

# FIBER-COUPLED SINGLE BAR DIODE LASER MODULE

**940 nm, 50 W, 200  $\mu\text{m}$   $\varnothing$ ,  
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  $\mu\text{m}$ , 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

- High coupling efficiency
- High brightness
- Sealed housing
- Standard fiber coupling (HP-SMA) for 200  $\mu\text{m}$  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 <sup>1</sup>                 |  | SS5.2      |
|-------------------------------------------------|--|------------|
| Center Wavelength Range <sup>3</sup> (nm)       |  | 940        |
| Center Wavelength Tolerance <sup>3</sup> (nm)   |  | ±10        |
| Output Power <sup>2</sup> (W)                   |  | 50         |
| Operating Condition                             |  | CW         |
| Spectral Width (FWHM) (nm)                      |  | ≤5         |
| Slope Efficiency (W/A)                          |  | ≥0.8       |
| Wavelength Temp. Coefficient (nm/°C)            |  | ~0.34      |
| Fiber Parameters                                |  |            |
| Fiber Connector                                 |  | SMA        |
| Fiber Core Diameter (μm)                        |  | 200        |
| 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 <sup>1</sup>              |  |            |
| Power Conversion Efficiency (%)                 |  | ≥45        |
| Threshold Current ( $I_{TH}$ ) (A)              |  | ≤7         |
| Operating Current ( $I_{OP}$ ) (A)              |  | ≤70        |
| Operating Voltage ( $V_{OP}$ ) (V)              |  | ≤1.9       |
| Duty Cycle <sup>3</sup> (%)                     |  | -          |
| Pulse Length <sup>3</sup> (μsec)                |  | -          |
| Thermal Parameters <sup>1</sup>                 |  |            |
| Operating Temperature Range <sup>3,4</sup> (°C) |  | +20 to +30 |
| Storage Temperature Range <sup>3,4</sup> (°C)   |  | 0 to +55   |
| Recommended Heatsink Capacity (W)               |  | ≥70        |
| Part Number(s)                                  |  |            |
| M1F2S22-940.10-50C-SS5.2M2P1T3                  |  | 100402646  |

### 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

