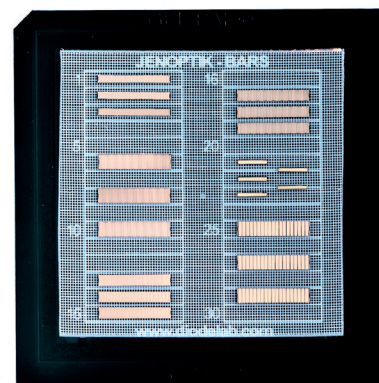
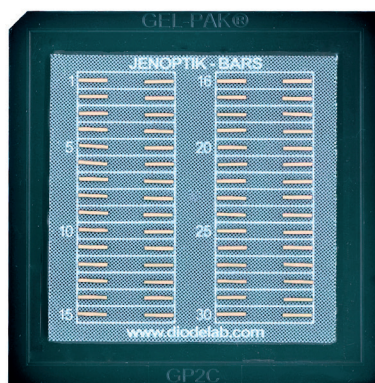
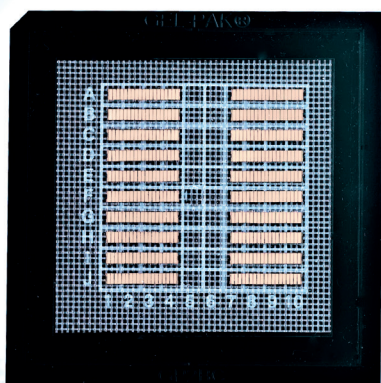




JENOPTIK

## High-power diode laser bars: 940 nm, 80 W cw JDL-BAB-30-19-940-TE-80-2.0

### 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



## 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                         | 938          | 941   | nm            |
| Optical Output Power                | $P_{opt}$            |                             | 80           |       | W             |
| Operation Mode                      |                      |                             | cw, switched |       |               |
| Power Modulation                    |                      |                             | 100          |       | %             |
| Geometrical                         |                      |                             |              |       |               |
| Number of Emitters                  |                      |                             | 19           |       |               |
| Emitter Width                       | W                    | 145                         | 150          | 155   | $\mu\text{m}$ |
| Emitter Pitch                       | P                    |                             | 500          |       | $\mu\text{m}$ |
| Filling Factor                      | F                    |                             | 30           |       | %             |
| Bar Width                           | B                    | 9600                        | 9800         | 10000 | $\mu\text{m}$ |
| Cavity Length                       | L                    | 1980                        | 2000         | 2020  | $\mu\text{m}$ |
| Thickness                           | D                    | 115                         | 120          | 125   | $\mu\text{m}$ |
| Electro Optical Data*               |                      |                             |              |       |               |
| Fast Axis Divergence (FWHM)         | $\theta_{\perp}$     |                             | 27           | 30    | °             |
| Fast Axis Divergence**              | $\theta_{\perp}$     |                             | 47           | 51    | °             |
| Slow Axis Divergence at 80 W (FWHM) | $\theta_{\parallel}$ |                             | 5            | 7     | °             |
| Slow Axis Divergence at 80 W**      | $\theta_{\parallel}$ |                             | 7            | 9     | °             |
| 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                   | $I_{th}$             |                             | 9            | 11    | A             |
| Operating Current                   | $I_{op}$             |                             | 82           | 91    | A             |
| Operating Voltage                   | $V_{op}$             |                             | 1.7          | 1.9   | V             |
| Series Resistance                   | $R_s$                |                             | 2            | 4     | m $\Omega$    |
| Degree of TE Polarization           | $\alpha$             | 98                          |              |       | %             |
| EO Conversion Efficiency***         | $\eta_{tot}$         | 56                          | 61           |       | %             |

\* Mounted on a heat sink with  $R_{th} = 0.7 \text{ K/W}$ , coolant temperature  $25^\circ\text{C}$ , 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 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.

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