High-power diode laser bars:
808 nm, 300 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
### Specifications

**Operation**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Min</th>
<th>Nom</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>λ</td>
<td>805</td>
<td>808</td>
<td>811</td>
<td>nm</td>
</tr>
</tbody>
</table>

**Optical Output Power**

| P_{opt} | 300 | W |

**Operation Mode**

|          | pulsed |

**Power Modulation**

| Power Modulation | 100 | % |

**Geometrical**

**Number of Emitters**

| Number of Emitters | 62 |

**Emitter Width**

| W | 90 | 100 | 110 | µm |

**Emitter Pitch**

| P | 150 | 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_┴ | 36 | 39 | ° |

**Fast Axis Divergence**

| θ_┴ | 65 | 68 | ° |

**Slow Axis Divergence at 300 W (FWHM)**

| θ_∥ | 8 | 9 | ° |

**Slow Axis Divergence at 300 W**

| θ_∥ | 10 | 11 | ° |

**Pulse Wavelength**

| λ | 805 | 808 | 811 | nm |

**Spectral Bandwidth (FWHM)**

| Δλ | 3 | 5 | nm |

**Slope Efficiency***

| η | 1.15 | 1.25 | W/A |

**Threshold Current**

| I_{th} | 22 | 25 | A |

**Operating Current**

| I_{op} | 262 | 285 | A |

**Operating Voltage**

| V_{op} | 2.1 | 2.2 | V |

**Series Resistance**

| R_s | 3 | 4 | mΩ |

**Degree of TE Polarization**

| α | 98 | % |

**EO Conversion Efficiency***

| η_{tot} | 52 | % |

* Mounted on a heat sink with Rth = 0.7 K/W, coolant temperature 25 °C, operating at nominal power, 200 µsec pulse length and 4 % 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

### Power - Current - Voltage - Characteristics*

![Power - Current - Voltage - Characteristics](image1)

### Spectral Characteristics*

![Spectral Characteristics](image2)

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**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.