

# FACTOR SERIES FIBER-COUPLED DIODE LASER MODULE

**976 nm,  $\geq 9$  W, 105  $\mu\text{m}$ , CW,  
Conduction-Cooled, Single Emitter-Based**

The FACTOR Series offers the highest efficiencies and best reliability for pump wavelengths in the range of 808nm, 88x nm, 793 nm and 9xx nm for pumping Nd<sup>3+</sup>, Tm<sup>3+</sup> and Yb<sup>3+</sup> doped materials, respectively. It is available between 1 and 22 single emitters, ranging from power levels of a few Watts up to 400 W.



## FEATURES

- Robust package
- Hermetically sealed
- Fixed fiber

## APPLICATIONS

- Solid state laser pumping
- Materials processing
- Medical
- Direct applications

## Device Specification

Optical Paramenter <sup>1</sup>		BMU1E
Center Wavelength Range <sup>3</sup> (nm)		976
Center Wavelength Tolerance <sup>3</sup> (nm)		±3
Output Power <sup>2</sup> (W)		≥9
Operating Condition		CW
Spectral Width (-13db of power) (nm)		typ. 6
Wavelength Locked Output Power Range		-
Slope Efficiency (W/A)		≥0.8
Wavelength Temp. Coefficient (nm/°C)		~0.38
Numerical Aperture (NA)		-
Fiber Parameters <sup>5</sup>		
Fiber Core Diameter (μm)		105 ±3
Fiber Cladding Diameter (μm)		125 ±2.5
Fiber Coating Diameter (μm)		245 ±15
Fiber Loose Tubing Diameter (mm)		-
Numerical Aperture (NA)		0.15 ±0.02
Fiber Length (m)		≥1.0
Fiber Termination		Pigtail
Electrical Parameters <sup>1</sup>		
Power Conversion Efficiency (%)		≥40, typ. 48
Threshold Current (I <sub>TH</sub> ) (A)		≤0.65
Operating Current (I <sub>OP</sub> ) (A)		≤12
Operating Voltage (V <sub>OP</sub> ) (V)		≤2.2
Thermal Parameters		
Operating Temperature Range <sup>2,3,4</sup> (°C)		+20 to +30
Storage Temperature Range <sup>3,4</sup> (°C)		-40 to +85
Recommended Heatsink Capacity (W)		20
Maximum Soldering Temperature for Electrical Leads (°C)		250
Maximum Soldering Time per Lead (s)		10
Mechanical Parameters		
Size (mm <sup>3</sup> ) [W x D x H]		13.7 x 17.5 x 6.5
Weight (g)		11.5

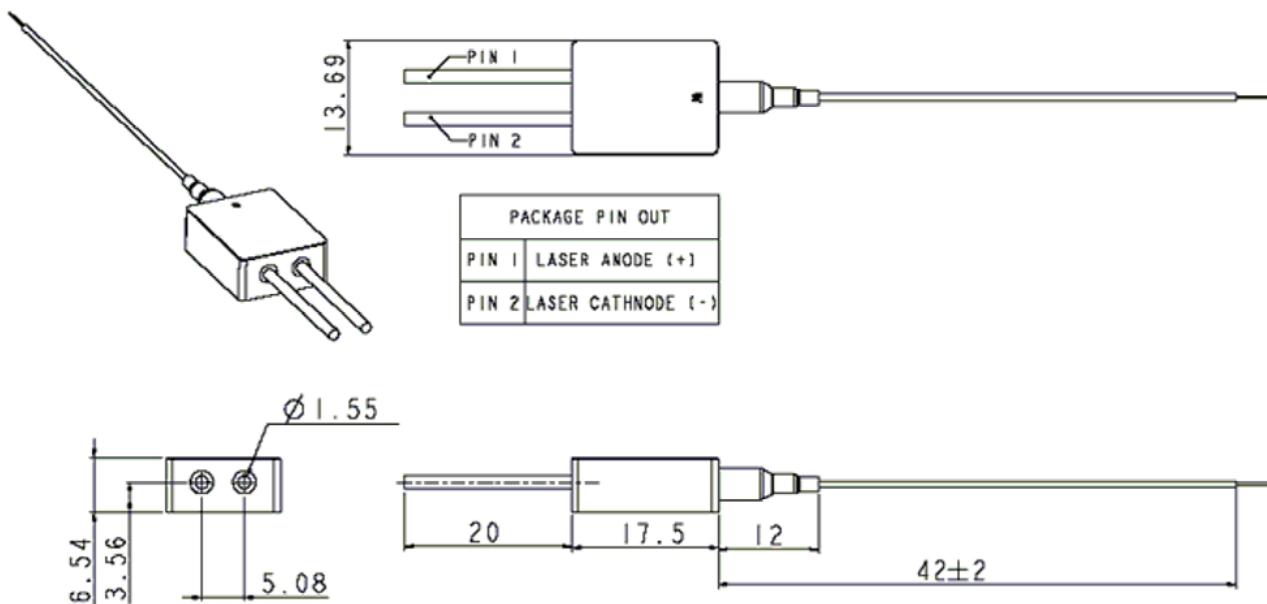
Part Number(s)	
BMU1E	BMU9-975B-01-R

## Notes:

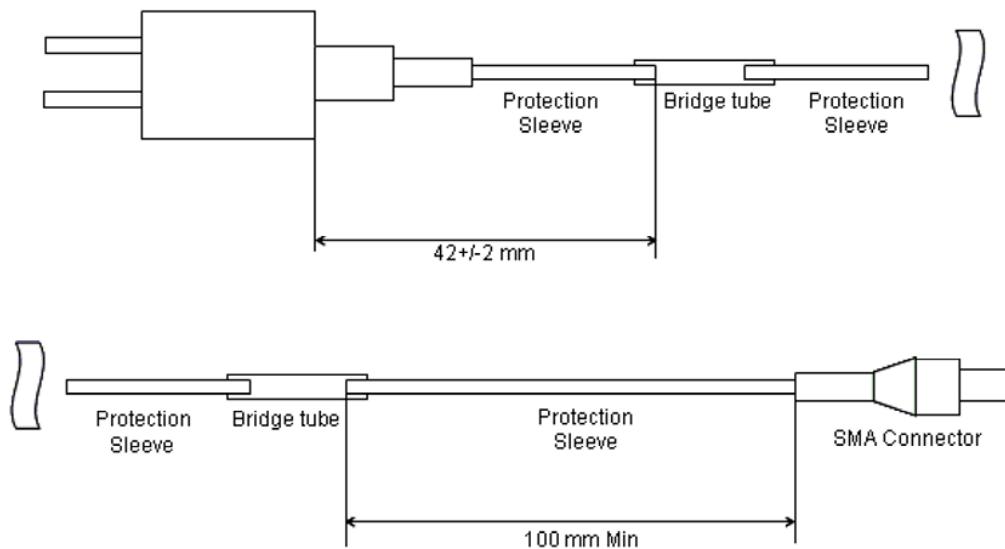
1. Data at 25°C base plate temperature and the use of a thermal interface material rated for a thermal contact resistance of less than 1.0 cm<sup>2</sup> K/W (0.155 in<sup>2</sup> K/W).
2. Reduced lifetime if used above nominal operating conditions.
3. Others available upon request.
4. A non-condensing environment is required for storage and operation below the ambient dew point.
5. Non-detachable fiber.

## Package Dimension

NOTES:  
ALL DIMENSIONS IN MM  
GENERAL TOLERANCES:  $\pm 0.2$



**Figure 1** Module shown without protection sleeve and SMA connector (top view). All dimensions are given in mm.



**Figure 2** Schematic drawing of protection sleeve, bridge tubes and SMA-connector.

Remarks: Bridges tubes are not glued but moderately fixed by crimping