JENOPTIK

High-power diode laser bars: 976 nm, 80 W cw

JDL-BAB-20-19-976-TE-80-2.0

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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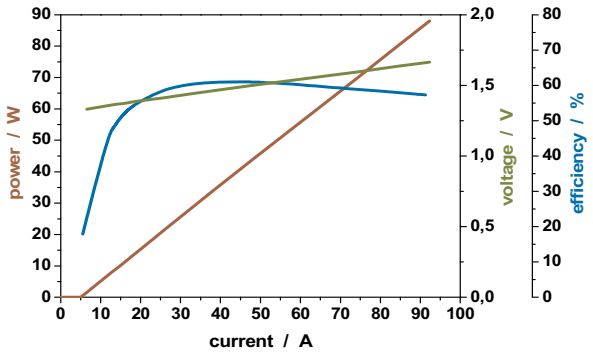
Specifications	JDL-BAB-20-19-976-TE-80-2.0				
Operation*	**Symbol**	**Min**	**Nom**	**Max**	**Unit**
Wavelength (cw)	λ	973	**976**	979	nm
Optical Output Power	P_{opt}		**80**		W
Operation Mode			**cw, switched**		
Power Modulation			**100**		%
Geometrical					
Number of Emitters			**19**		
Emitter Width	W	90	**100**	110	µm
Emitter Pitch	P		**500**		µm
Filling Factor	F		**20**		%
Bar Width	B	9600	**9800**	10000	µm
Cavity Length	L	1980	**2000**	2020	µm
Thickness	D	115	**120**	125	µm
Electro Optical Data*					
Fast Axis Divergence (FWHM)	$\theta_{\perp}$		**27**	30	°
Fast Axis Divergence**	$\theta_{\perp}$		**47**	51	°
Slow Axis Divergence at 60 W (FWHM)	$\theta_{\parallel}$		**5**	7	°
Slow Axis Divergence at 60 W**	$\theta_{\parallel}$		**7**	9	°
Pulse Wavelength	λ	965	**968**	971	nm
Spectral Bandwidth (FWHM)	$\Delta\lambda$		**3**	4	nm
Slope Efficiency***	η	0.95	**1.0**		W/A
Threshold Current	I_{th}		**5**	7	A
Operating Current	I_{op}		**85**	92	A
Operating Voltage	V_{op}		**1.7**	1.9	V
Series Resistance	R_s		**4**	6	mΩ
Degree of TE Polarization	α	98			%
EO Conversion Efficiency***	η_{tot}	54	**60**		%

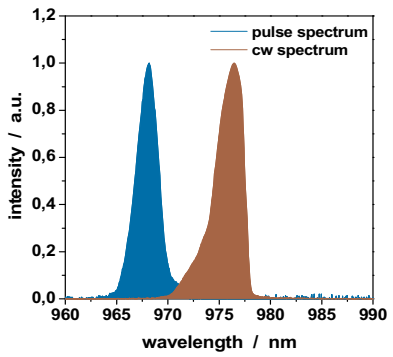
* Mounted on a heat sink with Rth = 0.7 K/W, coolant temperature 25 °C, operating at nominal power
** Full width at 95 % power content
*** Item may change upon notice and acceptance by JENOPTIK Diode Lab GmbH, due to future improvements of technology or processing

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.

Power - Current - Voltage - Characteristics*



Spectral Characteristics*



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