

MORE LIGHT

JDL-BAB-50-47-940-TE-160-3.5

## High-power diode laser bars: 940 nm, 160 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 | 940 nm, 160 W cw JDL-BAB-50-47-940-TE-160-3.5

## Specifications

## JDL-BAB-50-47-940-TE-160-3.5

Operation*	Symbol	Min	Nom	Max	Unit
Wavelength (cw)	$\lambda$	937	940	943	nm
Optical Output Power	$P_{opt}$		160		W
Operation Mode			cw, switched		
Power Modulation			100		%
<b>Geometrical</b>					
Number of Emitters			47		
Emitter Width	W	95	100	105	$\mu\text{m}$
Emitter Pitch	P		200		$\mu\text{m}$
Filling Factor	F		50		%
Bar Width	B	9600	9800	10000	$\mu\text{m}$
Cavity Length	L	3480	3500	3520	$\mu\text{m}$
Thickness	D	115	120	125	$\mu\text{m}$
<b>Electro Optical Data*</b>					
Fast Axis Divergence (FWHM)	$\theta_{\perp}$		27	30	$^{\circ}$
Fast Axis Divergence**	$\theta_{\perp}$		47	50	$^{\circ}$
Slow Axis Divergence at 160 W (FWHM)	$\theta_{\parallel}$		5	7	$^{\circ}$
Slow Axis Divergence at 160 W**	$\theta_{\parallel}$		8	9	$^{\circ}$
Pulse Wavelength	$\lambda$	927	930	933	nm
Spectral Bandwidth (FWHM)	$\Delta\lambda$		3	4	nm
Slope Efficiency***	$\eta$	1.0	1.1		W/A
Threshold Current	$I_{th}$		24	28	A
Operating Current	$I_{op}$		170	180	A
Operating Voltage	$V_{op}$		1.7	1.9	V
Series Resistance	$R_s$		1.3	2.3	m $\Omega$
Degree of TE Polarization	$\alpha$	98			%
EO Conversion Efficiency***	$\eta_{tot}$	50	56		%

\* Mounted on a heat sink with  $R_{th} = 0.25$  K/W, coolant temperature 25 °C, operating at nominal power

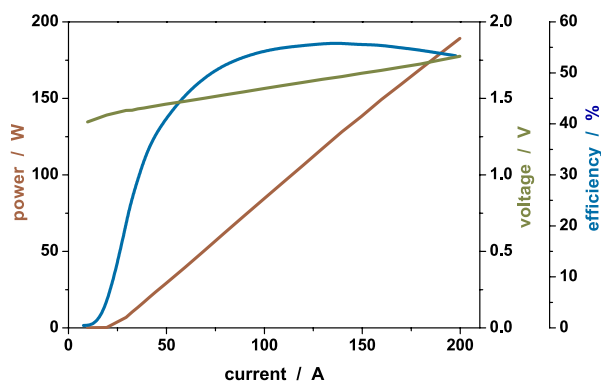
\*\* Full width at 95 % power content

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

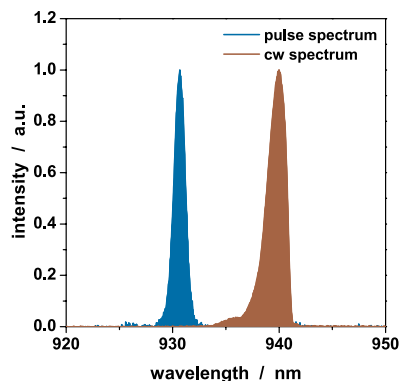
Note: Nominal data represents typical values.

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\*



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