

MORE LIGHT

JDL-BAB-75-37-880-TE-500-1.5

High-power diode laser bars: 880 nm, 500 W qcw

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 | 880 nm, 500 W qcw JDL-BAB-75-37-880-TE-500-1.5

Specifications

JDL-BAB-75-37-880-TE-500-1.5

| Operation* | Symbol | Min | Nom | Max | Unit |
|--------------------------------------|----------------------|------|--------|-------|---------------|
| Wavelength (qcw) | λ | 877 | 880 | 883 | nm |
| Optical Output Power | P_{opt} | | 500 | | W |
| Operation Mode | | | pulsed | | |
| Power Modulation | | | 100 | | % |
| Geometrical | | | | | |
| Number of Emitters | | | 37 | | |
| Emitter Width | W | 180 | 190 | 200 | μm |
| Emitter Pitch | P | | 250 | | μm |
| Filling Factor | F | | 75 | | % |
| 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} | | 20 | 22 | $^{\circ}$ |
| Fast Axis Divergence** | θ_{\perp} | | 48 | 50 | $^{\circ}$ |
| Slow Axis Divergence at 500 W (FWHM) | θ_{\parallel} | | 9 | 13 | $^{\circ}$ |
| Slow Axis Divergence at 500 W** | θ_{\parallel} | | 11 | 15 | $^{\circ}$ |
| Pulse Wavelength | λ | 877 | 880 | 883 | nm |
| Spectral Bandwidth (FWHM) | $\Delta\lambda$ | | 3.5 | 4.5 | nm |
| Slope Efficiency*** | η | 1.15 | 1.2 | | W/A |
| Threshold Current | I_{th} | | 35 | 40 | A |
| Operating Current | I_{op} | | 450 | 475 | A |
| Operating Voltage | V_{op} | | 2 | 2.2 | V |
| Series Resistance | R_s | | 1.2 | 1.5 | m Ω |
| Degree of TE Polarization | α | 98 | | | % |
| EO Conversion Efficiency*** | η_{tot} | 50 | 55 | | % |

* Mounted on a heat sink with $R_{th} = 0.7$ K/W, coolant temperature 25 °C, operating at nominal power, 300 μsec pulse length and 3 % duty cycle

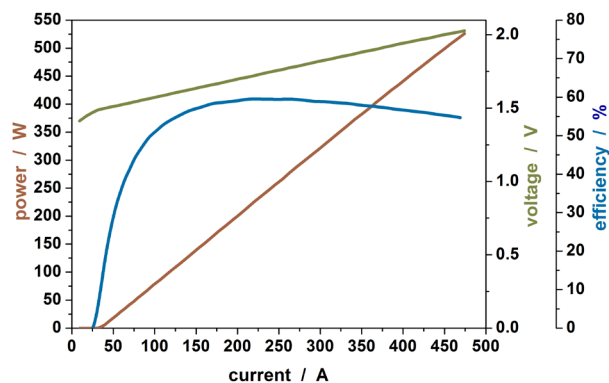
** Full width at 95 % power content

*** Item may change upon notice and acceptance by Jenoptik, due to future improvements of technology or processing

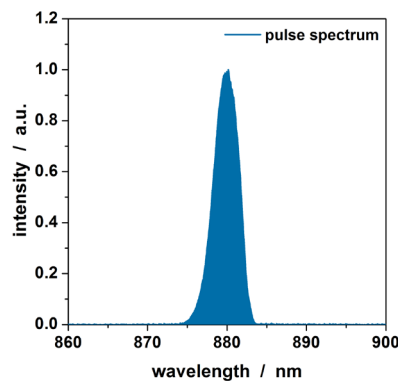
Note: Nominal data represents typical values.

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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