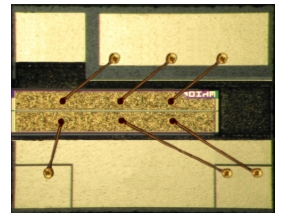


To request any additional information please contact us at:

Email: [sales@axcelphotonics.com](mailto:sales@axcelphotonics.com)

Phone: (508) 481-9200



## Features

- Up to 150mW CW output power.
- High Quality, Reliability, and Performance

## Applications

- Illumination
- Laser Ranging
- Sensing
- Medical Applications
- Imaging

## Product Specifications

### 852nm Single-Mode Laser Diodes (100-150mW)

#### Description:

High brightness, high quality, and high reliability are the foundation of our single mode product line. Axcel's 852nm single mode laser diodes are available with up to 150mW of continuous output power from a single emitter chip. Axcel's trademark laser chip design offers unmeasurable degradation and long lifetimes that make our chips among the most reliable in the industry today. Our 852nm single mode line serves a broad range of applications including communication, laser ranging, spectral analysis, 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-mounts.

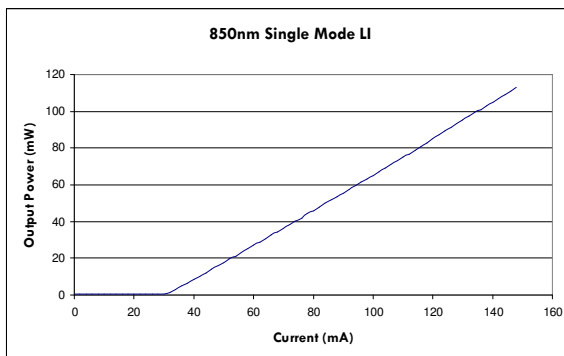
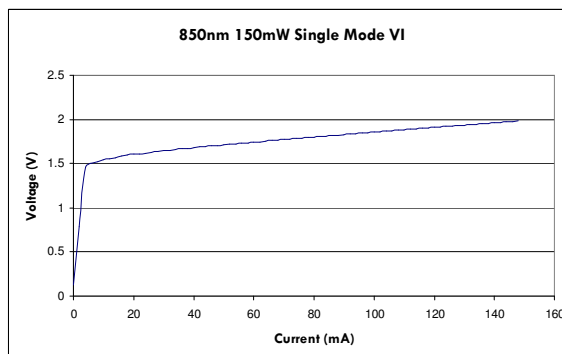
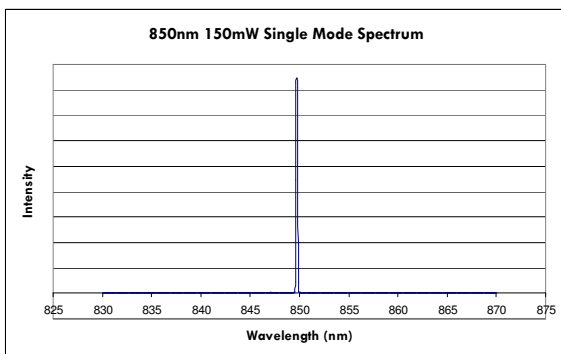
### Standard Product Specifications for 852nm Single-mode Diodes

Parameter	Unit	100mW Series			150mW Series		
		Min	Typ	Max	Min	Typ	Max
Wavelength	nm	847	852	857	847	852	857
Spectrum FWHM	nm	-	0.5	2.0	-	0.5	2.0
Operating Power (P <sub>o</sub> )	mW	-	100	-	-	150	-
Operating Current (I <sub>o</sub> )	mA	-	120	170	-	170	220
Operating Voltage (V <sub>o</sub> )	V	-	1.9	2.2	-	1.9	2.2
Kink-Free Power	mW	110	-	-	160	-	-
Lifetime	hour	100,000	-	-	100,000	-	-
Vertical Far Field	deg, FWHM	-	28	30	-	18	23
Parallel Far Field	deg, FWHM	-	8	10	-	8	10
Threshold (I <sub>th</sub> )	mA	-	20	40	-	20	40
Slope Efficiency (dP/dI)	W/A	0.9	1.0		0.9	1.0	-
Storage Temperature	°C	-40	-	80	-40	-	80
Operating Temperature (T <sub>op</sub> )	°C	-20	25	50	-20	25	50
Lead Soldering Temperature (5 sec)	°C	-	-	250	-	-	250

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

2) All Axcel Photonics products are TE polarized

## 852nm Single Mode Performance Data Graphs



### Determining Your Product number:

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

#### Package:

C2            2.1mm COS  
M9            9mm TO-can

#### Wavelength:

852            852nm

#### Power Options:

0100            100mW  
0150            150mW

#### X Option (aperture size)

S            single-mode (cathode ground)  
D            single-mode (anode ground)

#### Y Option (wavelength tolerance)

5            ±5 nm

#### Z Option (additional options)

O            none  
P            w/ photodiode (cathode ground)  
D            w/photodiode (anode ground)

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

#### 100mW Series

C2-852-0100-S50  
M9-852-0100-S50  
M9-852-0100-S5D  
M9-852-0100-D5P

#### 150mW Series

C2-852-0150-S50  
M9-852-0150-S50  
M9-852-0150-S5D  
M9-852-0150-D5P

### 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.

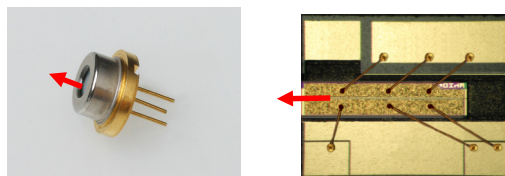
### Operating Considerations

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.