

## High-power diode laser bars:

1060 nm, 200 W cw

JDL-BAB-50-23-1060-TE-200-4.0

### 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 | 1060 nm, 200 W cw

## JDL-BAB-50-23-1060-TE-200-4.0

### Preliminary specifications

JDL-BAB-50-23-1060-TE-200-4.0

| Operation*                           | Symbol               | Min  | Nom          | Max   | Unit          |
|--------------------------------------|----------------------|------|--------------|-------|---------------|
| Wavelength (cw)                      | $\lambda$            | 1057 | 1060         | 1063  | nm            |
| Optical Output Power                 | $P_{opt}$            |      | 200          |       | W             |
| Operation Mode                       |                      |      | cw, switched |       |               |
| Power Modulation                     |                      |      | 100          |       | %             |
| <b>Geometrical</b>                   |                      |      |              |       |               |
| Number of Emitters                   |                      |      | 23           |       |               |
| Emitter Width                        | W                    | 195  | 200          | 205   | $\mu\text{m}$ |
| Emitter Pitch                        | P                    |      | 400          |       | $\mu\text{m}$ |
| Filling Factor                       | F                    |      | 50           |       | %             |
| Bar Width                            | B                    | 9600 | 9800         | 10000 | $\mu\text{m}$ |
| Cavity Length                        | L                    | 3980 | 4000         | 4020  | $\mu\text{m}$ |
| 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**               | $\theta_{\perp}$     |      | 55           | 58    | $^{\circ}$    |
| Slow Axis Divergence at 200 W (FWHM) | $\theta_{\parallel}$ |      | 6            | 8     | $^{\circ}$    |
| Slow Axis Divergence at 200 W**      | $\theta_{\parallel}$ |      | 7            | 9     | $^{\circ}$    |
| Pulse Wavelength                     | $\lambda$            | 1045 | 1048         | 1051  | nm            |
| Spectral Bandwidth (FWHM)            | $\Delta\lambda$      |      | 4            | 5     | nm            |
| Slope Efficiency***                  | $\eta$               | 0.90 | 0.95         |       | W/A           |
| Threshold Current                    | $I_{th}$             |      | 19           | 22    | A             |
| Operating Current                    | $I_{op}$             |      | 230          | 244   | A             |
| Operating Voltage                    | $V_{op}$             |      | 1.45         | 1.50  | V             |
| Series Resistance                    | $R_s$                |      | 0.9          | 1.1   | m $\Omega$    |
| Degree of TE Polarization            | $\alpha$             | 95   |              |       | %             |
| EO Conversion Efficiency***          | $\eta_{tot}$         | 55   | 60           |       | %             |

\* Mounted on a heat sink with  $R_{th} = 0.2$  K/W, coolant temperature 25 °C, operating at nominal power

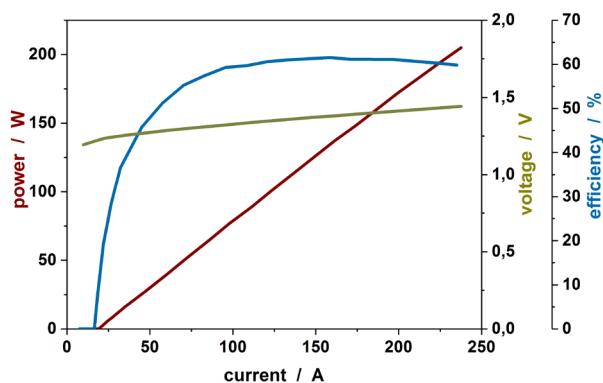
\*\* Full width at 95 % power content

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

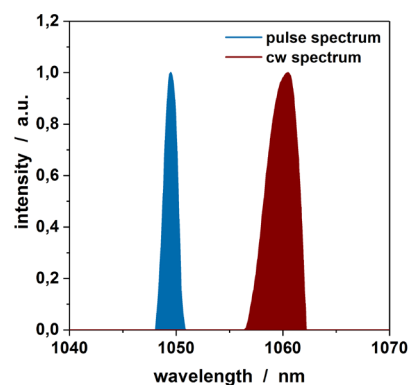
Note: Nominal data represents typical values.

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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