

MORE LIGHT

JDL-BAB-20-19-940-TE-60-1.5

High-power diode laser bars: 940 nm, 60 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, 60 W cw JDL-BAB-20-19-940-TE-60-1.5

Specifications

JDL-BAB-20-19-940-TE-60-1.5

| Operation* | Symbol | Min | Nom | Max | Unit |
|-------------------------------------|----------------------|------|--------------|-------|---------------|
| Wavelength (cw) | λ | 935 | 938 | 941 | nm |
| Optical Output Power | P_{opt} | | 60 | | W |
| Operation Mode | | | cw, switched | | |
| Power Modulation | | | 100 | | % |
| Geometrical | | | | | |
| Number of Emitters | | | 19 | | |
| Emitter Width | W | 90 | 100 | 110 | μm |
| Emitter Pitch | P | | 500 | | μm |
| Filling Factor | F | | 20 | | % |
| Bar Width | B | 9600 | 9800 | 10000 | μm |
| Cavity Length | L | 1480 | 1500 | 1520 | μm |
| Thickness | D | 115 | 120 | 125 | μm |
| Electro Optical Data* | | | | | |
| Fast Axis Divergence (FWHM) | θ_{\perp} | | 27 | 30 | $^{\circ}$ |
| Fast Axis Divergence** | θ_{\perp} | | 47 | 51 | $^{\circ}$ |
| Slow Axis Divergence at 60 W (FWHM) | θ_{\parallel} | | 5 | 7 | $^{\circ}$ |
| Slow Axis Divergence at 60 W** | θ_{\parallel} | | 7 | 9 | $^{\circ}$ |
| Pulse Wavelength | λ | 929 | 932 | 935 | nm |
| Spectral Bandwidth (FWHM) | $\Delta\lambda$ | | 3 | 4 | nm |
| Slope Efficiency*** | η | 1.0 | 1.1 | | W/A |
| Threshold Current | I_{th} | | 5 | 7 | A |
| Operating Current | I_{op} | | 60 | 67 | A |
| Operating Voltage | V_{op} | | 1.7 | 1.9 | V |
| Series Resistance | R_s | | 5 | 9 | m Ω |
| Degree of TE Polarization | α | 98 | | | % |
| EO Conversion Efficiency*** | η_{tot} | 55 | 62 | | % |

* 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

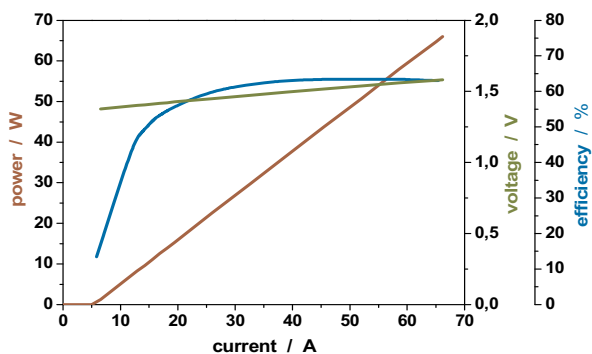
Note:

Nominal data represents typical values.

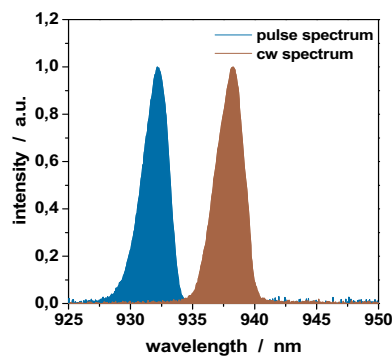
Safety Advice:

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.

Power - Current - Voltage - Characteristics*



Spectral Characteristics*



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