

## High-power diode laser bars: 808 nm, 40 W cw JDL-BAB-50-47-808-TE-40-1.0

### 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

# High-power diode laser bars | 808 nm, 40 W cw

## JDL-BAB-50-47-808-TE-40-1.0

### Specifications

JDL-BAB-50-47-808-TE-40-1.0

Operation*	Symbol	Min	Nom	Max	Unit
Wavelength (cw)	$\lambda$	803	806	809	nm
Optical Output Power	$P_{opt}$		40		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	980	1000	1020	$\mu\text{m}$
Thickness	D	115	120	125	$\mu\text{m}$
<b>Electro Optical Data*</b>					
Fast Axis Divergence (FWHM)	$\theta_{\perp}$		36	39	$^{\circ}$
Fast Axis Divergence**	$\theta_{\perp}$		65	68	$^{\circ}$
Slow Axis Divergence at 40 W (FWHM)	$\theta_{\parallel}$		6	8	$^{\circ}$
Slow Axis Divergence at 40 W**	$\theta_{\parallel}$		7	9	$^{\circ}$
Pulse Wavelength	$\lambda$	799	802	805	nm
Spectral Bandwidth (FWHM)	$\Delta\lambda$		2	3	nm
Slope Efficiency***	$\eta$	1.1	1.2		W/A
Threshold Current	$I_{th}$		12	15	A
Operating Current	$I_{op}$		45	50	A
Operating Voltage	$V_{op}$		1.7	2.0	V
Series Resistance	$R_s$		3	5	m $\Omega$
Degree of TE Polarization	$\alpha$	98			%
EO Conversion Efficiency***	$\eta_{tot}$	52	55		%

\* Mounted on a heat sink with  $R_{th} = 0.5$  K/W, coolant temperature 25 °C, operating at nominal power

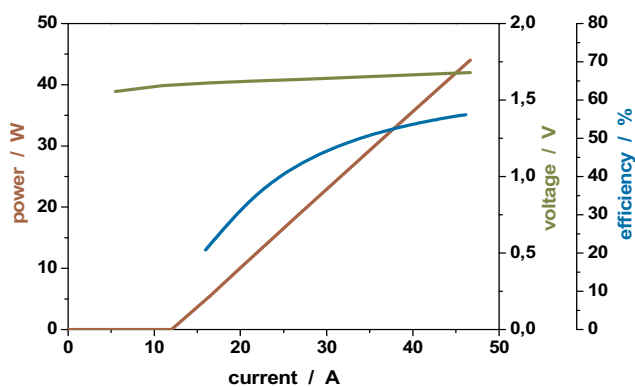
\*\* Full width at 95 % power content

\*\*\* Item may change upon notice and acceptance by JENOPTIK Diode Lab GmbH, due to future improvements of technology or processing

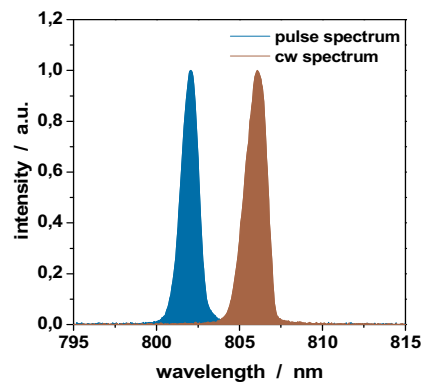
Note: Nominal data represents typical values.

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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