

# FIBER-COUPLED SINGLE BAR DIODE LASER MODULE

**981 nm, 40 W, 105  $\mu\text{m}$   $\varnothing$ ,  
Conduction-Cooled, Narrow Linewidth, CW**

Our fiber-coupled single bar modules deliver outstanding optical performance across a broad wavelength range from 630 nm to 2  $\mu\text{m}$ , supporting output powers up to 50 W continuous wave (CW) and 250 W quasi-continuous wave (QCW). Designed for high-demand environments, these modules combine reliability, efficiency, and configurability in a compact footprint. Available with fiber core diameters starting from 100  $\mu\text{m}$ , the modules offer a wide range of customizable features including line narrowing, wavelength stabilization, and integrated monitoring options for real-time performance feedback and control.



## FEATURES

- Narrow linewidth of  $<0.5$  nm
- High coupling efficiency
- High brightness
- Sealed housing

## INCLUDING

- VBG for wavelength stabilization
- Back reflection filter for 1.06  $\mu\text{m}$  laser light

# FIBER-COUPLED DIODE LASER MODULE

## Device Specification

Optical Parameters <sup>1</sup>		SS2.18
Center Wavelength Range <sup>3</sup> (nm)		981
Center Wavelength Tolerance <sup>3</sup> (nm)		±0.6
Output Power <sup>2</sup> (W)		40
Operating Condition		CW
Spectral Width (FWHM) (nm)		≤0.5
Slope Efficiency (W/A)		≥0.5
Wavelength Temp. Coefficient (nm/°C)		~0.01 <sup>5</sup>
Fiber Parameters		
Fiber Connector		Fixed Modestrip SMA
Fiber Core Diameter (μm)		105
Fiber Cladding Diameter (μm)		125
Fiber Coating Diameter (μm)		245
Fiber Loose Tubing Diameter (mm)		3, PVC
Numerical Aperture (NA)		0.22
Fiber Length (m)		3
Fiber Termination		SMA
Electrical Parameters <sup>1</sup>		
Power Conversion Efficiency (%)		≥35
Threshold Current (I <sub>TH</sub> ) (A)		≤7.5
Operating Current (I <sub>OP</sub> ) (A)		≤70
Operating Voltage (V <sub>OP</sub> ) (V)		≤1.9
Duty Cycle <sup>3</sup> (%)		-
Pulse Length <sup>3</sup> (μsec)		-
Thermal Parameters <sup>1</sup>		
Operating Temperature Range <sup>2,3,4</sup> (°C)		+20 to +30
Storage Temperature Range <sup>3,4</sup> (°C)		0 to +55
Recommended Heatsink Capacity (W)		≥100
Part Number(s)		
M1F1S22-979.(0,6)-30C-SS2.18O2O3-3m		1446362

Notes:

1. Data at 25°C cold plate temperature.
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. Within operating temperature ±3°C.

# FIBER-COUPLED DIODE LASER MODULE

## Package Dimension

