915nm 210W High Power Fiber Coupled Diode Laser
K915FN1RN-210.0W

Features:
- 915nm wavelength
- 210W output power
- 135μm fiber core diameter
- 0.22N.A.
- 1040nm-1200nm feedback protection

Applications:
- Fiber laser pumping

BWT Beijing’s High Power Diode Laser Modules are manufactured by adopting specialized fiber-coupling techniques, resulting in volume products with a high efficiency, stability and superior beam quality. The products are achieved by transforming the asymmetric radiation from the laser diode chip into an output fiber with small core diameter by using special micro optics. Inspecting and burn-in procedures in every aspect come to a result to guarantee each product with the reliability, stability and long lifetime.

Our research staffs are constantly improving and innovating the processing technology in the producing process, based on the professional knowledge and experience accumulated in long-terms. We are also continuously developing new products to meet customers’ specific needs.

At BWT Beijing, to provide high quality products with reasonable price is our always goal.
## 915nm 210W High Power Fiber Coupled Diode Laser

**K915FN1RN-210.0W**

### Specifications (25°C)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Unit</th>
<th>K915FN1RN-210.0W</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Minimum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Typical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum</td>
</tr>
</tbody>
</table>

#### Optical Data

- **CW-Output Power**
  - Symbol: $P_0$
  - Unit: W
  - K915FN1RN-210.0W: 210 W

- **Center Wavelength**
  - Symbol: $\lambda_c$
  - Unit: nm
  - Typical: 915 nm
  - Maximum: 925 nm

- **Spectral Width (FWHM)**
  - Symbol: $\delta\lambda$
  - Unit: nm
  - Typical: -
  - Maximum: 5 nm

- **Wavelength Shift with Temperature**
  - Symbol: $\lambda/T$
  - Unit: nm/°C
  - Typical: -
  - Maximum: -0.3 nm/°C

- **Light within 0.16NA**
  - Symbol: -
  - Unit: %
  - Typical: 90%
  - Maximum: -

#### Electrical Data

- **Operating Current**
  - Symbol: $I_{op}$
  - Unit: A
  - Typical: 13 A
  - Maximum: 13.5 A

- **Threshold Current**
  - Symbol: $I_{th}$
  - Unit: A
  - Typical: 0.8 A
  - Maximum: 1.0 A

- **Electrical-to-Optical Efficiency**
  - Symbol: $\eta$
  - Unit: %
  - Typical: 50
  - Maximum: -

- **Slope Efficiency**
  - Symbol: $\eta_D$
  - Unit: W/A
  - Typical: 17
  - Maximum: -

- **Operating Voltage**
  - Symbol: $V_{op}$
  - Unit: V
  - Typical: -
  - Maximum: 34 V

#### Fiber Data

- **Core diameter**
  - Symbol: $D_{core}$
  - Unit: µm
  - Minimum: 133.5 µm
  - Typical: 135 µm
  - Maximum: 136.5 µm

- **Cladding diameter**
  - Symbol: $D_{clad}$
  - Unit: µm
  - Minimum: 154 µm
  - Typical: 155 µm
  - Maximum: 156 µm

- **Buffer diameter**
  - Symbol: $D_{buf}$
  - Unit: µm
  - Minimum: 300 µm
  - Typical: 320 µm
  - Maximum: 340 µm

- **Numerical Aperture**
  - Symbol: N.A.
  - Unit: -
  - Minimum: 0.215
  - Typical: 0.22
  - Maximum: 0.225

- **Total Fiber Length**
  - Symbol: -
  - Unit: m
  - Minimum: 0.9 m
  - Typical: 1.0 m
  - Maximum: 1.1 m

- **Fiber Loose Tubing Diameter**
  - Symbol: -
  - Unit: µm
  - Minimum: -
  - Typical: 900 µm
  - Maximum: -

- **Minimum Static Bending Radius**
  - Symbol: -
  - Unit: mm
  - Minimum: 80 mm
  - Typical: -
  - Maximum: -

- **Minimum Dynamic Bending Radius**
  - Symbol: -
  - Unit: mm
  - Minimum: 124 mm
  - Typical: -
  - Maximum: -

- **Connector**
  - Symbol: -
  - Unit: -
  - Minimum: None
  - Typical: -
  - Maximum: -

#### PD Date

- **PD Current**
  - Symbol: $I_{mo}$
  - Unit: µA
  - Minimum: -
  - Typical: -
  - Maximum: -

#### Thermistor Data

- **Thermistor**
  - Symbol: $R_t$
  - Unit: (K/Ω)β(25°C)
  - Minimum: -
  - Typical: -
  - Maximum: -

#### Feedback Isolation

- **Wavelength Range**
  - Symbol: $\lambda$
  - Unit: nm
  - Minimum: 1040 nm
  - Typical: -
  - Maximum: 1200 nm

- **Isolation**
  - Symbol: -
  - Unit: dB
  - Minimum: 30 dB
  - Typical: -
  - Maximum: -

#### Others

- **Operating Case Temperature**
  - Symbol: $T_{op}$
  - Unit: °C
  - Minimum: 20 °C
  - Typical: -
  - Maximum: 35 °C

- **Storage Temperature (Non-operating)**
  - Symbol: $T_{st}$
  - Unit: °C
  - Minimum: -20 °C
  - Typical: -
  - Maximum: +70 °C

- **ESD**
  - Symbol: -
  - Unit: V
  - Minimum: -
  - Typical: -
  - Maximum: 500 V

- **Lead Soldering Temp**
  - Symbol: -
  - Unit: °C
  - Minimum: -
  - Typical: -
  - Maximum: 260 °C

- **Lead Soldering Time**
  - Symbol: -
  - Unit: sec
  - Minimum: -
  - Typical: -
  - Maximum: 10 sec

- **Relative Humidity**
  - Symbol: -
  - Unit: %
  - Minimum: 15%
  - Typical: -
  - Maximum: 75%
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Characteristics

![Power vs Driving Current Graph](image1)

![Spectrum Graph](image2)
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Package Dimensions (mm)

<table>
<thead>
<tr>
<th>Pins</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LD (+)</td>
</tr>
<tr>
<td>2</td>
<td>LD (-)</td>
</tr>
</tbody>
</table>

* Optional function: thermistor, aiming beam, PD

**OPERATING NOTES**

- Avoid eye exposure to direct or scattered radiation.
- ESD precautions must be taken.
- Please connect pins to wires by solder instead of using socket when operation current is higher than 6A.
- Soldering point should be close to the root of the pins. Soldering temperature should be lower than 260°C and time shorter than 10 second.
- Use constant current power supply. Avoid surge current.
- Laser diode must be used according to the specifications.
- Laser diode must work with good cooling.
- Operation temperature is 20°C ~ 35°C. (case temperature)
- Storage: -20°C ~ +70°C, all pins short-circuit.