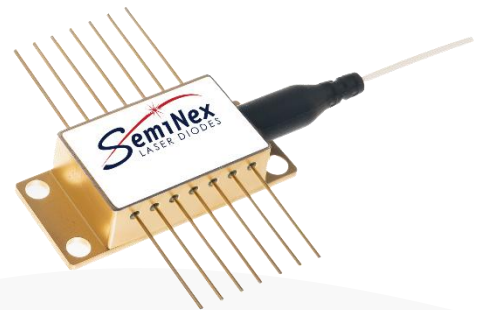


# High Power 14-Pin DFB Butterfly Fiber Module



## Part Number: 14BF-453

High Power 14-Pin DFB Butterfly Fiber Coupled Module  
Single-Mode DFB  
Wavelength at 1550nm



## 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.

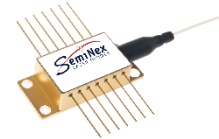
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# High Power 14-Pin DFB Butterfly Fiber Module



## Specification

14BF-453



| Optical                     | Symbol      | Typ.               | Units            |
|-----------------------------|-------------|--------------------|------------------|
| Center Wavelength           | $\lambda_c$ | 1550               | nm ( $\pm 5$ nm) |
| Output Power                | $P_{out}$   | 100                | mW               |
| Linewidth                   | $\Delta f$  | 300                | kHz              |
| Side Mode Suppression Ratio | SMSR        | 55                 | dB               |
| Relative Intensity Noise    | RIN         | -150               | dBc/Hz           |
| Electrical                  | Symbol      |                    | Units            |
| Power Conversion Eff.       | H           | 20                 | %                |
| Operating Voltage           | $V_{op}$    | 1.5                | V                |
| Operating Current           | $I_{op}$    | 500                | mA               |
| Threshold Current           | $I_{TH}$    | 60                 | mA               |
| Fiber Package               | Symbol      |                    | Units            |
| Fiber Core                  |             | 8                  | $\mu m$          |
| Fiber Type                  |             | 900 $\mu m$ jacket |                  |
| Connector Type              |             | FC / APC           |                  |
| Fiber Length                |             | 1                  | m                |
| Pinout Type                 |             | Type 1             |                  |
| Thermistor                  |             |                    |                  |
| Thermistor Constant         | $\beta$     | 3930               | $\beta$          |
| Thermistor Resistance       | R           | 10                 | K ohm            |
| Voltage (TEC) – Typ, Max    | $V_{TEC}$   | 2, 8.2             | V                |
| Current (TEC) – Typ, Max    | $I_{TEC}$   | 0.3, 2.6           | A                |
|                             |             | Range              |                  |
| Temperature Coefficient     |             | 0.1                | nm/ $^{\circ}C$  |
| Operating Temp.**           |             | -20 to 75          | $^{\circ}C$      |
| Storage Temp.               |             | -40 to 85          | $^{\circ}C$      |

Specified values are rated at a constant heat sink temperature of 20 $^{\circ}C$ .

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

Unless otherwise indicated all values are nominal.

#### WARNING - FIBER HANDLING

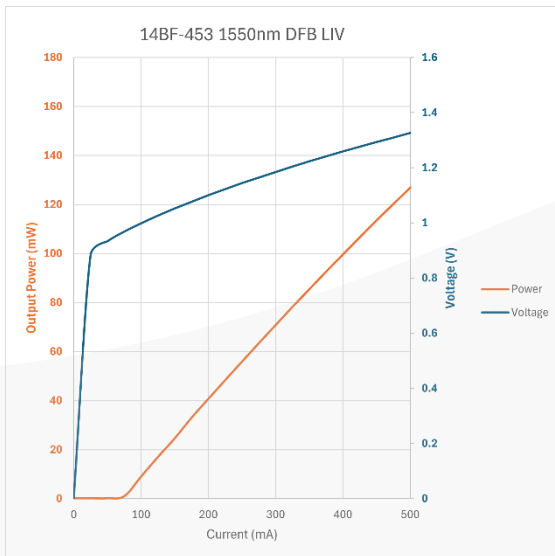
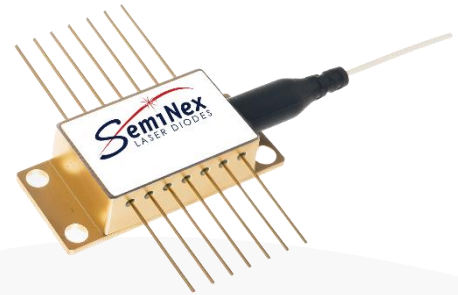
- Do NOT bend the fiber tighter than 26 mm radius during installation or handling.
- Do NOT bend the fiber tighter than 52 mm radius during normal operation or long-term use.
- Exceeding these limits may cause permanent fiber damage and increased optical loss.

# High Power 14-Pin DFB Butterfly Fiber Module



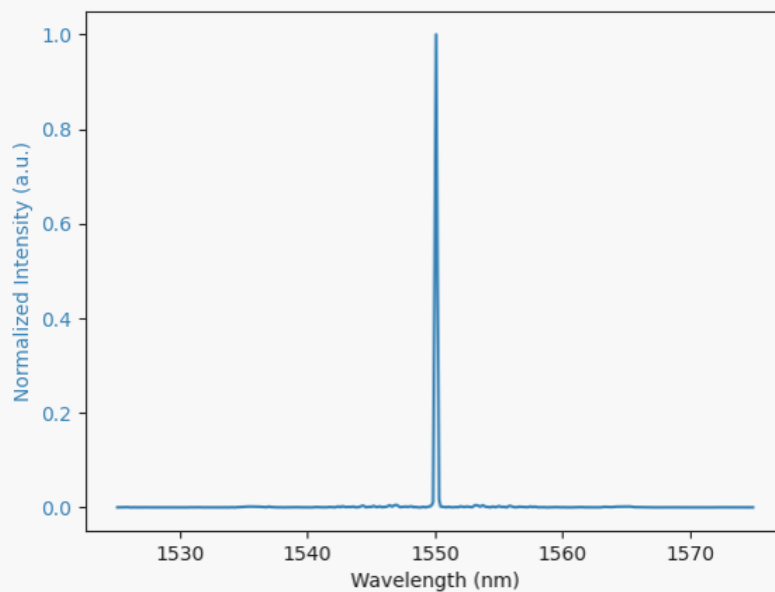
## SemiNex DFB Butterfly 14BF-453

### Graphs & Data Typical DFB Butterfly L-I-V Characteristics



### Typical DFB Butterfly Output Spectrum

14BF-453 1550nm DFB Spectrum at 650mA

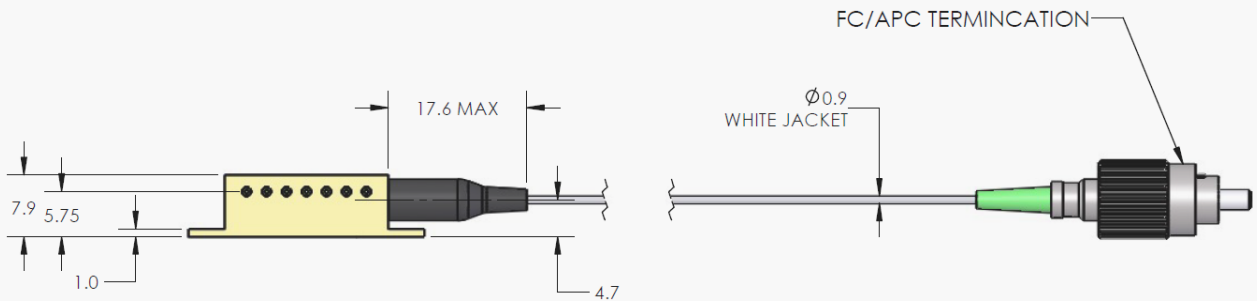
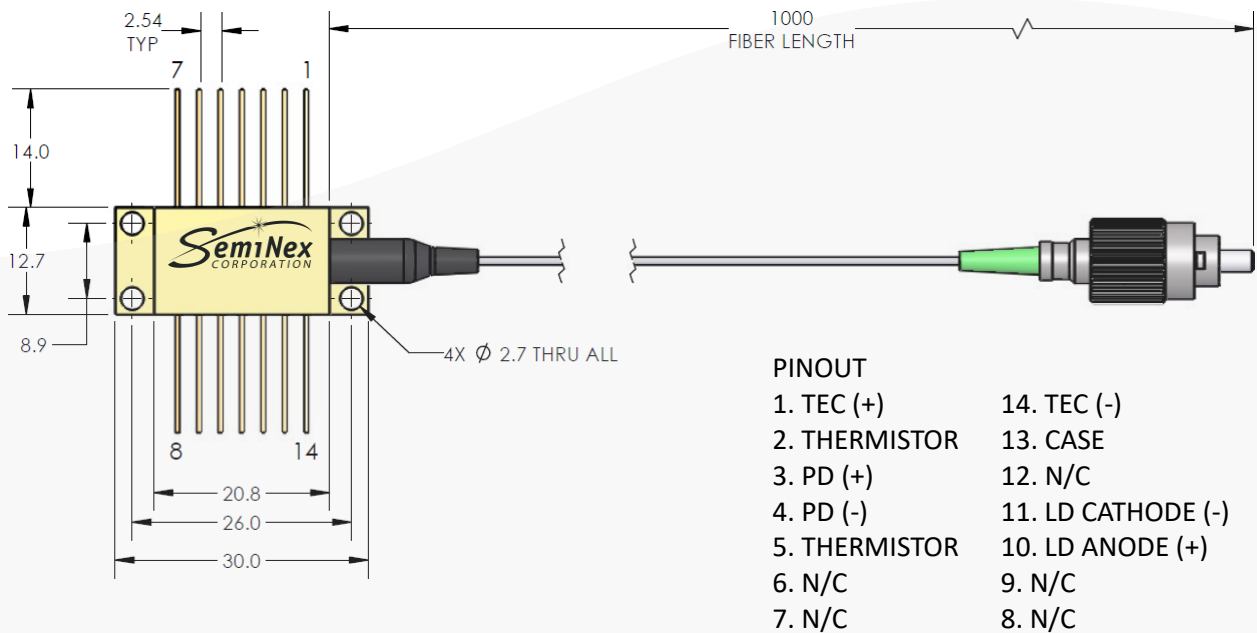
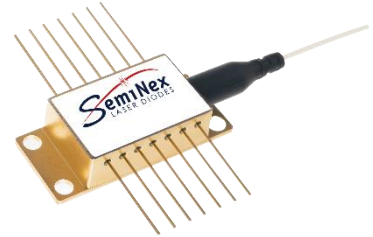


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# High Power 14-Pin DFB Butterfly Fiber Module



## Mechanical Drawing



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