Fiber-coupled diode laser stacks: cw, actively cooled with deionized water

JOLD-250-CAXF-6P2

Features
- High optical output power of 250 W cw
- Fiber core diameter: 600 µm (NA 0.22)
- Integrated pilot laser and power monitor
- Lifetime > 10,000 h, high reliability

Applications
- Pumping of solid-state lasers and fiber lasers
- Material processing
Fiber-coupled diode laser stacks | cw, actively cooled with deionized water
JOLD-250-CAXF-6P2

### Specifications (start of life)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>JOLD-250-CAXF-6P2 Design 211620126</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operation Mode</strong></td>
<td>cw, power modulation only between threshold and maximum current</td>
</tr>
<tr>
<td><strong>Maximum Optical Output Power</strong></td>
<td>250 W, 250 W, 250 W, 250 W</td>
</tr>
<tr>
<td><strong>Center Wavelength</strong> at 25 °C</td>
<td>915 nm, 938 nm, 976 nm</td>
</tr>
<tr>
<td><strong>Center Wavelength Variation at 25 °C</strong></td>
<td>5 nm, 3 nm, 44 nm</td>
</tr>
<tr>
<td><strong>Typical Spectral Bandwidth (FWHM)</strong></td>
<td>807 nm, 915 nm, 938 nm</td>
</tr>
<tr>
<td><strong>Maximum Spectral Bandwidth (FWHM)</strong></td>
<td>976 nm, 976 nm</td>
</tr>
<tr>
<td><strong>Typical Operation Current</strong></td>
<td>42 A, 42 A</td>
</tr>
<tr>
<td><strong>Maximum Operation Current</strong></td>
<td>47 A, 47 A</td>
</tr>
<tr>
<td><strong>Typical Threshold Current</strong></td>
<td>6 A, 6 A</td>
</tr>
<tr>
<td><strong>Maximum Threshold Current</strong></td>
<td>10 A, 10 A</td>
</tr>
<tr>
<td><strong>Typical Slope</strong></td>
<td>7.0 W/A, 7.0 W/A</td>
</tr>
<tr>
<td><strong>Minimum Slope</strong></td>
<td>6.0 W/A, 6.0 W/A</td>
</tr>
<tr>
<td><strong>Maximum Operating Voltage</strong></td>
<td>26 (2x13) V, 26 (2x13) V</td>
</tr>
<tr>
<td><strong>Fiber Core Diameter, Numerical Aperture</strong></td>
<td>600 µm, NA 0.22</td>
</tr>
<tr>
<td><strong>Fiber Connection</strong></td>
<td>High-power plug with 15 mm ferrule diameter</td>
</tr>
<tr>
<td><strong>Power Monitor</strong></td>
<td>Infineon, SFH 229</td>
</tr>
<tr>
<td><strong>Pilot Laser</strong></td>
<td>0.5 ... 3 mW, 650 nm ± 15 nm, 3 ... 5 V, 40 ± 15 mA, power not adjustable (only for teaching and targeting purposes before laser operation)</td>
</tr>
<tr>
<td><strong>Anode, Cathode Connectors</strong></td>
<td>2x M5, 2x M4 (e.g. socket cap screws ISO 4762), see manual</td>
</tr>
<tr>
<td><strong>Humidity Reduction</strong></td>
<td>Purge gas, water vapor outlet closed with membrane</td>
</tr>
<tr>
<td><strong>Purge Gas</strong></td>
<td>Synthetic air, purity &gt; 99.9997 %, flow rate 0.1 ... 0.5 l/h (10 ... 20 mbar pressure), Ref.: <a href="http://www.airliquide.com">www.airliquide.com</a></td>
</tr>
<tr>
<td><strong>Purge Gas Connector</strong></td>
<td>Ø 4 mm push-in fitting</td>
</tr>
<tr>
<td><strong>Expected Lifetime</strong></td>
<td>&gt; 10,000 h (constant current)</td>
</tr>
<tr>
<td><strong>Cooling</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Flow Rate</strong></td>
<td>4.6 l/min ± 0.4 l/min</td>
</tr>
<tr>
<td><strong>Water Temperature</strong></td>
<td>15 ... 35 °C</td>
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<tr>
<td><strong>Water Pressure</strong></td>
<td>400 kPa maximum inlet and outlet pressure, 150 ... 250 kPa pressure drop</td>
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<tr>
<td><strong>Water Connectors</strong></td>
<td>Ø 12 mm push-in fittings</td>
</tr>
<tr>
<td><strong>Water Quality</strong></td>
<td>Deionized 2 ... 6 µS/cm, mixed bed ion exchanger, particle filter &lt; 25 µm (not included)</td>
</tr>
</tbody>
</table>

See general user information!

Options on request: Including dry cartridge instead of water vapour outlet