To request any additional information please contact us at:

Email: sales@axcelphotonics.com

Phone: (508) 481-9200

Features

- **Up to 20W CW output power.**
- **High Quality, Reliability, & Performance**

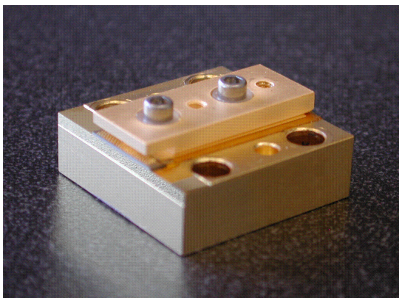
Applications

- **Military + Defense**
- **Spectroscopy**
- **Medical/Dental**
- **Industrial**

Product Specifications

780nm Multi-Mode Laser Diodes

1000µm emitter (20W)



Description:

High brightness, high quality, and high reliability are the foundation of our multi mode product line. Axcel's 780nm multi mode laser diodes are available with up to 20W of continuous output power from a single 1000µm 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. Axcel's 20W diode was made to replace multiple-emitter arrays and bars, while offering easy fiber coupling and greater brightness. Our 780m multi mode line serves a broad range of applications including spectroscopy, medical, dental, industrial, military, and defense.

Packaging options include an industry standard CS-mount. More product options are available upon request. Please view our website for mechanical drawings of our sub-mount.

Standard Product Specifications for 780nm Multi-mode Diodes

		20W Series		
Parameter	**Unit**	**Min**	**Typ**	**Max**
Wavelength	nm	777	782	787
Spectrum FWHM	nm	-	2	4
Operating Power (P_o)	W	-	20	-
Operating Current (I_o)	A	-	24	27
Operating Voltage (V_o)	V	-	2.0	2.5
Lifetime	hour	60,000	-	-
Vertical Far Field	deg, FWHM	25	35	40
Parallel Far Field	deg, FWHM	8	10	12
Threshold (I_{th})	A	-	4.5	5.5
Slope Efficiency (dP/dI)	W/A	1.0	1.2	-
Storage Temp.	°C	-40	-	80
Operating Temp. (T_{op})	°C	-20	25	50
Lead Soldering Temp.(5 sec)	°C	-	-	250

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

2) All Axcel Photonics products are TE polarized

Determining Your Product number:

MM—WWW—PPPP—XYZ—(custom add-ons)

(package)-(wavelength)-(power)-(options)

Package:

CS	CS-mount

Wavelength:

780	780nm

Power Options:

020W	20W

X Option (aperture size)

9	1000µm aperture

Y Option (wavelength tolerance)

5	±5 nm

Z Option (additional options)

S	Low AR

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.

Standard Product Configurations

20W Series

CS-780-020W-95S

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

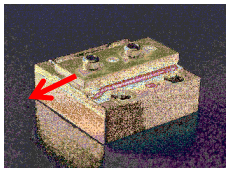
Always handle diode lasers with extreme care to prevent electrostatic discharge, the primary cause of unexpected diode failure. You can prevent ESD by always wearing wrist straps, grounding all applicable work surfaces, and following extremely rigorous anti-static techniques when handling diode lasers.

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.