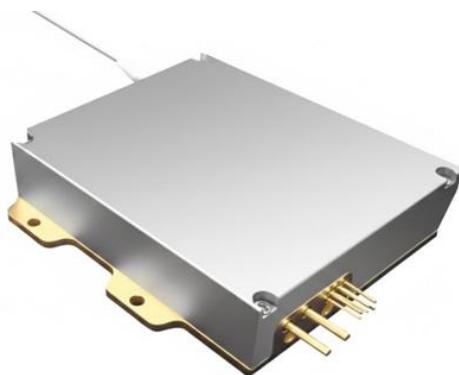


981 nm 140 W Wavelength-Stabilized Fiber Coupled Diode Laser

K981BN1RN-140.0WN0N-10522F20EFF



Features:

- 981±1 nm wavelength
- 140 W output power
- 105 µm fiber core diameter
- 0.22 NA
- 1020nm~1200 nm feedback protection

Applications:

- Fiber Laser Pumping
- Solid-state Laser pumping
- Scientific Research

| Specifications (25°C) | | Symbol | Unit | K981BN1RN-140.0W | | |
|-----------------------------|---|-------------------|-------|-------------------|---------|---------|
| | | | | Minimum | Typical | Maximum |
| Optical Data ⁽¹⁾ | CW Output Power | P _o | W | 140.0 | - | - |
| | Center Wavelength | λ _c | nm | 981±1 | | |
| | Spectral Width (FWHM) | Δλ | nm | - | 0.7 | 1 |
| | Wavelength Shift with Temperature | Δλ/ΔT | nm/°C | - | 0.03 | - |
| | Wavelength Locking Range | - | A | (lop-2A)~lop@25°C | | |
| Electrical Data | Electrical-to-Optical Efficiency | PE | % | - | 45 | - |
| | Threshold Current | I _{th} | A | - | 1.0 | - |
| | Operating Current | I _{op} | A | - | 13.0 | 15.0 |
| | Operating Voltage | V _{op} | V | - | 22.5 | 25.0 |
| | Slope Efficiency | η | W/A | - | 11.0 | - |
| Fiber Data | Core Diameter | D _{core} | µm | - | 105 | - |
| | Cladding Diameter | D _{clad} | µm | - | 125 | - |
| | Numeric Aperture | NA | - | - | 0.22 | - |
| | Fiber Length | L _f | m | - | 2 | - |
| | Fiber Loose Tubing Diameter | - | mm | 0.9 | | |
| | Minimum Bending Radius | - | mm | 50 | - | - |
| | Fiber Termination | - | - | FC-Ferrule | | |
| Feedback Isolation | Wavelength Range | - | nm | 1020~1200 | | |
| | Isolation | - | dB | - | 30 | - |
| Others | ESD | V _{esd} | V | - | - | 500 |
| | Storage Temperature ⁽²⁾ | T _{st} | °C | -20 | - | 70 |
| | Lead Soldering Temp | T _{ls} | °C | - | - | 260 |
| | Lead Soldering Time | t | sec | - | - | 10 |
| | Operating Case Temperature ⁽³⁾ | T _{op} | °C | - | 25 | - |
| | Relative Humidity | RH | % | 15 | - | 75 |

(1) Data measured under operation output at nominal output power@25°C.

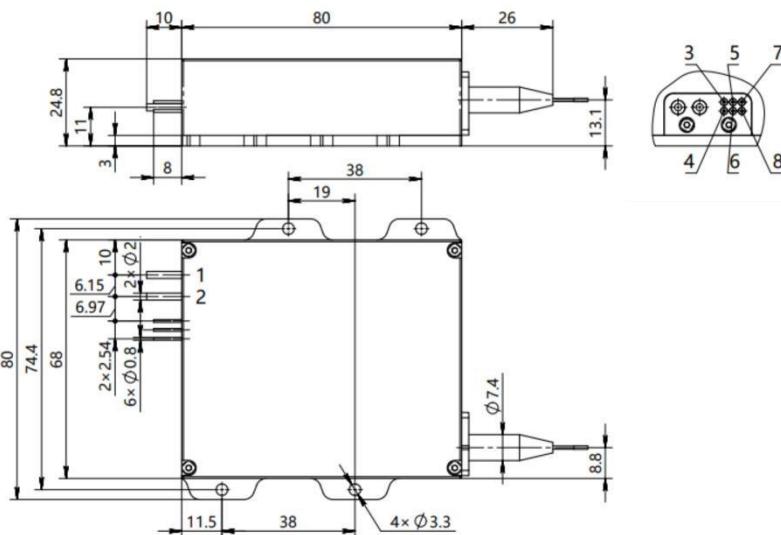
(2) A non-condensing environment is required for operation and storage.

(3) Operating temperature defined by the package case. Acceptable operating range is 25±2°C, but performance may vary.

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Package Dimensions (mm)



| Pin | Function |
|-----|--------------------------|
| 1 | LD (+) |
| 2 | LD (-) |
| 3 | - |
| 4 | - |
| 5 | Thermistor (Optional) |
| 6 | Thermistor (Optional) |
| 7 | Photo Diode(P)(Optional) |
| 8 | Photo Diode(N)(Optional) |

OPERATING NOTES

- Avoid eye and skin exposure to direct radiation during operation.
- ESD precautions must be taken during transportation, storage, and operation. A short-circuit connection is required between pins during transportation and storage.
- For lasers with operating currents above 6A, connect leads by soldering. The soldering point should be as close to the middle of the pins as possible, with a temperature below 260°C and a soldering time of less than 10 seconds.
- Before operating the laser, ensure that the fiber output end is properly cleaned. Follow safety protocols when handling and cutting fiber to avoid injury.
- Use a constant current power supply and avoid surges during operation.
- Operate within the rated current and power levels.
- Ensure proper cooling during operation.
- The operating temperature range is 23°C to 27°C.
- The storage temperature range is -20°C to +70°C.