

**DATASHEET****Diode Lasers****FACTOR SERIES  
FIBER-COUPLED DIODE LASER MODULE**

The FACTOR Series offers the highest efficiencies and best reliability for pump wavelengths in the range of 88x nm, 793 nm and 976 nm for pumping  $\text{Nd}^{3+}$ ,  $\text{Tm}^{3+}$  and  $\text{Yb}^{3+}$  doped materials respectively. It is available between 1 and 22 single emitters, ranging from power levels of a few Watts up to 400 W.

**FEATURES**

- Robust package
- Fixed fiber
- VBG locking for wavelength stabilization
- Back reflection filter for 1064 nm laser light

**APPLICATIONS**

- Solid-state laser pumping

**Coherent, Inc.**

5100 Patrick Henry Drive, Santa Clara, CA 95054  
p. (800) 527-3786 | (408) 764-4983  
f. (408) 764-4646

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|                                                         |                                 |
|---------------------------------------------------------|---------------------------------|
| Parameter                                               | MDL888FCSE220HS22.1FACTOR200VBG |
| Package                                                 | Fiber-Coupled Single Emitters   |
| OPTICAL PARAMETERS <sup>1</sup>                         |                                 |
| Center Wavelength Range <sup>3</sup> (nm)               | 888                             |
| Center Wavelength Tolerance <sup>3</sup> (nm)           | ±0.6                            |
| Output Power <sup>2</sup> (W)                           | 220                             |
| Operating Condition                                     | CW                              |
| Spectral Width (90% power content) (nm)                 | ≤1                              |
| Wavelength Locked Output Power Range                    | 100W to 220W                    |
| Slope Efficiency (W/A)                                  | ≥19                             |
| Wavelength Temp. Coefficient (nm/°C)                    | ~0.01                           |
| Numerical Aperture (NA)                                 | ≥90% in 0.16                    |
| FIBER PARAMETERS <sup>5</sup>                           |                                 |
| Fiber Core Diameter (μm)                                | 200 ±5                          |
| Fiber Cladding Diameter (μm)                            | 280 ±6                          |
| Fiber Coating Diameter (μm)                             | 450±30                          |
| Fiber Loose Tubing Diameter (mm)                        | 2.2                             |
| Numerical Aperture (NA)                                 | 0.22 ±0.02                      |
| Fiber Length (m)                                        | ≥1.5                            |
| Fiber Termination                                       | SMA905                          |
| ELECTRICAL PARAMETERS <sup>1</sup>                      |                                 |
| Power Conversion Efficiency (%)                         | ≥45                             |
| Threshold Current (I <sub>TH</sub> ) (A)                | ≤2                              |
| Operating Current (I <sub>OP</sub> ) (A)                | ≤13                             |
| Operating Voltage (V <sub>OP</sub> ) (V)                | ≤40                             |
| THERMAL PARAMETERS                                      |                                 |
| 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)                       | 300                             |
| Maximum Soldering Temperature for Electrical Leads (°C) | 320                             |
| Maximum Soldering Time per Lead (s)                     | 10                              |
| MECHANICAL PARAMETERS                                   |                                 |
| Size (mm <sup>3</sup> ) [W x D x H]                     | 97 x 76 x 12.5                  |
| Weight (kg)                                             | 0.65                            |

Notes:

1. Based on 25°C reference temperature.

2. Reduced lifetime if used above nominal operating conditions.

3. Coherent, Inc. upon request.

4. 100 Patrick Henry Drive, Santa Clara, CA 95054

5. Non-detachable fiber.

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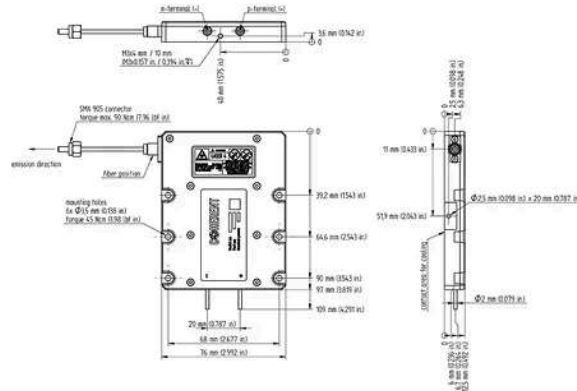
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