

This wavelength-stabilized fiber-coupled laser series in a 14-pin butterfly package is built utilizing PD-LD's patented Volume Bragg Grating® (VBG®) technology. This award-winning technology is used to stabilize and shape the emission spectrum of high power laser diodes for numerous applications including solid-state laser pumping, fiber laser pumping, high-resolution Raman spectroscopy and other applications requiring high-power temperature-stabilized narrow line width laser source.

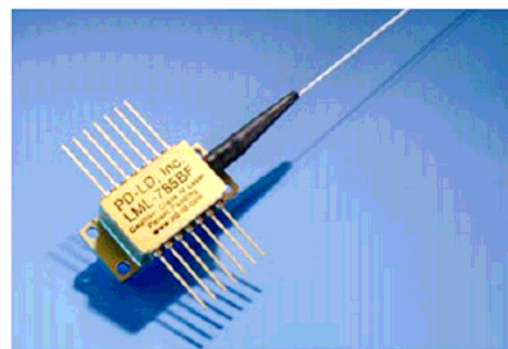


Figure 1: LuxxMuster® butterfly package

**Superior Performance:**

- Wavelength accuracy:  $\pm 0.5$  nm
- Wavelength stability:  $< 5$  pm
- Line width (FWHM):  $< 1$   $\text{cm}^{-1}$
- Built-in Thermo-Electric Cooler

**Advantages:**

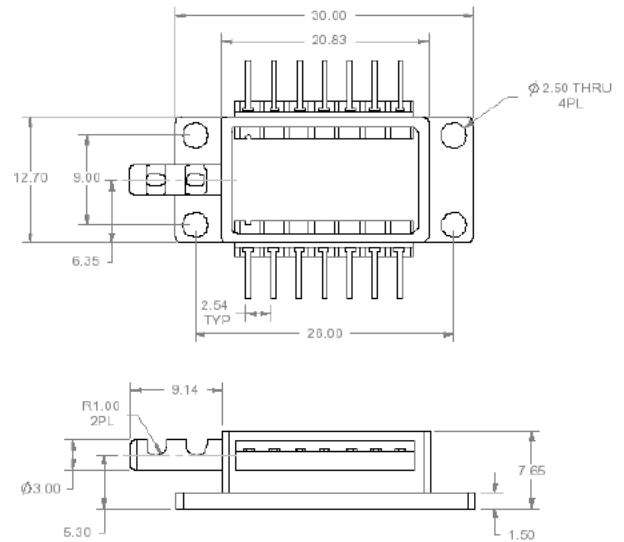
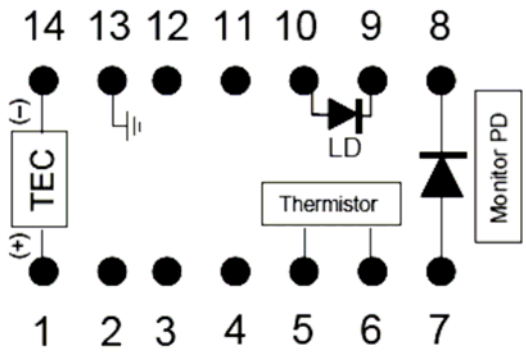
- Simple and compact
- Economical
- Convenient fiber delivery
- Adjustable optical power

**Applications:**

- Raman Spectroscopy
- Flow cytometry
- Sensing
- Military

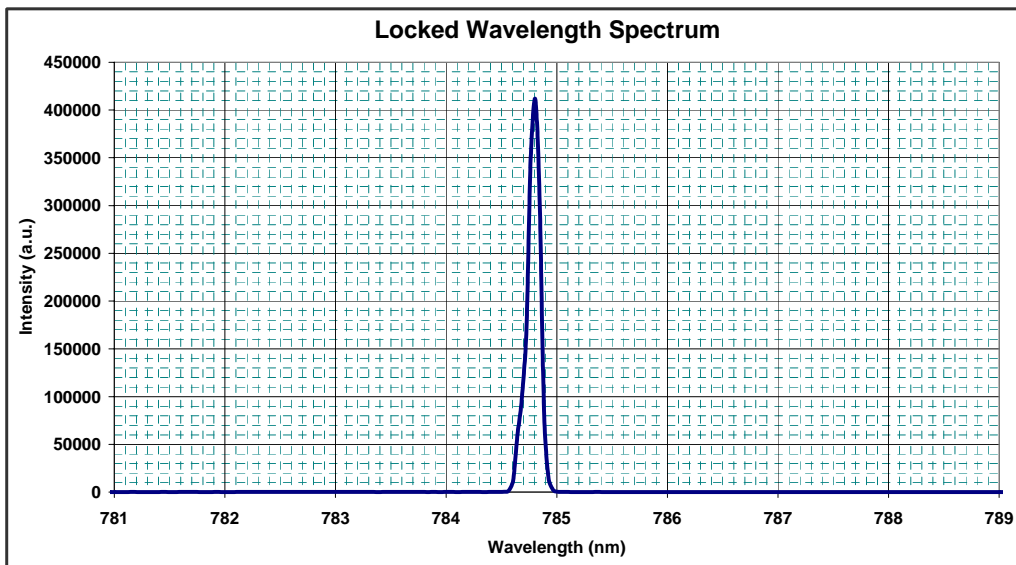
**Optical and Operational Specifications**

| Parameter                              | Unit   | Minimum | Typical | Maximum |
|--|--|---------|---------|---------|
| Center Wavelength <sup>A</sup>         | nm   | 784.5   | 785     | 785.5   |
| Wavelength Stability <sup>B</sup>      | pm   |         |         | 5       |
| Output Power                           | W  |         | 0.5     | 1.0     |
| Output Power Stability <sup>C</sup>    | %  |         | 1       |         |
| Operating Voltage                      | V  | 1.9     |         | 2.1     |
| Operating Current                      | A  |         | 1       | 2       |
| Threshold Current                      | A  |         | 0.43    | 0.5     |
| TEC Current                            | A  |         |         | 2       |
| TEC Voltage                            | V  |         |         | 4       |
| Slope Efficiency                       | W/A  |         | 0.5     |         |
| Spectral Line Width (FWHM)             | nm   |         | 0.05    | 0.07    |
|  | $\text{cm}^{-1}$   |         | 0.8     | 1.13    |
| TEC Set Temperature Range <sup>D</sup> | °C   | $\pm 5$ |         |         |
| Operating Case Temperature             | °C   | -10     | 25      | 55      |
| Fiber Type                             | 105 CORE/125 CLADDING/250 JACKET/0.22 NA   |         |         |         |
| Connector Type                         | FC/APC (ANGLE POLISH IS RECOMMENDED FOR OPTIMUM PERFORMANCE)   |         |         |         |
| NOTES:                                 | A. Other wavelengths are available. Contact sales.   |         |         |         |
|  | B. Day to day stability at set internal temperature  |         |         |         |
|  | C. Over 8 hours of continuous operation in constant power mode   |         |         |         |
|  | D. This set point refers to the TEC inside the package. Typical set point is room temperature or 25C. Specific recommended set point is provided in the shipping document with each package. |         |         |         |



| PIN NO. | ASSIGNMENT    | PIN NO. | ASSIGNMENT        |
|---------|---------------|---------|-------------------|
| 1       | TEC ANODE (+) | 8       | PD CATHODE (-)    |
| 2       | OPEN          | 9       | LASER CATHODE (-) |
| 3       | OPEN          | 10      | LASER ANODE (+)   |
| 4       | OPEN          | 11      | OPEN              |
| 5       | THERMISTOR    | 12      | OPEN              |
| 6       | THERMISTOR    | 13      | CASE GND          |
| 7       | PD ANODE (+)  | 14      | TEC CATHODE (-)   |

**Figure 2**



## Part Number System

LML- \_ \_ \_ . \_ -BF-XX

- \_ \_ \_ . \_ indicates the wavelength.
- BF indicates Butterfly.
- XX is a customer specific reference.

**Example: LML-785.0BF-XX.** This is a LuxxMaster® Laser with a center wavelength of 785 nm in a Butterfly package.

