



JENOPTIK

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
- Wavelength: 808 nm
- Low divergence 8 mrad, $M_x^2 \sim M_y^2 < 20$
- Homogeneous, symmetric beam profile
- Polarized beam (50:1)
- Compact, hermetically sealed package

Applications

- Illumination
- Instrumentation
- Pumping of solid-state lasers

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JOLD-4.2-BAXH-1E

Specifications (start of life)	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	

See general user information!

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)

