

FIBER-COUPLED SINGLE BAR DIODE LASER MODULE

794.7 nm, 40 W, 400 μm $\varnothing$, Conduction-Cooled, Narrow Linewidth, CW, Fully-Featured

Our fiber-coupled single bar modules deliver outstanding optical performance across a broad wavelength range from 630 nm to 2 μm , 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 μm , 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
- Standard fiber coupling (HP-SMA) for 400 μm NA 0.22

INCLUDING

- NTC temperature sensor
- Monitor photo diode
- Pilot beam (650 nm, <2 mW)
- Exchangeable blast shield
- Fiber plug control
- VBG for wavelength stabilization

Device Specification

Optical Parameters ¹		SS5.2
Center Wavelength Range ³ (nm)		794.7
Center Wavelength Tolerance ³ (nm)		±0.6
Output Power ² (W)		40
Operating Condition		CW
Spectral Width (FWHM) (nm)		≤0.5
Slope Efficiency (W/A)		≥0.5
Wavelength Temp. Coefficient (nm/°C)		~0.01 ⁵
Fiber Parameters		
Fiber Connector		SMA
Fiber Core Diameter (μm)		400
Fiber Cladding Diameter (μm)		
Fiber Coating Diameter (μm)		
Fiber Loose Tubing Diameter (mm)		
Numerical Aperture (NA)		0.22
Fiber Length (m)		
Fiber Termination		
Electrical Parameters ¹		
Power Conversion Efficiency (%)		≥35
Threshold Current (I _{TH}) (A)		≤9
Operating Current (I _{OP}) (A)		≤55
Operating Voltage (V _{OP}) (V)		≤1.9
Duty Cycle ³ (%)		-
Pulse Length ³ (μsec)		-
Thermal Parameters ¹		
Operating Temperature Range ^{2,3,4} (°C)		+20 to +30
Storage Temperature Range ^{3,4} (°C)		0 to +55
Recommended Heatsink Capacity (W)		≥80
Part Number(s)		
M1F4S22-880.(0,6)-40C-SS2.1O2		1442620

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.

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Package Dimension

