**To request any additional information please contact us at:**

**Email:** sales@axcelphotonics.com

**Phone: (508) 481-9200**

## Features

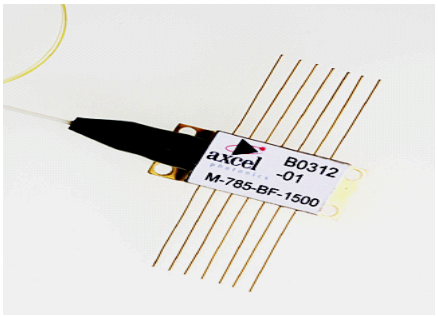
- Up to 200mW CW output power.
- High Quality, Reliability, & Performance

## Applications

- Fiber Lasers
- Telecommunication

# Product Specifications

## 1064nm Single-Mode 14-Pin Butterfly Module Laser Diodes




### Description:

High brightness, high quality, and high reliability are the foundation of our single mode product line. Axcel's 1064nm single mode laser modules are available with up to 180mW of continuous output power from a 14-pin butterfly packaged fiber. All chips are mounted on a 2.1mm COS within the package and come standard with an internal thermistor, TEC, and photodiode. Axcel's trademark laser chip design offers un-measurable degradation and long lifetimes that make our chips among the most reliable in the industry today. Our 1064nm single mode line serves a broad range of applications including fiber lasers and telecommunication.

Please view our website for mechanical drawings of all of our module packages.

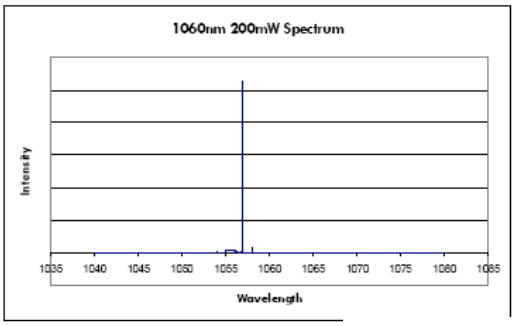
### Performance Data for Single-Mode 1064nm Butterfly module devices

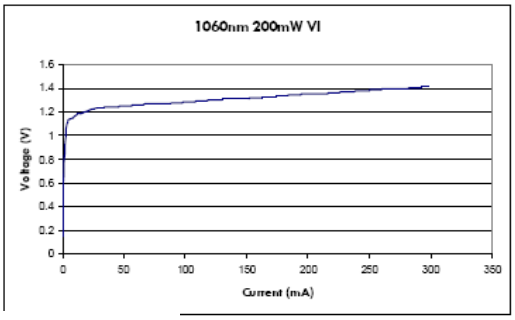
| | | 100mW | | | 180mW | | | 200mW | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Unit | Min | Typ | Max | Min | Typ | Max | Min | Typ | Max |
| Wavelength | nm | 1059 | 1064 | 1069 | 1059 | 1064 | 1069 | 1059 | 1064 | 1069 |
| Spectrum FWHM | nm | - | 0.50 | 2.0 | - | 0.50 | 2.0 | - | 0.50 | 2.0 |
| Rated Output Power ($P_o$) | mW | - | 100 | - | - | 180 | - | - | 200 | - |
| Kink-Free Power | mW | 120 | - | - | 220 | - | - | 240 | - | - |
| Operating Current ($I_o$) | mA | - | 250 | 300 | - | 384 | 484 | - | 450 | 500 |
| Operating Voltage ($V_o$) | V | - | 2.1 | 2.5 | - | 2.1 | 2.5 | - | 2.1 | 2.5 |
| Lifetime | hour | 100,000 | - | - | 100,000 | - | - | 100,000 | - | - |
| TEC Current | A | - | - | 2.0 | - | - | 2.0 | - | - | 2.0 |
| TEC Voltage | V | - | - | 3.2 | - | - | 3.2 | - | - | 3.2 |
| Threshold ($I_{th}$) | mA | - | 50 | 100 | - | 50 | 100 | - | 50 | 100 |
| Slope Efficiency (dP/dI) | W/A | 0.50 | 0.60 | - | 0.50 | 0.60 | - | 0.50 | 0.60 | - |
| Storage Temperature | °C | -40 | - | 80 | -40 | - | 80 | -40 | - | 80 |
| Operating Temperature ($T_{op}$) | °C | 0 | 25 | 70 | 0 | 25 | 70 | 0 | 25 | 70 |
| Lead Soldering Temperature (5 sec) | °C | - | - | 250 | - | - | 250 | - | - | 250 |

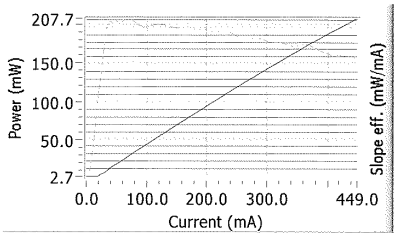
Note: 1) Specifications are subject to change without notice.

2) All Axcel Photonics products are TE polarized

# 1064nm Single Mode Butterfly Module Performance Data Graphs




CW L-I, dL/dI curve

## Determining Your Product number:

MM—WWW—PPPP—XYZ—(custom add-ons)

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

**Package:**

| | |
|---|---|
| BF | 14-pin butterfly |

**Wavelength:**

| | |
|---|---|
| A64 | 1064nm |

**Power Options:**

| | |
|---|---|
| 0100 | 100mW |
| 0180 | 180mW |
| 0200 | 200mW |

**X Option (aperture size)**

| | |
|---|---|
| P | PM fiber for module |

**Y Option (wavelength tolerance)**

| | |
|---|---|
| 5 | ±5 nm |

**Z Option (additional options)**

| | |
|---|---|
| 0 | none |

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

BF-A64-0100-P50

180mW Series

BF-A64-0180-P50

200mW Series

BF-A64-0200-P50

### 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

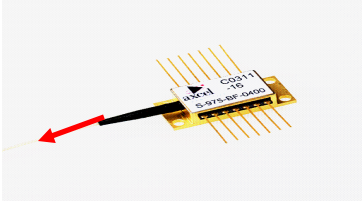
Always handle diode lasers with extreme care to prevent electrostatic discharge, the primary cause of unexpected diode failure. You can prevent ESD by always wearing wrist straps, grounding all applicable work surfaces, and following extremely rigorous anti-static techniques when handling diode lasers.

### 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.