



MORE LIGHT

JDL-BAB-30-19-940-TE-80-2.0

## High-power diode laser bars: 940 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 | 940 nm, 80 W cw

## JDL-BAB-30-19-940-TE-80-2.0

### Specifications

### JDL-BAB-30-19-940-TE-80-2.0

Operation*	Symbol	Min	Nom	Max	Unit
Wavelength (cw)	$\lambda$	935	<b>938</b>	941	nm
Optical Output Power	$P_{opt}$		<b>80</b>		W
Operation Mode			<b>cw, switched</b>		
Power Modulation			<b>100</b>		%
<b>Geometrical</b>					
Number of Emitters			<b>19</b>		
Emitter Width	W	145	<b>150</b>	155	$\mu\text{m}$
Emitter Pitch	P		<b>500</b>		$\mu\text{m}$
Filling Factor	F		<b>30</b>		%
Bar Width	B	9600	<b>9800</b>	10000	$\mu\text{m}$
Cavity Length	L	1980	<b>2000</b>	2020	$\mu\text{m}$
Thickness	D	115	<b>120</b>	125	$\mu\text{m}$
<b>Electro Optical Data*</b>					
Fast Axis Divergence (FWHM)	$\theta_{\perp}$		<b>27</b>	30	$^{\circ}$
Fast Axis Divergence**	$\theta_{\perp}$		<b>47</b>	51	$^{\circ}$
Slow Axis Divergence at 80 W (FWHM)	$\theta_{\parallel}$		<b>5</b>	7	$^{\circ}$
Slow Axis Divergence at 80 W**	$\theta_{\parallel}$		<b>7</b>	9	$^{\circ}$
Pulse Wavelength	$\lambda$	927	<b>930</b>	933	nm
Spectral Bandwidth (FWHM)	$\Delta\lambda$		<b>3</b>	4	nm
Slope Efficiency***	$\eta$	1.0	<b>1.1</b>		W/A
Threshold Current	$I_{th}$		<b>9</b>	11	A
Operating Current	$I_{op}$		<b>82</b>	91	A
Operating Voltage	$V_{op}$		<b>1.7</b>	1.9	V
Series Resistance	$R_s$		<b>2</b>	4	m $\Omega$
Degree of TE Polarization	$\alpha$	98			%
EO Conversion Efficiency***	$\eta_{tot}$	56	<b>61</b>		%

\* Mounted on a heat sink with  $R_{th} = 0.7 \text{ K/W}$ , 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.