



MORE LIGHT

JDL-BAB-50-23-1060-TE-120-2.0

High-power diode laser bars: 1060 nm, 120 W cw

Features

- High laser power
- High efficiency
- Long lifetime, high reliability
- Excellent beam characteristics

Applications

- Pumping of solid-state lasers and fiber lasers
- Industrial, scientific and medical systems
- Printing industry
- Defense and security

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Preliminary specifications

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Operation*	Symbol	Min	Nom	Max	Unit
Wavelength (cw)	λ	1057	1060	1063	nm
Optical Output Power	P_{opt}		120		W
Operation Mode			cw, switched		
Power Modulation			100		%
Geometrical					
Number of Emitters			23		
Emitter Width	W	195	200	205	μm
Emitter Pitch	P		400		μm
Filling Factor	F		50		%
Bar Width	B	9600	9800	10000	μm
Cavity Length	L	980	1000	1020	μm
Thickness	D	115	120	125	μm
Electro Optical Data*					
Fast Axis Divergence (FWHM)	θ_{\perp}		27	30	$^{\circ}$
Fast Axis Divergence**	θ_{\perp}		55	58	$^{\circ}$
Slow Axis Divergence at 120 W (FWHM)	θ_{\parallel}		5	7	$^{\circ}$
Slow Axis Divergence at 120 W**	θ_{\parallel}		7	9	$^{\circ}$
Pulse Wavelength	λ	1043	1046	1049	nm
Spectral Bandwidth (FWHM)	$\Delta\lambda$		5	6	nm
Slope Efficiency***	η	0.92	0.94		W/A
Threshold Current	I_{th}		12	14	A
Operating Current	I_{op}		140	144	A
Operating Voltage	V_{op}		1.47	1.48	V
Series Resistance	R_s		1.7	1.8	m Ω
Degree of TE Polarization	α	95			%
EO Conversion Efficiency***	η_{tot}	56	59		%

* Mounted on a heat sink with $R_{th} = 0.5 \text{ K/W}$, coolant temperature $25 \text{ }^{\circ}\text{C}$, operating at nominal power

** Full width at 95 % power content

*** Item may change upon notice and acceptance by Jenoptik, due to future improvements of technology or processing

Note: Nominal data represents typical values.

Safety Advice: Laser bars are the active components in high-power diode lasers in accordance to IEC standard class 4 laser products. As delivered, laser bars cannot emit any laser beam. The laser beam can only be released if the bars are connected to a source of electrical energy. In this case, IEC-Standard 60825-1 describes the safety regulations to be taken to avoid personal injury.