

Features

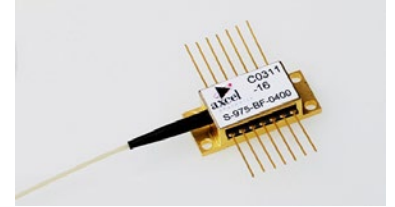
- Up to 70mW CW output power.
- High Quality, Reliability, & Performance

Applications

- Raman Spectroscopy
- Optical Data Storage

Product Specifications

785nm Single Mode 14-pin Butterfly Laser Diodes



Description

High brightness, high quality, and high reliability are the foundation of our single mode product line. Sheaumann's 785nm single mode laser modules are available with up to 70mW 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. Sheaumann'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 785 nm single mode line serves a broad range of applications including Raman Spectroscopy and optical data storage.

More options are available upon request. Please view our website for mechanical drawings of our module packages.

Performance Data for 785nm Single-Mode Diodes

| Parameter | Unit | Min | Typical | Max |
|------------------------------------|------|---------|---------|-----|
| Wavelength | nm | 780 | 785 | 790 |
| Spectrum FWHM | nm | | 0.5 | 2.0 |
| Operating Power (P_o) | mW | - | 70 | - |
| Operating Current (I_o) | mA | - | 180 | 220 |
| 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 | 0.55 | 0.65 | - |
| TEC Voltage | V | - | - | 3.2 |
| TEC Current | A | - | - | 2 |
| Storage Temperature | °C | -40 | - | 80 |
| Operating Temperature (T_{op}) | °C | -20 | 25 | 70 |
| Lead Soldering Temperature (5 sec) | °C | - | - | 250 |

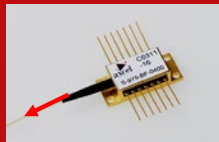
Note: Specifications are subject to change without notice. All Sheaumann Laser products are TE polarized

**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.

Product Performance Data Graphs

Determining Your Product number

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

**Standard Product
Configurations**

| | | | |
|-----------------------|------------------|--|------------------|
| Package: | | X Option (aperture size) | |
| BF | 14-pin butterfly | S | Single Mode |
| Wavelength: | | Y Option (wavelength tolerance) | |
| 785 | 785nm | 5 | ±5 nm |
| Power Options: | | Z Option (additional options) | |
| 0070 | 70mW | A | FC/APC connector |

70mW Series
BF-785-0070-S5A

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

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.