To request any additional information please contact us at:

Email: sales@axcelphotonics.com

Phone: (508) 481-9200

Features

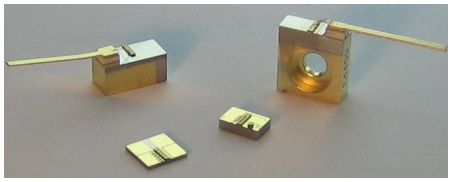
- Up to 1.5 W CW output power.
- High Quality, Reliability, & Performance

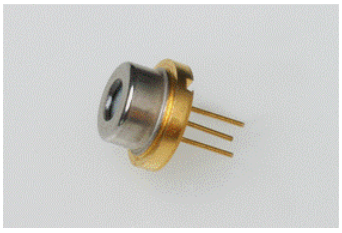
Applications

- Solid State Pumping
- Fiber Lasers
- Material Processing
- Medical
- Defense

Product Specifications

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





Description:

High brightness, high quality, and high reliability are the foundation of our multi mode product line. Axcel's 975 nm multi mode laser diodes are available with up to 1.5 W of continuous output power from a 50 µm single emitter chip. Axcel's trademark laser chip design creates unmeasurable degradation and long lifetimes that make our chips among the most reliable in the industry today. Our 975 nm multi mode line serves a broad range of applications including solid state pumping, fiber lasers, material processing, graphics, medical, and defense.

Packaging options include industry standard 5.6mm TO-can, 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.

Standard Product Specifications for 975nm Multi-mode Diodes

		200 mW Series			500 mW Series			1 W Series			1.5 W Series		
Parameter	Unit	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max
Wavelength	nm	970	975	980	970	975	980	970	975	980	970	975	980
Spectrum FWHM	nm	—	3	5	—	3	5	—	3	5	—	3	5
Operating Power (P_o)	W	—	0.2	—	—	0.5	—	—	1.0	—	—	1.5	—
Operating Current (I_o)	A	—	0.27	0.4	—	0.68	0.75	—	1.1	1.5	—	1.6	1.9
Operating Voltage (V_o)	V	—	1.7	2.0	—	1.7	2.0	—	1.7	2.0	—	1.7	2.0
Lifetime	hour	20,000	—	—	20,000	—	—	20,000	—	—	20,000	—	—
Vertical Far Field	deg, FWHM	—	30	35	—	30	35	—	30	35	—	30	35
Parallel Far Field	deg, FWHM	—	8	10	—	8	10	—	8	10	—	8	10
Threshold (I_{th})	mA	—	60	80	—	90	110	—	120	200	—	120	200
Slope Efficiency (dP/dI)	W/A	0.8	1.0	—	0.8	1.0	—	0.8	1.0	—	0.8	1.0	—
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: 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:	
M5	5.6mm TO-can
M9	9mm TO-can
CM	C-mount
BM	B-mount
QA	Q-mount
Wavelength:	
975	975 nm
Power Options:	
0200	200 mW
0500	500 mW
1000	1 W
1500	1.5 W

X Option (aperture size)	
0	50 µm aperture
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 Sales Team.

Standard Product Configurations

200 mW Series	**1 W Series**
M5-975-0200-050	M9-975-1000-050
M5-975-0200-05P	CM-975-1000-050
	BM-975-1000-050
500 mW Series	QA-975-1000-050
M5-975-0500-050	
M5-975-0500-05P	
M9-975-0500-050	**1.5 W Series**
M9-975-0500-05P	CM-975-1500-050
	BM-975-1500-050
	QA-975-1500-050

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

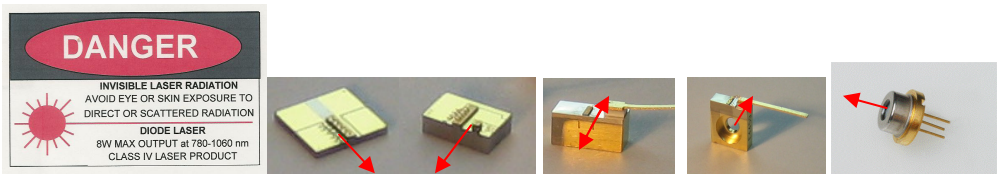
Always handle diode lasers with extreme care to prevent electrostatic discharge, the primary cause of unexpected diode failure. You can prevent ESD by always wearing wrist straps, grounding all applicable work surfaces, and following extremely rigorous anti-static techniques when handling diode lasers.

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.