



JENOPTIK

Open heat sink diode lasers: qcw, passively cooled with integrated TEC JOLD-45-CPXF-1L

Design 04031100124

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

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JOLD-45-CPXF-1L

Specifications (start of life)

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Operation Mode	cw, power modulation only between threshold and maximum current					
Maximum Optical Output Power	45	45	45	45	45	W
Center Wavelength at 25 °C	808	880	915	938	976	nm
Center Wavelength Variation at 25 °C	3	3	5	5	3	nm
Typical Spectral Bandwidth (FWHM)	3	3	3	3	3	nm
Maximum Spectral Bandwidth (FWHM)	4	4	4	4	4	nm
Typical Operation Current	59	60	60	60	64	A
Maximum Operation Current	65	66	66	66	70	A
Typical Threshold Current	10	9	6	6	6	A
Maximum Threshold Current	13	12	9	9	9	A
Typical Slope	0.9	0.9	0.85	0.85	0.8	W/A
Minimum Slope	0.8	0.8	0.75	0.75	0.7	W/A
Maximum Operating Voltage	2	2	2	2	2	V
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						
Mounting	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

