-905-0100-S50

M9-905-0100-S50

M9-905-0100-S5P

200mW Series

C2-915-0200-S50

M9-915-0200-S50

M9-915-0200-S5P

300mW Series

C2-915-0300-S50

M9-915-0300-S50

M9-915-0300-S5P

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

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.