Diode laser stack in housing: qcw, passively cooled with tap water, high power

Design 04022100824

Features
- High optical output power up to 2400 W qcw
- Wavelengths: 808 and 940 nm
- Small and robust design, light weight (< 60 g)
- Sealed housing
- Cooling with tap water

Applications
- Pumping of solid-state lasers
- Material processing
Diode laser stack in housing | qcw, passively cooled with tap water, high power
JOLD-x-QA-8A

Specifications (start of life) | JOLD-x-QA-8A Design 04022100824
---|---
**Operation Mode** | 0.2 ms/1 % | 0.2 ms/10 % | 1.5 ms/1 % | 3.0 ms/4 %
**Maximum Pulse Length/Duty Cycle** | 2400 | 1200 | 2400 | 2000 | W
**Maximum Pulse Power** | 300 | 180 | 315 | 275 | A
**Center Wavelength at 25 °C** | 808 | 808 | 940 | 940 | nm
**Center Wavelength Variation at 25 °C** | 3 | 3 | 3 | 3 | nm
**Typical Spectral Bandwidth (FWHM)** | 3 | 3 | 5 | 5 | nm
**Maximum Spectral Bandwidth (FWHM)** | 6 | 6 | 7 | 7 | nm
**Typical Operation Current** | 285 | 165 | 300 | 260 | A
**Maximum Operation Current** | 300 | 180 | 315 | 275 | A
**Typical Threshold Current** | 23 | 23 | 16 | 16 | A
**Maximum Threshold Current** | 25 | 25 | 18 | 18 | A
**Typical Slope** | 9.2 | 8.5 | 8.5 | 8.2 | W/A
**Minimum Slope** | 8.6 | 7.6 | 8 | 7.7 | W/A
**Typical Operating Voltage** | 15.8 | 14.4 | 14.9 | 14.7 | V
**Maximum Operating Voltage** | 16.8 | 15.4 | 15.9 | 15.7 | V
**Typical Fast Axis Divergence 95 %** | 66 | 66 | 47 | 47 | °
**Typical Slow Axis Divergence 95 %** | 10.0 | 8.5 | 10.0 | 8.5 | °
**Spot Size (at exit window)** | 15 mm x 10 mm
**Anode, Cathode Connectors** | Via two M3 x 8 screws (ISO 4762)
**Weight** | 55 g
**Operation Conditions** | Non-condensing atmosphere; no cleanroom needed
**Expected Lifetime** | > 1 GShot

**Cooling**

- **Flow Rate**: 0.8 l/min ± 20 %
- **Water Temperature**: 15 ... 25 °C
- **Maximum Inlet Pressure**: 400 kPa
- **Maximum Pressure Drop**: 100 kPa
- **Water Connection**: Via o-ring gaskets 6 mm x 1 mm, EPDM, 70 shore
- **Water Quality**: Industrial grade, anti-freeze possible, particle filter < 100 μm (not included)
- **Cooling System**: Do not use any material that in combination with copper would form galvanic elements (e.g. aluminum, zinc, brass)

See general user information!

Options on request: variation number of bars, fast axis collimation

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JENOPTIK Optical Systems GmbH
Goeschwitzer Strasse 25 | 07745 Jena | Germany
Phone +49 3641 65-3053 | Fax +49 3641 65-4011
laser.sales@jenoptik.com | www.jenoptik.com

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JP 4993317 B2
US 7801190 B2