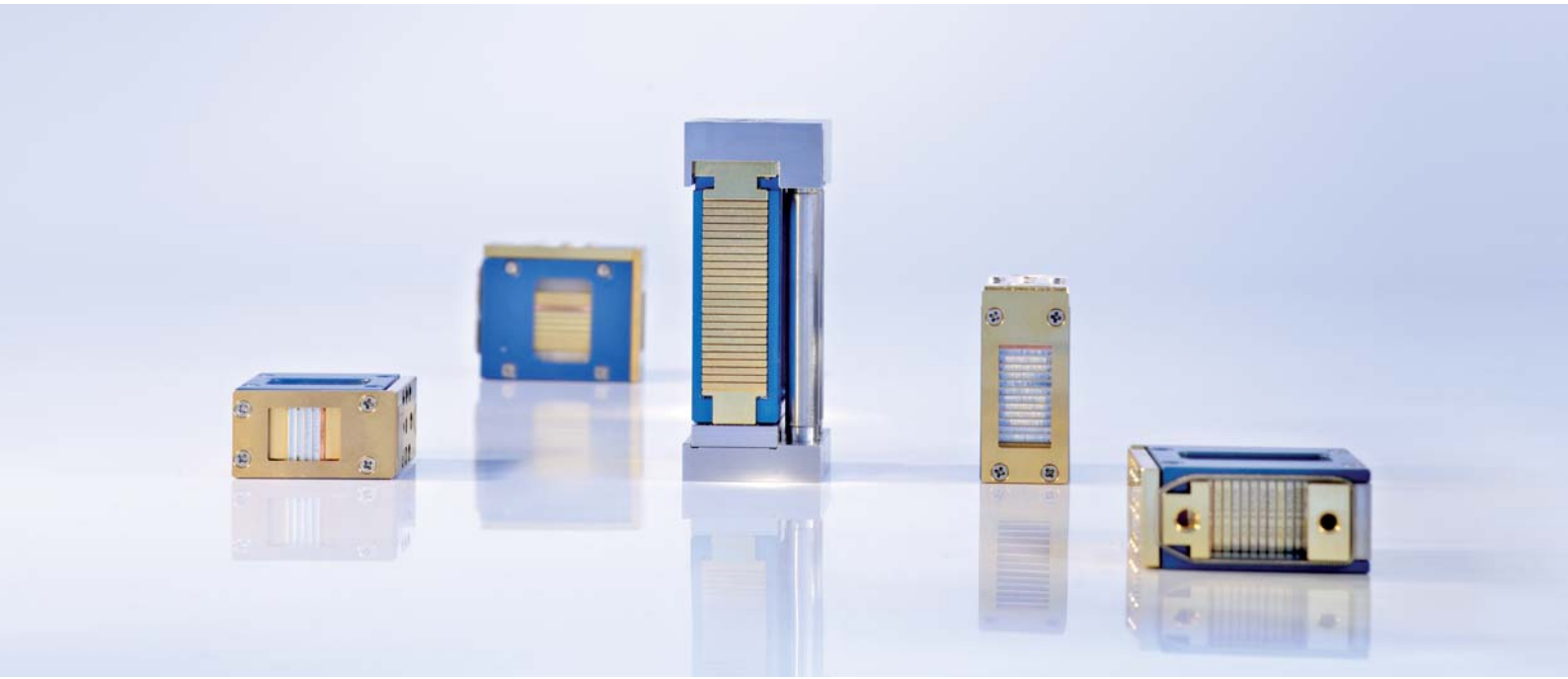
Fast Axis Collimated Actively Cooled qcw Diode Laser Stacks

JOLD-x-QAFN-xA

Design 2104xxx26

210480326 (3 submounts), 210480426 (4 submounts),
210480526 (5 submounts), 210480626 (6 submounts),
210480826 (8 submounts), 210481026 (10 submounts),
210481226 (12 submounts), 210430626 (25 submounts)



Features:

- High optical output power of 90 W qcw per bar after collimation
- Lifetime > 1 GShot, high reliability
- Actively cooling

Applications:

- Pumping of solid-state lasers and fiber lasers
- Material processing
- Medical applications (e.g. hair removal)

Jenoptik Laserdiode

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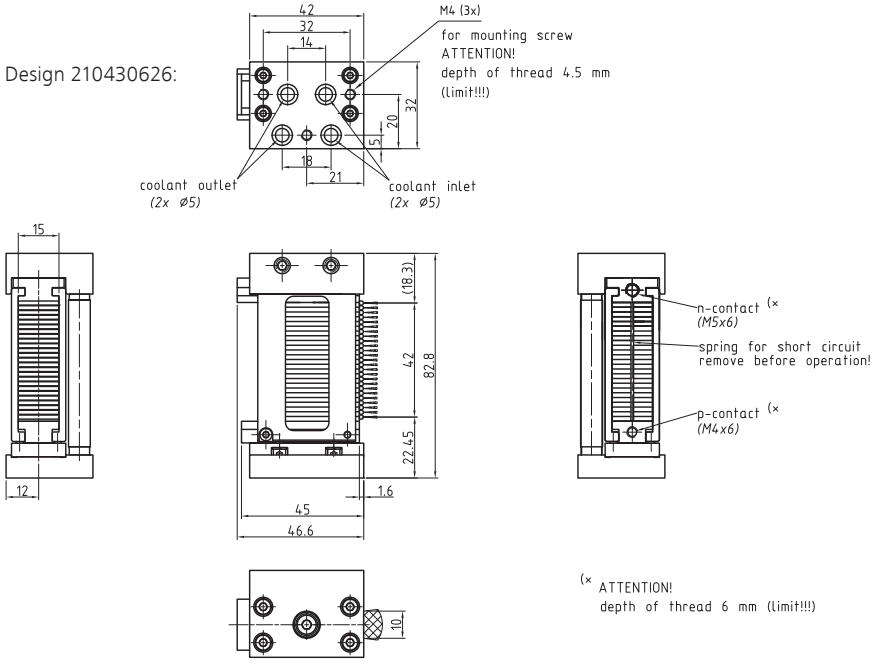
Specifications (Start of Life)

Product	JOLD-x-QAFN-xA, Designs 210480326 (3 submounts), 210480426 (4 submounts), 210480526 (5 submounts), 210480626 (6 submounts), 210480826 (8 submounts), 210481026 (10 submounts), 210481226 (12 submounts), 210430626 (25 submounts)																
Operation Mode	qcw																
Maximum Pulse Length / Duty Cycle	≤ 0.3 ms / ≤ 20 %																
Maximum Optical Output Power	270	360	450	540	720	900	1080	2250	270	360	450	540	720	900	1080	2250	W
Number of Submounts	3	4	5	6	8	10	12	25	3	4	5	6	8	10	12	25	
Power per Submount after Collimation	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	W
Center Wavelength at 25 °C	808								938								nm
Center Wavelength Variation at 25 °C	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	nm
Typical Spectral Bandwidth (FWHM)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	nm
Maximum Spectral Bandwidth (FWHM)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	nm
Typical Operation Current	105	105	105	105	105	105	105	105	120	120	120	120	120	120	120	120	A
Maximum Operation Current	120	120	120	120	120	120	120	120	130	130	130	130	130	130	130	130	A
Typical Threshold Current	18	18	18	18	18	18	18	18	20	20	20	20	20	20	20	20	A
Maximum Threshold Current	20	20	20	20	20	20	20	20	25	25	25	25	25	25	25	25	A
Typical Slope	3.2	4.2	5.2	6.3	8.3	10.4	12.5	25.9	2.7	3.6	4.5	5.4	7.2	9.0	10.8	22.5	W/A
Minimum Slope	2.6	3.5	4.4	5.2	7.0	8.8	10.5	22.0	2.4	3.2	4.0	4.9	6.5	8.1	9.8	20.4	W/A
Maximum Operating Voltage	6	8	10	12	16	20	24	50	7	9	11	14	18	22	27	55	V
Fast Axis Divergence (Full Power)	< 0.5								< 0.5								°
Typical Slow Axis Divergence FWHM	12	12	12	12	12	12	12	12	7	7	7	7	7	7	7	7	°
Typical Slow Axis Divergence 86 %	12	12	12	12	12	12	12	12	8	8	8	8	8	8	8	8	°
Typical Slow Axis Divergence 95 %	15	15	15	15	15	15	15	15	12	12	12	12	12	12	12	12	°
Operation Conditions	Cleanroom class 100, non-condensing atmosphere																
Expected Lifetime	> 1 GShot																
Cooling:																	
Number of Submounts	3		4		5		6		8		10		12		25		
Flow Rate	1.3		1.7		2.0		2.3		3.0		3.6		4.3		8.3		l/min
Flow Rate Tolerance	± 10 %																
Water Temperature	15 ... 35 °C																
Maximum Inlet Pressure	400 kPa																
Pressure Drop	< 200 kPa																
Water Quality	Deionized 2 ... 10 µS/cm, mixed bed ion exchanger, particle filter < 25 µm (not included)																
	See Safety and General User Information!																

Options on request: 915 nm; for additional designs or specifications please visit our website: www.jold.com

Design 210430626:



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Specifications may change in compliance with our quality management system.
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