JDL-BAB-50-47-976-TE-80-1.5

High-power diode laser bars:
976 nm, 80 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

High-power diode laser bars | 976 nm, 80 W cw
JDL-BAB-50-47-976-TE-80-1.5

Specifications		JDL-BAB-50-47-976-TE-80-1.5				
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				**47**		
Emitter Width	W	95		**100**	105	µm
Emitter Pitch	P			**200**		µm
Filling Factor	F			**50**		%
Bar Width	B	9600		**9800**	10000	µm
Cavity Length	L	1480		**1500**	1520	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 80 W (FWHM)	$\theta_\parallel$			**5**	7	°
Slow Axis Divergence at 80 W**	$\theta_\parallel$			**7**	9	°
Pulse Wavelength	λ	967		**970**	973	nm
Spectral Bandwidth (FWHM)	Δλ			**3**	4	nm
Slope Efficiency***	η	1.0		**1.05**		W/A
Threshold Current	I_{th}			**13**	16	A
Operating Current	I_{op}			**89**	98	A
Operating Voltage	V_{op}			**1.6**	1.9	V
Series Resistance	R_s			**2**	4	mΩ
Degree of TE Polarization	α	98				%
EO Conversion Efficiency***	η_{tot}	54		**60**		%

* Mounted on a heat sink with Rth = 0.5 K/W, coolant temperature 25 °C, operating at nominal power
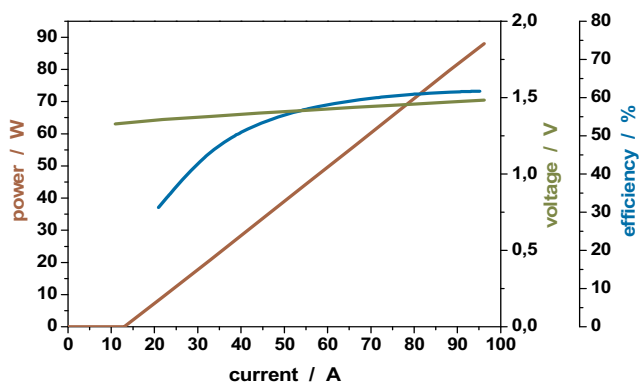
** Full width at 95 % power content

*** Item may change upon notice and acceptance by Jenoptik, due to future improvements of technology or processing
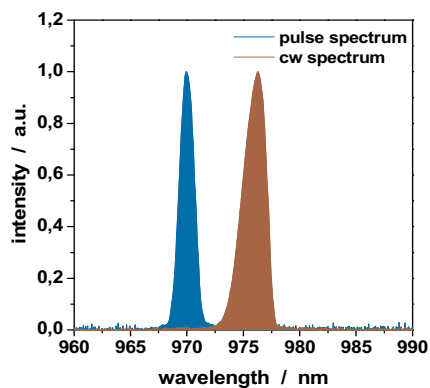
Note: Nominal data represents typical values.

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*