**LD-12XX-CoC-7W**

High Power Broad-Area Laser Diode on submount

Features:
- InAs/GaAs Quantum Dot based diode laser
- 7W output power
- Available wavelength range 1130-1320nm
- Proprietary mirror coating technology enabling high reliability
- Reliable Au/Sn bonding of chip to composite submount
- RoHS compliance

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### SPECIFICATIONS

Test conditions: tightly clamped to 25°C heatsink

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Symb.</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating output power</td>
<td>Pout</td>
<td>7</td>
<td></td>
<td></td>
<td>W</td>
</tr>
<tr>
<td>QCW output power (200µs pulse width, 1% duty cycle)</td>
<td>Pqcw</td>
<td>17</td>
<td></td>
<td></td>
<td>W</td>
</tr>
<tr>
<td>Range of available wavelength</td>
<td>λ</td>
<td>1130</td>
<td>1320</td>
<td>nm</td>
<td></td>
</tr>
<tr>
<td>Mean wavelength tolerance</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>nm</td>
</tr>
<tr>
<td>Spectral width @ -3dB level at Pout</td>
<td>Δλ</td>
<td>8</td>
<td>14</td>
<td>nm</td>
<td></td>
</tr>
<tr>
<td>Wavelength temperature tunability</td>
<td>Δλ/ΔT</td>
<td>0.45</td>
<td>0.5</td>
<td>0.65</td>
<td>nm/°C</td>
</tr>
<tr>
<td>Threshold current</td>
<td>Ith</td>
<td>0.9</td>
<td>1.6</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Operating current at Pout</td>
<td>Iop</td>
<td>15</td>
<td>16</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Forward voltage at Pout</td>
<td>Vf</td>
<td>1.4</td>
<td>1.6</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Divergence parallel to p-n junction (FWHM)</td>
<td>Θǁ</td>
<td>6</td>
<td>12</td>
<td>14</td>
<td>deg.</td>
</tr>
<tr>
<td>Divergence perpendicular to p-n junction (FWHM)</td>
<td>Θ┴</td>
<td>26</td>
<td>38</td>
<td>42</td>
<td>deg.</td>
</tr>
<tr>
<td>Aperture size</td>
<td></td>
<td></td>
<td></td>
<td>250 × 1</td>
<td>µm × µm</td>
</tr>
</tbody>
</table>

* Iop(Max.) = 19A for λ>1280nm

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### TYPICAL PERFORMANCE for reference only*

Test conditions: soldered to heatsink, CW operation, heatsink temperature 25°C

**Light-Current-Voltage Characteristics**

**Spectral Characteristics**

* Performance is given for the 1064nm device. Similar performance is expected for the other wavelengths in the 1010-1130nm range.

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LD-12XX-CoC-7W 10 October 2018
### ABSOLUTE MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Min.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser Diode reverse voltage</td>
<td>-</td>
<td>2</td>
<td>V</td>
</tr>
<tr>
<td>Laser Diode CW forward current</td>
<td>-</td>
<td>Iop+4</td>
<td>A</td>
</tr>
<tr>
<td>Soldering temperature</td>
<td></td>
<td>250 (5sec.)</td>
<td>°C</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>above dew point</td>
<td>60</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td>-40</td>
<td>85</td>
<td>°C</td>
</tr>
</tbody>
</table>

### DIMENSIONS (in mm)

- Laser Diode reverse voltage
- Laser Diode CW forward current
- Soldering temperature
- Operating temperature range
- Storage temperature range

### SAFETY AND OPERATING INSTRUCTIONS

The laser light emitted from this Device is invisible and will harmful to the human eye. Avoid looking directly into the fiber output or into the collimated beam along its optical axis when the device is in operation. Proper laser safety eyewear must be worn during operation. Absolute Maximum Ratings may be applied to the Device for short period of time only. Exposure to maximum ratings for extended period of time or exposure above one or more max ratings may cause damage or affect the reliability of the Device. Operating the product outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the Device must be employed such that the maximum peak optical power cannot be exceeded. A proper heatsink for the Device on thermal radiator is required, sufficient heat dissipation and thermal conductance to the heatsink must be ensured by flux-free soldering. The Device is an Open-Heatsink Diode Laser; it may be operated in cleanroom atmosphere or dust-protected housing only. Operating temperature and relative humidity must be controlled to avoid water condensation on the laser facets. Any contamination or contact of the laser facet must be avoided.

**ESD PROTECTION –** Electrostatic discharge is the primary cause of unexpected product failure. Take extreme precaution to prevent ESD. Use wrist straps, grounded work surfaces and rigorous antistatic techniques when handling the product.

### Example of Part Number Identification

LD-12XX-CoC-7W -> 7W output power at mean wavelength 1240nm

**NOTE:** Innolume product specifications are subject to change without notice