

FIBER-COUPLED SINGLE BAR DIODE LASER MODULE

**980 nm, 50 W, 400 μm $\varnothing$,
Conduction-Cooled, 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

- 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

Device Specification

Optical Parameters ¹		SS5.2
Center Wavelength Range ³ (nm)		980
Center Wavelength Tolerance ³ (nm)		±10
Output Power ² (W)		50
Operating Condition		CW
Spectral Width (FWHM) (nm)		≤5
Slope Efficiency (W/A)		≥0.8
Wavelength Temp. Coefficient (nm/°C)		~0.38
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 (%)		≥57
Threshold Current (I _{TH}) (A)		≤7
Operating Current (I _{OP}) (A)		≤70
Operating Voltage (V _{OP}) (V)		≤1.9
Duty Cycle ³ (%)		-
Pulse Length ³ (μsec)		-
Thermal Parameters ¹		
Operating Temperature Range ^{3,4} (°C)		+20 to +30
Storage Temperature Range ^{3,4} (°C)		0 to +55
Recommended Heatsink Capacity (W)		≥70
Part Number(s)		
M1F4S22-980.10-50C-SS5.2M2P1T3		100403101-2004

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.

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Package Dimension

