

Fiber-Coupled Passively Cooled cw Diode Lasers

JOLD-30-FC-18

Design 15621824



Features:

- High optical output power of 30 W cw
- Fiber core diameter: 800 μm (NA 0.14)
- Long lifetime > 20,000 h, high reliability
- Passively cooling



Applications:

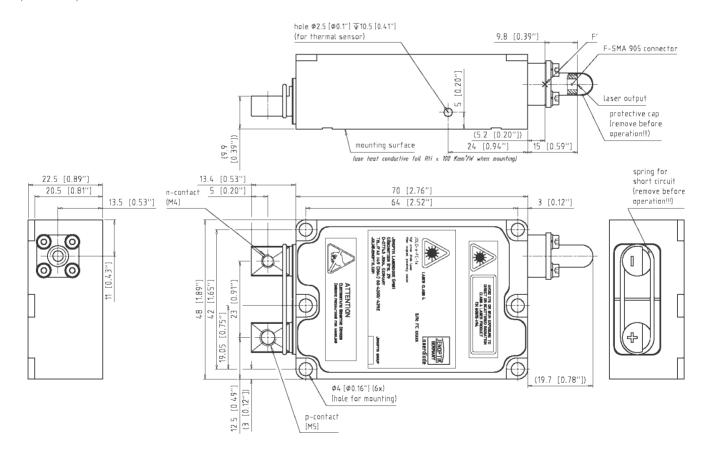
- Pumping of solid-state lasers and fiber lasers
- Material processing in industry
- Medical applications

Fiber-Coupled Passively Cooled cw Diode Lasers

Preliminary Specifications (Start of Life)

Mr. a. a.k.	Product	JOLD-30-FC-18, 1	JOLD-30-FC-18, Design 15621824				
Center Wavelength at 25 °C 808 915 938 976 nm Center Wavelength Variation at 25 °C 3 5 5 3 nm Typical Spectral Bandwidth (FWHM) 3 3 3 3 nm Maximum Spectral Bandwidth (FWHM) 4 4 4 4 nm Typical Operation Current 41 42 42 44 A Maximum Operation Current 45 47 47 47 A Typical Threshold Current 7 6 6 6 A Maximum Threshold Current 10 9 9 9 A Typical Slope 0.9 0.9 0.9 0.9 0.8 W/A Minimum Slope 0.7 0.7 0.7 0.7 0.7 W/A Maximum Operating Voltage 2.2 2.2 2.2 2.2 2.2 V Fiber Centricity 5 10 µm 5 5 0.9 0.9 0.9 0.	Operation Mode	cw, power modulation only between threshold and maximum current					
Center Wavelength Variation at 25°C 3 5 5 3 nm Typical Spectral Bandwidth (FWHM) 3 3 3 3 3 nm Maximum Spectral Bandwidth (FWHM) 4 4 4 4 4 4 nm Typical Operation Current 41 42 42 42 44 44 A Maximum Operation Current 7 6 6 6 6 6 A Typical Threshold Current 7 6 6 6 6 6 A Typical Slope 0.9 0.9 9 9 9 A Typical Slope 0.9 0.9 0.9 0.9 0.8 W/A Minimum Slope 0.7 0.7 0.7 0.7 0.7 W/A Maximum Operating Voltage 2.2 2.2 2.2 2.2 2.2 V Fiber Core Diameter, Numerical Aperture 800 µm, NA 0.14 Fiber Centricity < 10 µm Fiber Connector F-SMA 905, free standing fiber towards the module Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Maximum Optical Output Power	30	30	30	30	W	
Typical Spectral Bandwidth (FWHM) 3 3 3 3 3 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Center Wavelength at 25 °C	808	915	938	976	nm	
Maximum Spectral Bandwidth (FWHM) 4 4 4 4 4 4 A A A A A A A A A A A A A	Center Wavelength Variation at 25°C	3	5	5	3	nm	
Typical Operation Current 41 42 42 42 44 A Maximum Operation Current 45 47 47 47 47 A Typical Threshold Current 7 6 6 6 6 6 A Maximum Threshold Current 10 9 9 9 9 9 A Typical Slope 0.9 0.9 0.9 0.9 0.8 W/A Minimum Slope 0.7 0.7 0.7 0.7 0.7 0.7 W/A Maximum Operating Voltage 2.2 2.2 2.2 2.2 2.2 V Fiber Core Diameter, Numerical Aperture 800 µm, NA 0.14 Fiber Centricity < 10 µm Fiber Connector F-SMA 905, free standing fiber towards the module Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Typical Spectral Bandwidth (FWHM)	3	3	3	3	nm	
Maximum Operation Current 45 47 47 47 47 A Typical Threshold Current 7 6 6 6 6 6 A Maximum Threshold Current 10 9 9 9 9 9 A Typical Slope 0.9 0.9 0.9 0.9 0.9 0.8 W/A Minimum Slope 0.7 0.7 0.7 0.7 0.7 0.7 W/A Maximum Operating Voltage 2.2 2.2 2.2 2.2 2.2 2.2 V Fiber Core Diameter, Numerical Aperture Fiber Centricity Fiber Connector F-SMA 905, free standing fiber towards the module Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 μm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Maximum Spectral Bandwidth (FWHM)	4	4	4	4	nm	
Typical Threshold Current 7 6 6 6 6 A Maximum Threshold Current 10 9 9 9 9 A Typical Slope 0.9 0.9 0.9 0.9 0.8 W/A Minimum Slope 0.7 0.7 0.7 0.7 0.7 0.7 W/A Maximum Operating Voltage 2.2 2.2 2.2 2.2 2.2 2.2 V Fiber Core Diameter, Numerical Aperture 800 µm, NA 0.14 Fiber Centricity < 10 µm Fiber Connector F-SMA 905, free standing fiber towards the module Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Typical Operation Current	41	42	42	44	А	
Maximum Threshold Current 10 9 9 9 0.9 0.9 0.9 0.8 W/A Minimum Slope 0.7 0.7 0.7 0.7 0.7 0.7 W/A Maximum Operating Voltage 2.2 2.2 2.2 2.2 2.2 2.2 V Fiber Core Diameter, Numerical Aperture Fiber Centricity Fiber Connector F-SMA 905, free standing fiber towards the module Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Maximum Operation Current	45	47	47	47	А	
Typical Slope 0.9 0.9 0.9 0.9 0.8 W/A Minimum Slope 0.7 0.7 0.7 0.7 0.7 W/A Maximum Operating Voltage 2.2 2.2 2.2 2.2 2.2 2.2 V Fiber Core Diameter, Numerical Aperture 800 µm, NA 0.14 Fiber Centricity < 10 µm Fiber Connector F-SMA 905, free standing fiber towards the module Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	, i	7	6	6	6	А	
Minimum Slope 0.7 0.7 0.7 0.7 0.7 W/A Maximum Operating Voltage 2.2 2.2 2.2 2.2 2.2 V Fiber Core Diameter, Numerical Aperture 800 µm, NA 0.14 Fiber Centricity <10 µm Fiber Connector F-SMA 905, free standing fiber towards the module Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Maximum Threshold Current	10	9	9	9	А	
Maximum Operating Voltage 2.2 2.2 2.2 2.2 2.2 2.2 V Fiber Core Diameter, Numerical Aperture 800 µm, NA 0.14 Fiber Centricity <10 µm Fiber Connector Expected Lifetime >20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Typical Slope	0.9	0.9	0.9	0.8	W/A	
Fiber Core Diameter, Numerical Aperture Fiber Centricity Fiber Connector F-SMA 905, free standing fiber towards the module Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Minimum Slope	0.7	0.7	0.7	0.7	W/A	
Fiber Centricity < 10 µm Fiber Connector F-SMA 905, free standing fiber towards the module Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Maximum Operating Voltage	2.2	2.2	2.2	2.2	V	
Fiber Connector Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors Operation Conditions Non-condensing atmosphere	Fiber Core Diameter, Numerical Aperture	800 μm, NA 0.14					
Expected Lifetime > 20,000 h (constant current) Cooling Mounting via thermally conductive foil (thickness 25100 μm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like medial Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Fiber Centricity	< 10 μm					
Cooling Mounting via thermally conductive foil (thickness 25100 µm) on cooled surface. 1530°C at temperature sensor. Do not mount via any paste-like media! Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Fiber Connector	F-SMA 905, free standing fiber towards the module					
1530°C at temperature sensor. Do not mount via any paste-like media! Temperature Sensor Hole for thermal sensor, see drawing Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Expected Lifetime						
Anode, Cathode Connectors M5, M4 Operation Conditions Non-condensing atmosphere	Cooling						
Operation Conditions Non-condensing atmosphere	Temperature Sensor	Hole for thermal sensor, see drawing					
, and the second	Anode, Cathode Connectors	M5, M4					
See General User Information!	Operation Conditions	5 1					
		See General User	See General User Information!				

Options on request: 981 nm





JENOPTIK Laserdiode GmbH

Goeschwitzer Strasse 29 | 07745 Jena | Germany Sales contact: Diode Laser Group of Jenoptik Phone +49 3641 65-4300 | Fax +49 3641 65-4392 E-mail: dlg@jenoptik.com | Internet: www.jenoptik-dlg.com

