



Free Space Single Emitter Diode Laser Modules

cw, passively cooled, high brightness



JOLD-4.2-BAXH-1E

Design 424300824

Features:

- High optical output power up to 4.2 W cw
- Low divergence 8 mrad, $M^2_x \sim M^2_y < 20$
- Homogeneous, symmetric beam profil
- Polarized beam (50:1)
- Compact, hermetically sealed package

Applications:

- Illumination
- Instrumentation
- Pumping of solid-state lasers

Free Space Single Emitter Diode Laser Modules

cw, passively cooled, high brightness

Specifications (Start of Life)

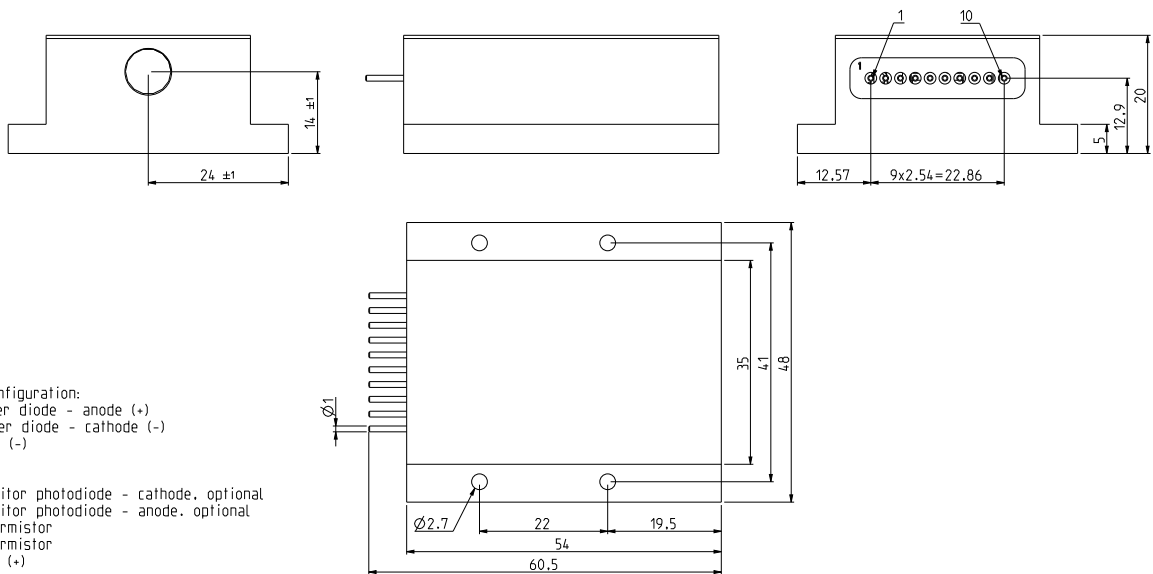
Product	JOLD-4.2-BAXH-1E, Design 424300824	
Operation Mode	cw, power modulation only between threshold and maximum current	
Maximum Optical Output Power	4.2	W
Center Wavelength at 25 °C	808	nm
Center Wavelength Variation at 25 °C	3	nm
Typical Spectral Bandwidth (FWHM)	3	nm
Maximum Spectral Bandwidth (FWHM)	4	nm
Typical Operation Current	6.5	A
Maximum Operation Current	9	A
Typical Threshold Current	1.4	A
Maximum Threshold Current	2	A
Typical Slope	0.9	W/A
Minimum Slope	0.5	W/A
Maximum Operating Voltage	2	V
Anode, Cathode Connectors	Via pins (case isolated)	
Operation Conditions	Non-condensing atmosphere	
Storage Temperature	- 20 ... + 70 °C	
Expected Lifetime	> 10,000 h (constant current)	

Cooling:	
Mounting	Via thermally conductive foil (thickness 25 ... 100 µm) on cooled surface
Note	Do not mount via any paste-like media!
Operation Temperature	15 ... 30 °C, measured on integrated temperature sensor
Temperature Sensor, Energy Constant	NTC 10k, 3988 K
TEC Maximum Current, Voltage	6 A, 10 V

Beam Parameters:	
Beam Quality $M_x^2 \times M_y^2 @ 1/e^2$	17 x 17
Collimated Beam Size $S_x \times S_y$ (@ Exit Window)	1.1 x 1.1 mm ²
Collimated Beam Divergence $Div_x \times Div_y$ (Half Angle)	8 x 8 mrad ²
Focused Beam Spot Size $F_{x,y}$	$F_{x,y} = 2 \times Div_{x,y} \times f_{Lens}^1$
Focused Beam Divergence $Div_{x,y}$	$Div_{x,y} = S_{x,y} / 2f_{Lens}^1$
Max. Deviation of Optical and Mechanical Axes	2 °
	¹ f_{Lens} in mm

Options on request: Monitor photodiode

Accessories: Suited bench top LD / TEC driver; suited OEM LD / TEC driver; suited air cooler; PCB board (not attached to the LD in the standard version; if wanted, customer has not to solder directly to the pins, see the manual)



JENOPTIK | Lasers & Material Processing

JENOPTIK Laser GmbH

Goeschwitzer Strasse 29 | 07745 Jena | Germany

Phone: +49 3641 65-3053 | Fax: +49 3641 65-4011

E-mail: sales-laser.lm@jenoptik.com | www.jenoptik.com/diodelasers