

To request any additional information please contact us at:

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Phone: (508) 481-9200



## Features

- Up to 1W CW output power
- High Quality, Reliability, & Performance

## Applications

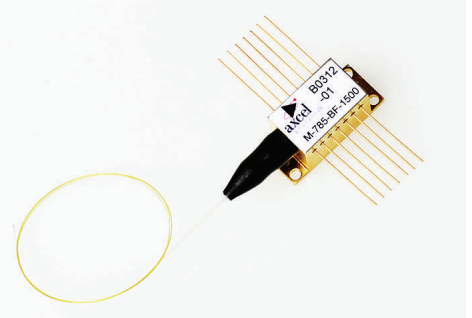
- Raman Spectroscopy
- Laser Pumping
- Laser Therapy

## Product Specifications

### 785 nm Multi-Mode 14-Pin Butterfly Module Laser Diodes

#### Description:

High brightness, high quality, and high reliability are the foundation of our multi mode product line. Axcel's 785nm multi mode laser diodes are available with up to 1.4W of continuous output power from a 14-pin butterfly package with 100 $\mu$ m fiber core. All modules come standard with an internal thermistor, TEC, and photodiode. 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 785nm multi mode line serves a broad range of applications including Raman Spectroscopy, laser pumping, and medical laser therapy.



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

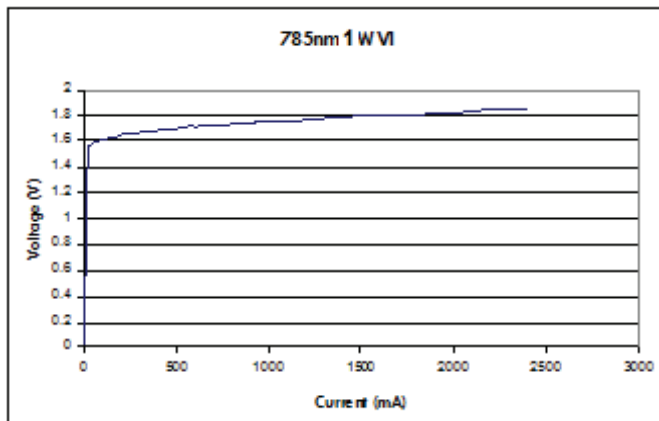
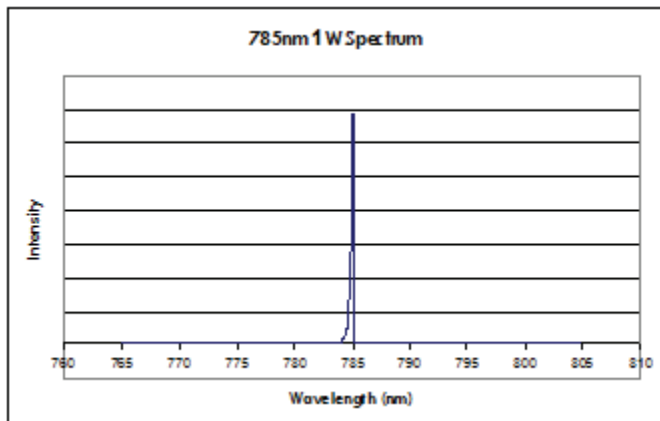
### Performance Data for Multi-Mode 785nm Butterfly module devices

Parameter	Unit	1W Series			1.4W Series		
		Min	Typ	Max	Min	Typ	Max
Wavelength	nm	780	785	790	780	785	790
Spectrum FWHM	nm	-	2	4	-	2	4
Operating Power (P <sub>o</sub> )	W	-	1.0	-	-	1.4	-
Operating Current (I <sub>o</sub> )	mA	-	1.5	1.8	-	2.2	2.6
Operating Voltage (V <sub>o</sub> )	V	-	2.1	2.5	-	2.2	2.7
Lifetime	hour	10,000	-	-	10,000	-	-
Threshold (I <sub>th</sub> )	mA	-	400	700	-	500	800
Slope Efficiency (dP/dI)	W/A	0.8	0.9	-	0.8	0.90	-
TEC Voltage	V	-	-	3.2	-	-	3.2
TEC Current	A	-	-	2.0	-	-	2.0
Storage Temperature	°C	-40	-	80	-40	-	80
Operating Temperature (T <sub>op</sub> )	°C	-20	25	70	-20	25	70
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

## 785nm Multi-Mode Butterfly Module Product Performance Data Graphs



### Determining Your Product number:

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

### Standard Product Configurations

#### Package:

B1 14-pin Butterfly (multi-mode)

#### Wavelength:

785 785 nm

#### Power Options:

1000 1W  
1400 1.4W

#### X Option (fiber core diameter)

1 100µm fiber

#### Y Option (wavelength tolerance)

5 ±5nm

#### Z Option (additional options)

0 none  
A FC Connector (FC/PC or FC/APC)

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.

#### 1W Series

B1-785-1000-150

#### 2W Series

B1-785-1400-150

### 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.

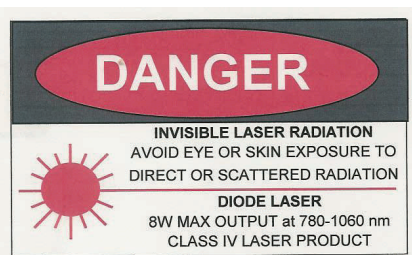
### Operating Considerations

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.

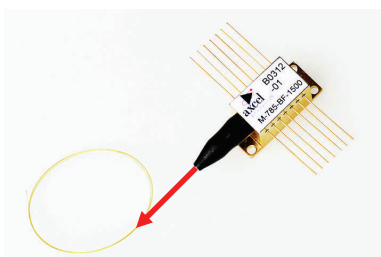
### ESD Caution

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.

### 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.