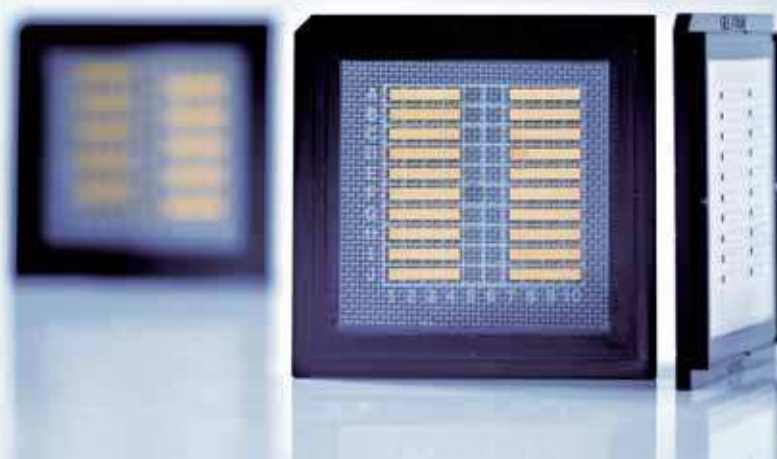




## High Power Diode Laser Bars

808 nm, 50 W cw



**JDL-BAB-30-19-808-TE-50-1.5**

### 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
- Applications in the printing industry
- Defense and security

# High Power Diode Laser Bars

808 nm, 50 W cw

## Specifications

Product

JDL-BAB-30-19-808-TE-50-1.5

|                                     | Symbol               | Min  | Nom                 | Max   | Unit          |
|-------------------------------------|----------------------|------|---------------------|-------|---------------|
| <b>Operation*</b>                   |                      |      |                     |       |               |
| Wavelength (cw)                     | $\lambda$            | 803  | <b>806</b>          | 809   | nm            |
| Optical Output Power                | $P_{opt}$            |      | <b>50</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                    | 1480 | <b>1500</b>         | 1520  | $\mu\text{m}$ |
| Thickness                           | D                    | 115  | <b>120</b>          | 125   | $\mu\text{m}$ |
| <b>Electro Optical Data*</b>        |                      |      |                     |       |               |
| Fast Axis Divergence (FWHM)         | $\theta_{\perp}$     |      | <b>36</b>           | 39    | $^{\circ}$    |
| Fast Axis Divergence**              | $\theta_{\perp}$     |      | <b>65</b>           | 68    | $^{\circ}$    |
| Slow Axis Divergence at 50 W (FWHM) | $\theta_{\parallel}$ |      | <b>6</b>            | 8     | $^{\circ}$    |
| Slow Axis Divergence at 50 W**      | $\theta_{\parallel}$ |      | <b>7</b>            | 9     | $^{\circ}$    |
| Pulse Wavelength                    | $\lambda$            | 799  | <b>802</b>          | 805   | nm            |
| Spectral Bandwidth (FWHM)           | $\Delta\lambda$      |      | <b>2</b>            | 3     | nm            |
| Slope Efficiency***                 | $\eta$               | 1.15 | <b>1.25</b>         |       | W/A           |
| Threshold Current                   | $I_{th}$             |      | <b>7.5</b>          | 10    | A             |
| Operating Current                   | $I_{op}$             |      | <b>48</b>           | 53    | A             |
| Operating Voltage                   | $V_{op}$             |      | <b>1.8</b>          | 2.0   | V             |
| Series Resistance                   | $R_s$                |      | <b>3</b>            | 5     | 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

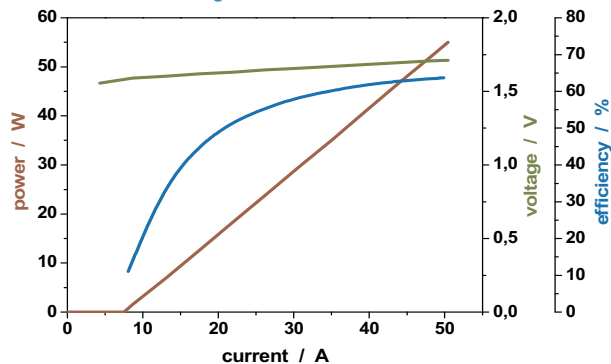
\*\* Full width at 95 % power content

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

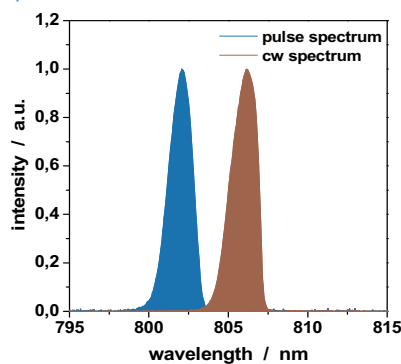
Note: Nominal data represents typical values.

Safety Advises: 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 Characteristic\*



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