**DESCRIPTION**

This 785 nm laser features single-longitudinal-mode (SLM) and operates in multiple transversal modes. It is used mainly in industrial applications of Raman spectroscopy, where high-power single-frequency operation is needed without the necessity of sharp focusing. The transversal modes are distributed in one row, thus the fast axis can be focussed with $M^2 \approx 1.3$, while the slow axis has multiple modes and its focusability is poor - theoretically, it can be focussed to a width of $\approx 50 \mu m$.

This laser is a Volume Bragg Grating (VBG) stabilized diode laser, which is distinguished by high electrical efficiency and exceptional wavelength stability.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Minimum Value</th>
<th>Typical Value</th>
<th>Maximum Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Wavelength, nm</td>
<td>784.5</td>
<td>785</td>
<td>785.5</td>
</tr>
<tr>
<td>Longitudinal modes</td>
<td>-</td>
<td>Narrow</td>
<td>Spectral line width FWHM, pm</td>
</tr>
<tr>
<td>Output power, mW</td>
<td>-</td>
<td>500</td>
<td>-</td>
</tr>
<tr>
<td>Side-mode suppression ratio (MSR), db</td>
<td>40</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Power stability, % (RMS, 8 hrs)</td>
<td>-</td>
<td>0.2</td>
<td>1</td>
</tr>
<tr>
<td>Power stability, % (peak-to-peak, 8 hrs)</td>
<td>-</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Noise, % (RMS, 20 Hz to 20 MHz)</td>
<td>-</td>
<td>0.25</td>
<td>0.6</td>
</tr>
<tr>
<td>Transversal modes</td>
<td>-</td>
<td>Multiple</td>
<td>-</td>
</tr>
<tr>
<td>Beam Diameter at Aperture (1/e2), mm</td>
<td>-</td>
<td>0.5 x 2</td>
<td>-</td>
</tr>
<tr>
<td>Beam divergence (full angle), mrad</td>
<td>-</td>
<td>1.5 x 2</td>
<td>-</td>
</tr>
<tr>
<td>$M^2$ horizontal axis</td>
<td>-</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>$M^2$ vertical axis</td>
<td>-</td>
<td>1.2</td>
<td>-</td>
</tr>
<tr>
<td>$M^2$ effective</td>
<td>-</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Polarization direction</td>
<td>-</td>
<td>Vertical</td>
<td>-</td>
</tr>
<tr>
<td>Polarization contrast</td>
<td>1000</td>
<td>1500</td>
<td>2500</td>
</tr>
<tr>
<td>Control interface type</td>
<td>-</td>
<td>UART/USB</td>
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</tr>
<tr>
<td>Operation mode</td>
<td>-</td>
<td>APC (CW)</td>
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<tr>
<td>Modulation bandwidth, MHz</td>
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<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Input voltage, VDC</td>
<td>4.8</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>External power supply requirement</td>
<td>-</td>
<td>+5 V DC, 1.5 A</td>
<td>-</td>
</tr>
</tbody>
</table>

**TYPICAL SPECTRUM**

Typical spectrum of 0785 nm diode laser. Measured with 20 pm resolution.

**TYPICAL NEAR FIELD**

**TYPICAL FAR FIELD**
*Note: Product specifications are subject to change without prior notice to improve reliability, function or design or otherwise.*