

To request any additional information please contact us at:

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Phone: (508) 481-9200



## Features

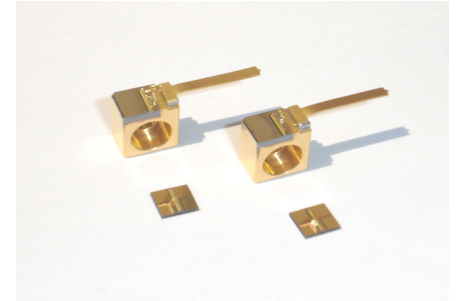
- Up to 12 W CW output power.
- High Quality, Reliability, & Performance

## Applications

- Fiber Lasers
- Material Processing
- Graphics
- Defense
- Medical

## Product Specifications

### 915 nm Multi-Mode Laser Diodes 90 $\mu\text{m}$ (10-12 W)



### Description:

High brightness, high quality, and high reliability are the foundation of our multi mode product line. Axcel's 915 nm multi mode laser diodes are available with up to 12 W of continuous output power from a 90  $\mu\text{m}$  single emitter chip. Axcel'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 915 nm multi mode line serves a broad range of applications including fiber lasers, material processing, graphics, defense, and medical.

Packaging options include Axcel's AlN C4 Submount and 4.3 mm thick C-mount. 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 Multi-mode Diodes

Parameter	Unit	10 W Series			12 W Series		
		Min	Typ	Max	Min	Typ	Max
Wavelength	nm	910	915	920	910	915	920
Spectrum FWHM @ 1.0 A	nm	—	2.5	5	—	2.5	5
Operating Power ( $P_o$ )	W	—	10.0	—	—	12.0	—
Operating Current ( $I_o$ )	A	—	10.0	11.0	—	11.6	12.0
Operating Voltage ( $V_o$ )	V	—	2.0	2.5	—	2.1	2.6
Vertical Far Field @ 1.0 A	deg, FWHM	25	30	35	25	30	35
Parallel Far Field @ 1.0 A	deg, FWHM	8	10	12	8	10	12
Threshold ( $I_{th}$ )	mA	—	800	900	—	800	900
Slope Efficiency (dP/dI)	W/A	0.85	1.0	1.15	0.85	1.0	—
Storage Temp.	$^{\circ}\text{C}$	-40	—	80	-40	—	80
Operating Temp. ( $T_{op}$ )	$^{\circ}\text{C}$	-20	25	50	-20	25	50
Lead Soldering Temp. (<5 sec)	$^{\circ}\text{C}$	—	—	250	—	—	250

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

2) All Axcel Photonics products are TE polarized

3) All Specifications are rated at 25 $^{\circ}\text{C}$

**Determining Your Product number:**

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

**Package:**

C4 chip on 4 mm submount  
CL 4.3 mm C-mount

**Wavelength:**

915 915 nm

**Power Options:**

010W 10 W  
012W 12 W

**X Option (aperture size)**

1 90 μm aperture

**Y Option (wavelength tolerance)**

5 ±5 nm

**Z Option (additional options)**

0 none

**10 W Series**

C4-915-010W-150  
CL-915-010W-150

**12 W Series**

C4-915-012W-150  
CL-915-012W-150

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 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.

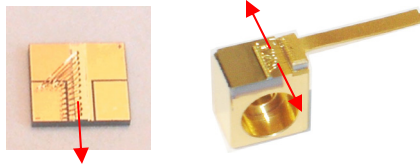
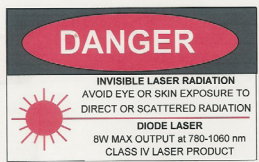
**ESD Caution**

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.

**Power Output Danger Label**



**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.

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