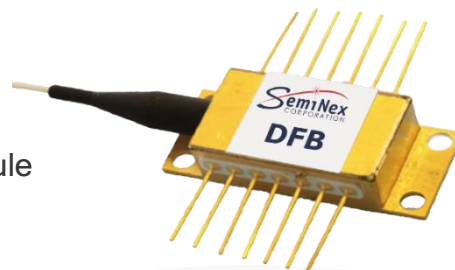


# High Power 14-Pin DFB Butterfly Fiber Module



## Part Number: 14BF-450

High Power 14-Pin DFB Butterfly Fiber Coupled Module  
Single-Mode DFB  
Wavelength at 1310nm



## Features

- High Output Power
- High Efficiency
- Polarization Maintenance Fiber
- Isolator Included

## Application

- LiDAR
- Free Space Communications
- Optical Fiber Communications
- Network Test Equipment



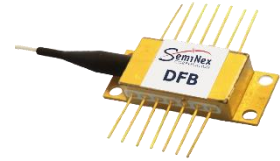
SemiNex delivers the highest available power at infrared wavelengths between 12xx and 19xx nm. When necessary, we will further optimize the design of our InP & GaSb laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer and market performance demands. Typical results and packaging options are shown. Contact SemiNex for additional details or to discuss your specific requirements.

# High Power 14-Pin DFB Butterfly Fiber Module



## Specification

14BF-450



| Optical                     | Symbol      | Typ.      | Units   |
|-----------------------------|-------------|-----------|---------|
| Center Wavelength           | $\lambda_c$ | 1310      | nm      |
| Output Power                | $P_{out}$   | 60        | mW      |
| Linewidth                   | $\Delta f$  | 150       | kHz     |
| Side Mode Suppression Ratio | SMSR        | >50       | dB      |
| Relative Intensity Noise    | RIN         | -150      | dBc/Hz  |
| Electrical                  | Symbol      |           | Units   |
| Power Conversion Eff.       | $\eta$      | 14        | %       |
| Operating Voltage           | $V_{op}$    | 1.75      | V       |
| Operating Current           | $I_{op}$    | 500       | mA      |
| Threshold Current           | $I_{TH}$    | 30        | mA      |
| Fiber Package               | Symbol      |           | Units   |
| Fiber Core                  |             | 8         | $\mu m$ |
| Connector Type              |             | FC / APC  |         |
| Fiber Length                |             | 1         | m       |
| Pinout Type                 |             | Type 1    |         |
| Thermistor                  |             |           |         |
| Thermistor Constant         | $\beta$     | 3930      | $\beta$ |
| Thermistor Resistance       | R           | 10        | K ohm   |
|                             |             | Range     |         |
| Temperature Coefficient     |             | 0.09      | nm/°C   |
| Operating Temp.**           |             | -20 to 75 | °C      |
| Storage Temp.               |             | -40 to 85 | °C      |

Specified values are rated at a constant heat sink temperature of 20°C.

\*\*High temperature operation will reduce performance and MTTF.

Unless otherwise indicated all values are nominal.

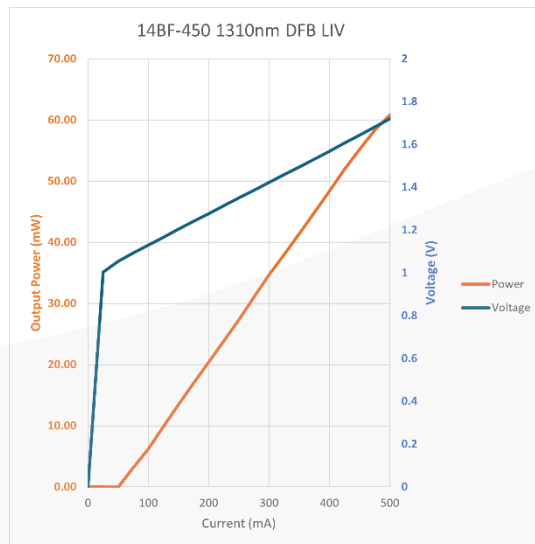
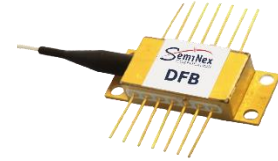
# High Power 14-Pin DFB Butterfly Fiber Module



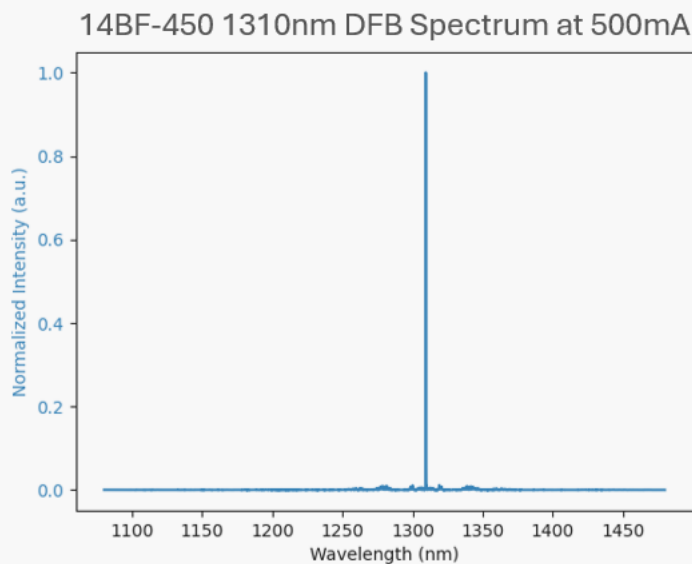
## SemiNex DFB Butterfly 14BF-450

### Graphs & Data

### Typical DFB Butterfly L-I-V Characteristics



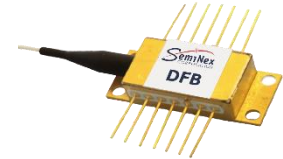
### Typical 14BF Output Spectrum



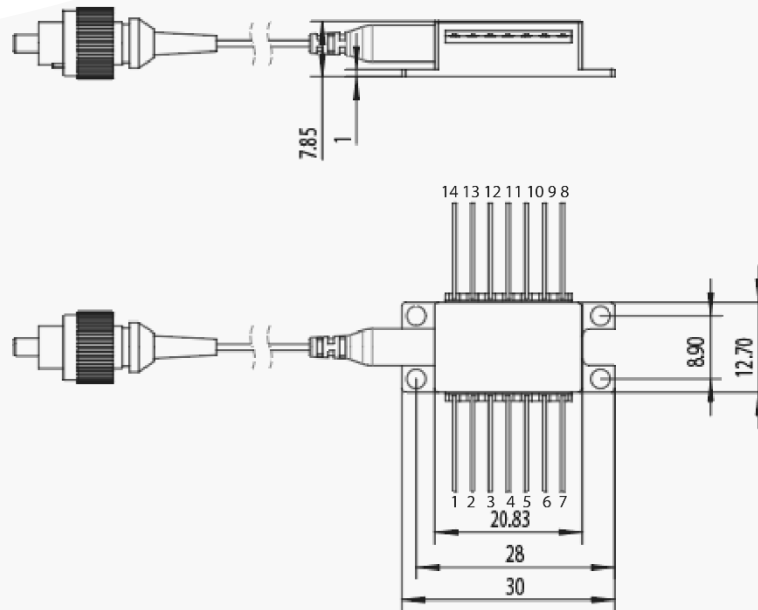
# High Power 14-Pin DFB Butterfly Fiber Module



## Mechanical Drawing



|    |                           |
|----|---------------------------|
| 1  | Thermoelectric Cooler (+) |
| 2  | Thermistor                |
| 3  | MPD Anode (+)             |
| 4  | MPD Cathode (-)           |
| 5  | Thermistor                |
| 6  | NC                        |
| 7  | NC                        |
| 8  | NC                        |
| 9  | NC                        |
| 10 | LD Anode (+)              |
| 11 | LD Cathode (-)            |
| 12 | NC                        |
| 13 | NC                        |
| 14 | Thermoelectric Cooler (-) |



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