

Features

- Up to 100mW CW output power.
- High Quality, Reliability, and Performance

Applications

- Printing
- Optical Data Storage
- Spectral Analysis
- Graphics
- Laser Ranging
- Illumination
- Defense

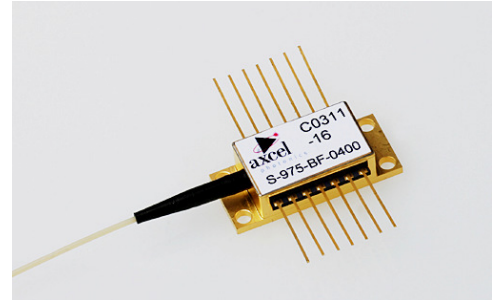
Product Specifications

830nm 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 830nm single mode laser modules are available with up to 100mW 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 830nm single mode line serves a broad range of applications including optical data storage, printing, laser ranging, illumination, defense, spectral analysis, and graphics.

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

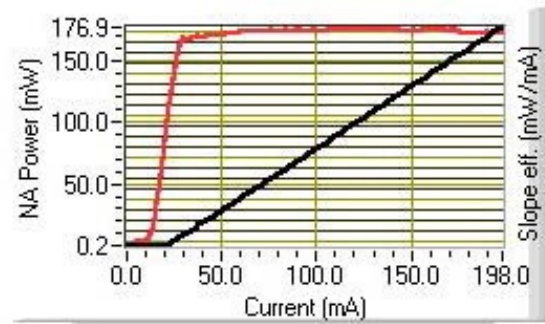


Performance Data for Single-Mode 830nm Butterfly module devices

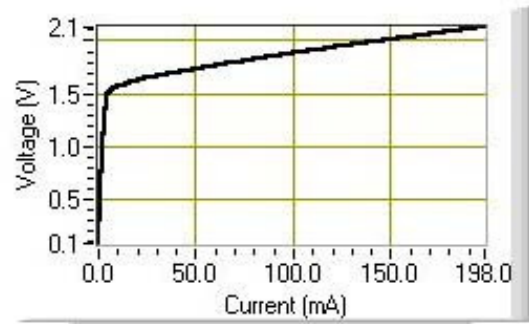
Parameter	Unit	100mW		
		Min	Typ	Max
Wavelength	nm	825	830	835
Spectrum FWHM	nm	-	0.5	2.0
Operating Power (P _o)	mW	-	100	-
Operating Current (I _o)	mA	-	180	200
Operating Voltage (V _o)	V	-	2.1	2.5
Lifetime	hour	100,000	-	-
Threshold (I _{th})	mA	-	30	50
Slope Efficiency (dP/dI)	W/A	0.58	0.65	-
TEC Voltage	V	-	-	3.2
TEC Current	A	-	-	1.9
TEC Set Temperature	°C	20	25	30
Storage Temperature	°C	-40	-	80
Operating Temperature (T _{op})	°C	-20	25	70
Lead Soldering Temperature (5 sec)	°C	-	-	250

- Note:**
- 1) Specifications are subject to change without notice.
 - 2) All Axcel Photonics products are TE polarized

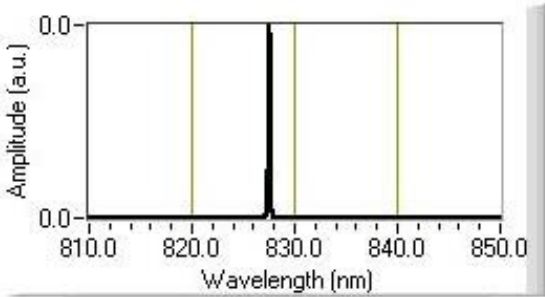
830nm Single Mode Butterfly Module Performance Data Graphs



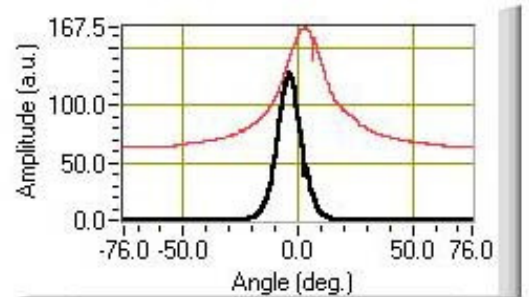
CW L-I, dL/dI curve



CW V-I curve



CW spectrum at 150mW



CW far field at 200mA

Determining Your Product number:

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

Standard Product Configurations

100mW Series

BF-830-0100-S50

Package:

BF 14-pin Butterfly

Wavelength:

830 830 nm

Power Options:

0100 100mW

X Option (aperture size)

S single-mode

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.

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.

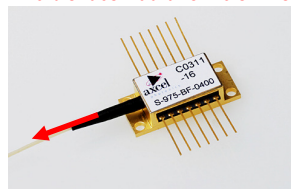
Operating Considerations

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.