

### 14-Pin BF Single-Mode w/TEC

High Power Single Mode SemiNex Lasers  
 12xx to 19xx nm  
 Custom Wavelengths Available

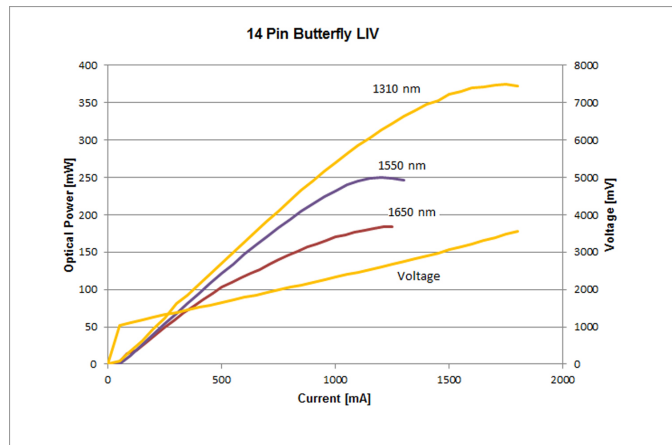
**Applications**

- OTDR
- LiDAR
- Free Space Communications
- Network Test equipment

**Features**

- High Output Power
- High Dynamic Range
- High Efficiency
- Standard Low Cost Package
- Thermal Electric Cooler

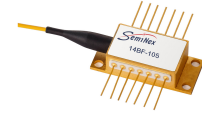
SemiNex delivers the highest available power at infrared wavelengths between 12xx and 19xx nm. When necessary we will further optimize the design of our InP laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer and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





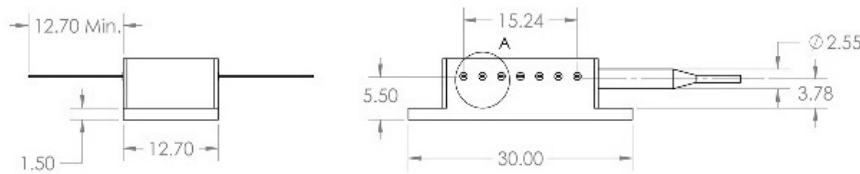
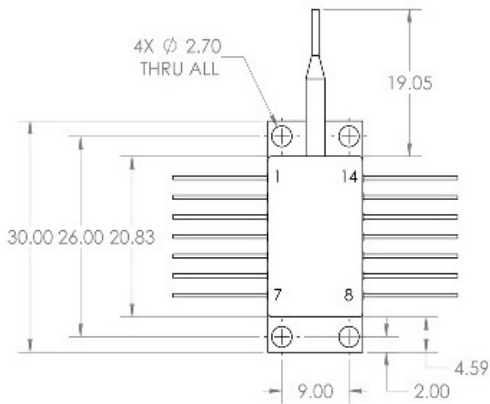


14 Pin Single Mode Butterfly



|                       | Symbol          | 14BF-105  | Units                |
|-----------------------|-----------------|-----------|----------------------|
| <b>Optical</b>        |                 |           |                      |
| Center Wavelength     | $\lambda_c$     | 1550      | nm ( $\pm 20$ )      |
| Output Power (CW)     | $P_o$           | 0.20      | watts ( $\pm 10\%$ ) |
| Spectral Width        | $\delta\lambda$ | 10        | nm 3dB               |
| Slope Efficiency      | $\eta_r$        | 0.2       | W/A                  |
| FBG                   |                 | No        |                      |
| <b>Electrical</b>     |                 |           |                      |
| Power Conversion Eff. | $\eta$          | 10.00     | %                    |
| Threshold Current     | $I_{th}$        | 0.05      | A                    |
| Operating Current     | $I_{op}$        | 0.95      | A                    |
| Operating Voltage     | $V_{op}$        | 2.2       | V                    |
| Lead Soldering Temp.  | $^{\circ}C$     | 250       | $^{\circ}C$          |
| <b>Mechanical</b>     |                 |           |                      |
| Weight                |                 | 88        | g                    |
| Operating Temp.**     |                 | -40 to 60 | $^{\circ}C$          |
| Storage Temp.         |                 | -40 to 80 | $^{\circ}C$          |
| Fiber Length          |                 | 1         | meters               |
| Connector             |                 | FC/PC     |                      |
| Pinout Type           |                 | Type 1    |                      |
| <b>Thermistor</b>     |                 |           |                      |
| Thermistor Constant   | $\beta$         | 3950      | $\beta$              |
| Thermistor Resistance | R               | 10000     | K ohm                |
| <b>TEC</b>            |                 |           |                      |
| TEC Voltage (Vmax)    |                 | 3.2       | V                    |
| TEC Current (Imax)    |                 | 2         | A                    |

Specified values are rated at a constant heat sink temperature of 20°C.  
 \*\*Specified operating conditions are based on 20C heat sink temperature. High temperature operation will reduce performance and MTTF.  
 Unless otherwise indicated all values are nominal.



| Type 1     |                          |
|------------|--------------------------|
| Pin        | Function                 |
| 1          | TEC anode(+)             |
| 2          | thermistor               |
| 3          | PD anode(+)(optional)    |
| 4          | PD cathode(-) (optional) |
| 5          | thermistor               |
| 6,7,8,9,12 | no connection            |
| 10         | laser anode(+)           |
| 11         | laser cathode(-)         |
| 13         | case ground              |
| 14         | TEC cathode(-)           |



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