Diode Laser Components

FIBER-COUPLED SINGLE BAR DIODE LASER MODULE

808 nm, 50 W, 400 µm Ø, 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

COHERENT

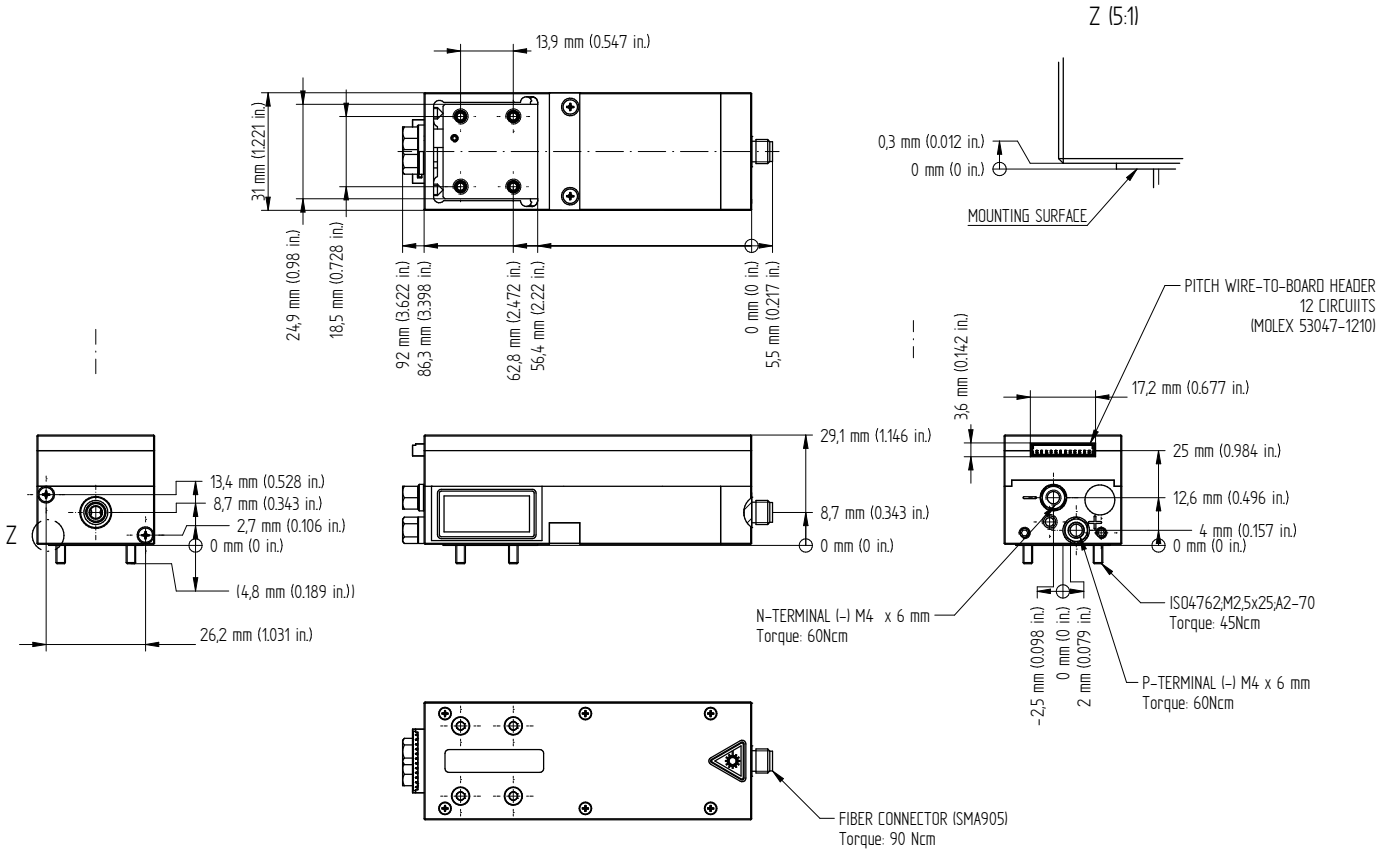
Device Specification

Optical Parameters[1]	SS5.2
Center Wavelength Range[3] (nm)	808
Center Wavelength Tolerance[3] (nm)	±5
Output Power[2] (W)	50
Operating Condition	CW
Spectral Width (FWHM) (nm)	≤4
Slope Efficiency (W/A)	≥0.85
Wavelength Temp. Coefficient (nm/°C)	~0.27
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 (%)	≥45
Threshold Current (I_{TH}) (A)	≤11
Operating Current (I_{OP}) (A)	≤65
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)	
M1F4S22-808.5-50C-SS5.2M2P1T3	100403285

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.

Package Dimension



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