



JENOPTIK

Vertical diode laser stacks: qcw, actively cooled, with collimation JOLD-x-QAFN-xA

Designs

- 210480426 (4 submounts)
- 210480626 (6 submounts)
- 210480826 (8 submounts)
- 210481026 (10 submounts)
- 210481226 (12 submounts)

Features

- High optical output power up to 90 W cw per bar after collimation
- Wavelengths: 808 and 938 nm
- High efficiency, low divergences
- Lifetime > 1 GShot, high reliability

Applications

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

Vertical diode laser stacks | qcw, actively cooled, with collimation

JOLD-x-QAFN-xA

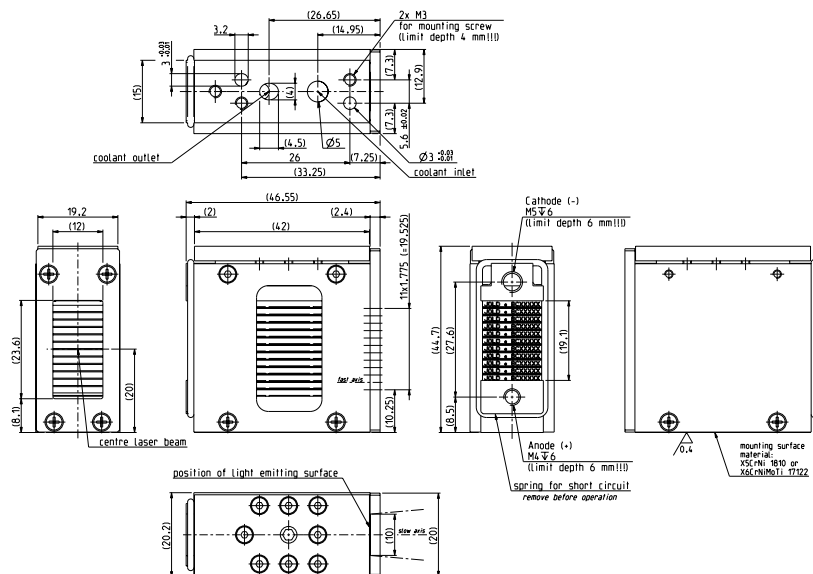
JOLD-x-QAFN-xA Designs 210480426 (4 submounts), 210480626 (6 submounts), 210480826 (8 submounts), 210481026 (10 submounts), 210481226 (12 submounts)

Specifications (start of life)

Operation Mode	qcw										
Maximum Pulse Length/Duty Cycle	$\leq 0.3 \text{ ms} / \leq 20 \%$										
Maximum Optical Output Power	360	540	720	900	1080	360	540	720	900	1080	W
Number of Submounts	4	6	8	10	12	4	6	8	10	12	
Power per Submount after Collimation	90	90	90	90	90	90	90	90	90	90	W
Center Wavelength at 25 °C	808										nm
Center Wavelength Variation at 25 °C	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	nm
Maximum Spectral Bandwidth (FWHM)	5	5	5	5	5	5	5	5	5	5	nm
Typical Operation Current	105	105	105	105	105	110	110	110	110	110	A
Maximum Operation Current	120	120	120	120	120	125	125	125	125	125	A
Typical Threshold Current	14	14	14	14	14	12	12	12	12	12	A
Maximum Threshold Current	18	18	18	18	18	14	14	14	14	14	A
Typical Slope	4.0	6.0	8.0	9.9	11.9	3.7	5.6	7.4	9.2	11.1	W/A
Minimum Slope	3.3	5.0	6.7	8.4	10.1	3.1	4.7	6.3	7.9	9.5	W/A
Maximum Operating Voltage	8	12	16	20	24	9	14	18	22	27	V
Fast Axis Divergence (Full Power)	< 0.5					< 0.5					°
Typical Slow Axis Divergence FWHM	6	6	6	6	6	7	7	7	7	7	°
Typical Slow Axis Divergence 86 %	7	7	7	7	7	8	8	8	8	8	°
Typical Slow Axis Divergence 95 %	8	8	8	8	8	9	9	9	9	9	°
Operation Conditions	Cleanroom class ISO 5, non-condensing atmosphere										
Expected Lifetime	> 1 GShot										
Cooling											
Number of Submounts	4		6		8		10		12		
Flow Rate	1.7		2.3		3.0		3.6		4.3		l/min
Flow Rate Tolerance	$\pm 10 \%$										
Water Temperature	15 ... 35 °C										
Maximum Inlet Pressure	400 kPa										
Pressure Drop	< 200 kPa										
Water Quality	Deionized 2 ... 6 $\mu\text{S/cm}$, mixed bed ion exchanger, particle filter < 25 μm (not included)										

See general user information!

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



Design 210481226