Fiber-coupled diode lasers:
cw, passively cooled with integrated TEC

Features
- High optical output power of 45 W cw
- Wavelengths: 808, 880, 915, 938 and 976 nm
- Fiber core diameter: 400 μm (NA 0.22)
- Integrated power monitor
- Long Lifetime > 20,000 h, high reliability

Applications
- Pumping of solid-state lasers and fiber lasers
- Material processing
- Medical applications

JOLD-45-CPXF-1L
Fiber-coupled diode lasers | cw, passively cooled with integrated TEC
JOLD-45-CPXF-1L

Specifications (start of life)

<table>
<thead>
<tr>
<th>Specification</th>
<th>JOLD-45-CPXF-1L Design 04031100124</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>45 W</td>
</tr>
<tr>
<td><strong>Center Wavelength at 25 °C</strong></td>
<td>808 nm</td>
</tr>
<tr>
<td><strong>Center Wavelength Variation at 25 °C</strong></td>
<td>3 nm</td>
</tr>
<tr>
<td><strong>Typical Spectral Bandwidth (FWHM)</strong></td>
<td>5 nm</td>
</tr>
<tr>
<td><strong>Maximum Spectral Bandwidth (FWHM)</strong></td>
<td>3 nm</td>
</tr>
<tr>
<td><strong>Typical Operating Current</strong></td>
<td>9 A</td>
</tr>
<tr>
<td><strong>Maximum Operating Current</strong></td>
<td>12 A</td>
</tr>
<tr>
<td><strong>Typical Threshold Current</strong></td>
<td>6 A</td>
</tr>
<tr>
<td><strong>Maximum Threshold Current</strong></td>
<td>9 A</td>
</tr>
<tr>
<td><strong>Typical Slope</strong></td>
<td>0.8 W/A</td>
</tr>
<tr>
<td><strong>Minimum Slope</strong></td>
<td>0.7 W/A</td>
</tr>
<tr>
<td><strong>Maximum Operating Voltage</strong></td>
<td>2 V</td>
</tr>
</tbody>
</table>

**Fiber Core Diameter, Numerical Aperture**
400 μm, NA 0.22; free standing fiber inside F-SMA 905 towards the module

**Fiber Connector**
F-SMA 905

**Power Monitor**
Infineon, SFH 203

**Anode, Cathode Connectors**
M5 (e.g. socket cap screw ISO 4762), M4 (threaded bolt and hex nut ISO 4032)

**Operation Conditions**
Non-condensing atmosphere

**Expected Lifetime**
> 10,000 h > 20,000 h

**Cooling**
Via thermally conductive foil (thickness 25 ... 100 μm) on cooled surface

**Note**
Do not mount via any paste-like media!

**Diode Laser Operating Temperature**
15 ... 30 °C, measured with internal temperature sensor

**Temperature Sensor**
PT 100 and PT 1000

**Integrated TECs**
Connected in series, cold side at max. 30 °C

**Maximum Cooling Power**
2 TECs x 173 W => 346 W

**Maximum TEC Voltage, Current**
2 x 24.6 V => 49.2 V, 11.3 A

See general user information!

Options on request: NTC 10 kOhm instead of PT 1000, Pilot Laser 0.5 ... 3.0 mW & 658 nm
for additional designs or specifications please visit our website: www.jenoptik.com