JENOPTIK

High-power diode laser bars: 940 nm, 120 W cw

JDL-BAB-50-47-940-TE-120-2.0

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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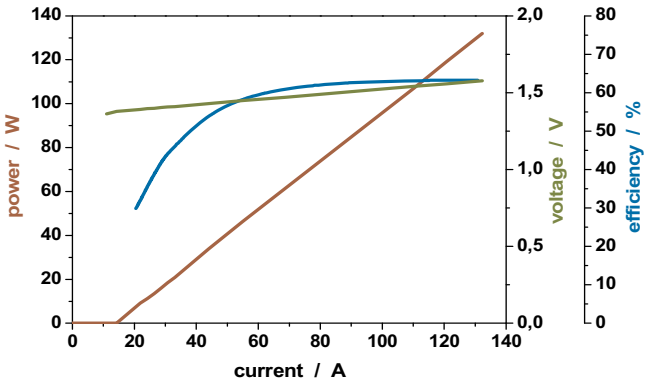
Specifications	JDL-BAB-50-47-940-TE-120-2.0				
Operation*	**Symbol**	**Min**	**Nom**	**Max**	**Unit**
Wavelength (cw)	λ	935	**938**	941	nm
Optical Output Power	P_{opt}		**120**		W
Operation Mode			**cw, switched**		
Power Modulation			**100**		%
Geometrical					
Number of Emitters			**47**		
Emitter 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	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 120 W (FWHM)	$\theta_{\parallel}$		**5**	7	°
Slow Axis Divergence at 120 W**	$\theta_{\parallel}$		**7**	9	°
Pulse Wavelength	λ	929	**932**	935	nm
Spectral Bandwidth (FWHM)	$\Delta\lambda$		**3**	4	nm
Slope Efficiency***	η	1.0	**1.1**		W/A
Threshold Current	I_{th}		**14**	17	A
Operating Current	I_{op}		**123**	136	A
Operating Voltage	V_{op}		**1.7**	1.9	V
Series Resistance	R_s		**2**	4	mΩ
Degree of TE Polarization	α	98			%
EO Conversion Efficiency***	η_{tot}	57	**62**		%

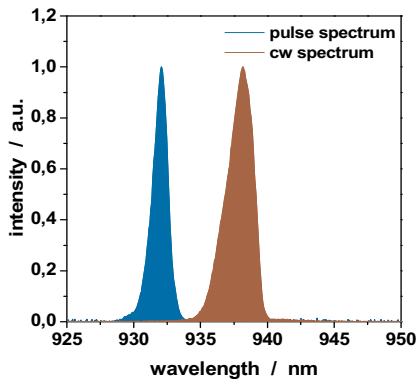
* Mounted on a heat sink with Rth = 0.5 K/W, coolant temperature 25 °C, operating at nominal power
** Full width at 95 % power content
*** Item may change upon notice and acceptance by JENOPTIK Diode Lab GmbH, due to future improvements of technology or processing

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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