



WAVELENGTH STABILIZED BUTTERFLY MODULE

The LuxxMaster[®] wavelength-stabilized 785nm laser is a fiber-coupled device packaged in a 14-pin Butterfly case. This laser is constructed 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 use in numerous applications including solid-state laser pumping, fiber laser pumping, narrow-line width Raman Spectroscopy and other applications requiring a temperature stabilized narrow linewidth source.

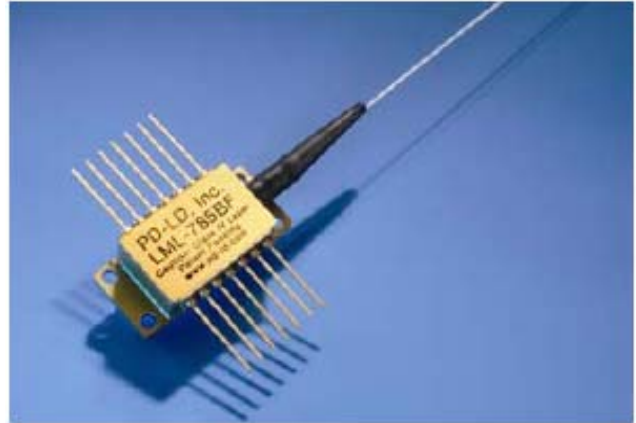


Figure 1: PD-LD butterfly package

Superior Performance:

- $\Delta\lambda = \pm 0.5$ nm
- Typical linewidth 1.3 cm^{-1}
- Internal Thermo Electric Cooler

Advantages:

- Simple and compact
- Economical
- Narrow spectral line width

Applications:

- Sensing
- Spectroscopy
- Medical
- Military

Optical and Operational Specifications

Parameter	Unit	Minimum	Typical	Maximum
Center Wavelength ^A	nm	784.5	785	785.5
Output Power	Watts	0.10	0.50	1.00
Operating Voltage	Volts	1.9		2.1
Operating Current ^B	Amps		1.10	2.20
Threshold Current	mAmps	300	400	500
TEC Current	Amps			2
TEC Voltage	Volts			4
Slope Efficiency ^B	W/A		0.7	
Spectral Line width (FWHM)	nm		0.08	0.14
ASE Suppression (Optical SNR)	dB		40	
Thermistor Resistance @ 25C	kOhms		10	
TEC Set Temperature ^C	°C	20	25	30
Operating Case Temperature	°C	-20	25	50
Fiber Type	105 Core/125 Cladding/900 Jacket /0.22NA			
Connector Type	FC/PC; SMA905; FC/APC;			
NOTES:	A. Other wavelengths available. Contact sales. FWHM will vary.			
	B. Values based on 0.22NA fiber			
	C. TEC must be on when laser is in operation. Quoted value is set-point inside the package and can be set anywhere within range specified.			

BUTTERFLY PIN-OUT STYLE 1 [LEGACY DESIGN]

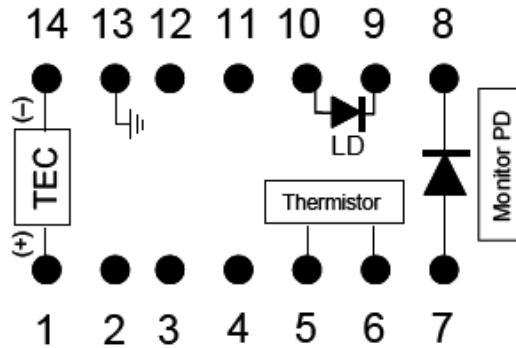


Figure 2: PIN OUT STYLE 1

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 (-)

BUTTERFLY PIN-OUT STYLE 2 [RECOMMENDED FOR NEW DESIGN]

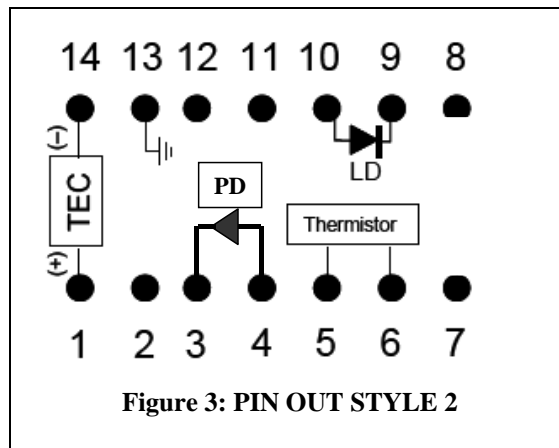


Figure 3: PIN OUT STYLE 2

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

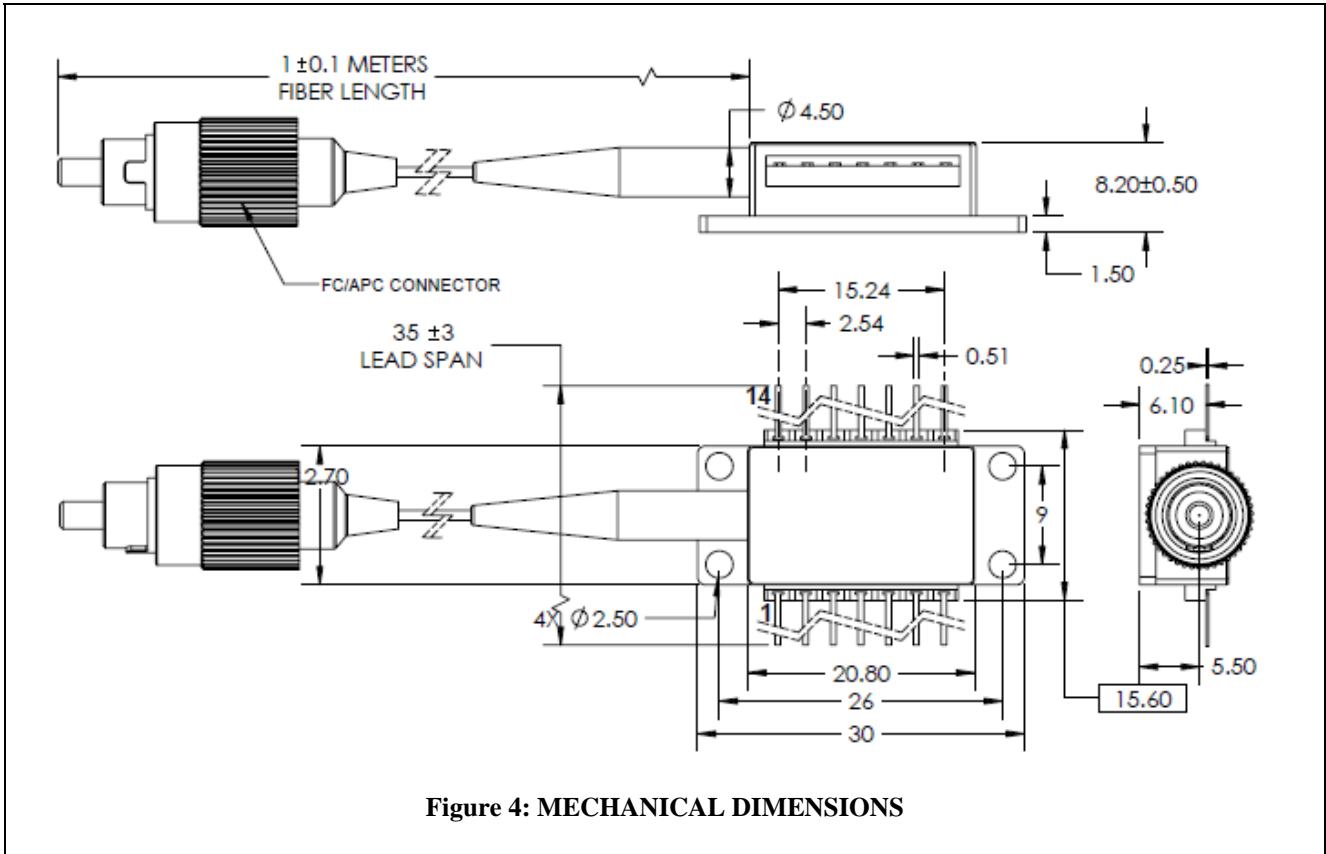
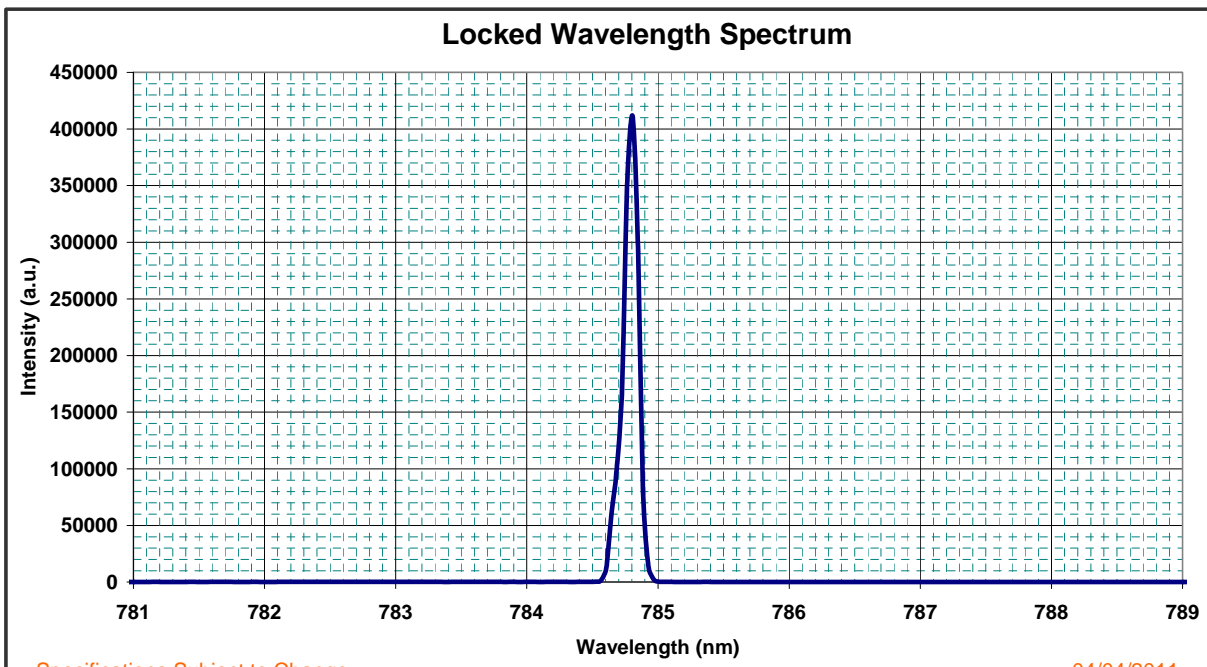


Figure 4: MECHANICAL DIMENSIONS



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.



EXISTING PART NUMBERS:

	Power (mW)	λ (nm)	λ Tolerance (nm)	Line width (nm)	Fiber Type*	Fiber Length (meters)	NA of fiber	Connector
LML-785.0BF-09	800	785.00	± 0.50	0.14 MAX	A	1.0 \pm 0.10	0.22	FC/APC
LML-785.0BF-15	500	785.00	± 0.50		C	1.0 \pm 0.10	0.15	FC/APC
LML-785.0BF-16	500	785.00	± 0.50		C	1.0 \pm 0.10	0.15	SMA905
LML-785.0BF-17	500	785.00	± 0.50		C	1.0 \pm 0.10	0.15	FC/PC

*** Fiber Types:**

- A. 105/125/250 0.22NA fiber with 900 μ m loose buffer.
- B. 50/125/900 0.20 NA fiber.
- C. 105/125/250 0.15NA fiber with 900 μ m loose buffer.
- D. 62.5/125/900 0.29NA fiber