
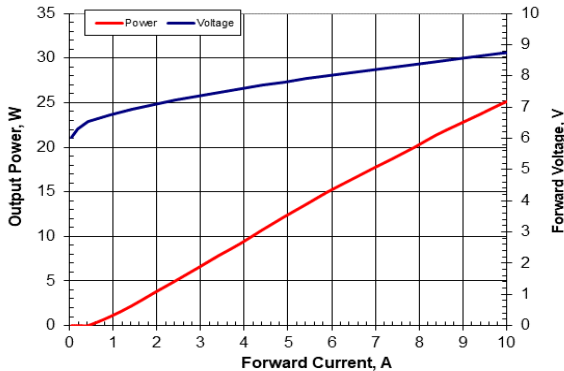
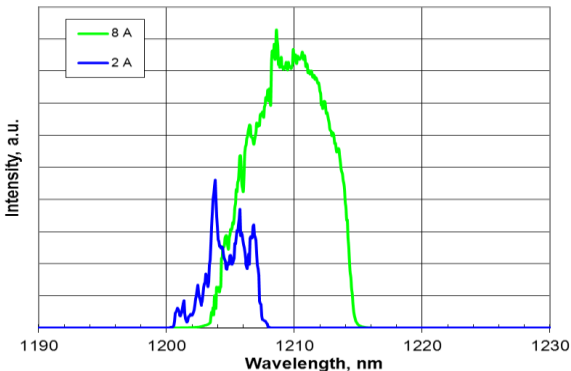


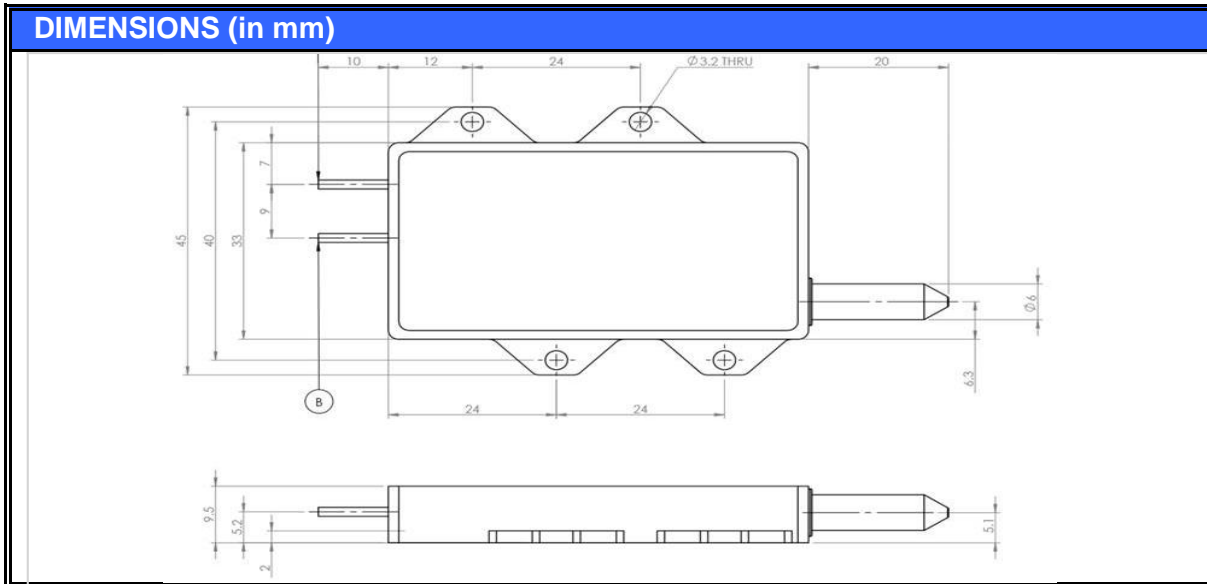
| BA-12XX-105-UM-20W-YY   |  |
|---|--|
| High Power Diode Laser on open heatsink   |  |
|  | <p><b>Features:</b></p> <ul style="list-style-type: none"> <li>CW, quasi-CW or pulse operation</li> <li>Available wavelength range 1130-1320nm</li> <li>Case isolated electrical contacts</li> <li>Bare cleaved end, 8° angled ferrule SNZ-3A or SMA905</li> <li>Small form factor</li> </ul> <p><b>Application:</b></p> <ul style="list-style-type: none"> <li>Medical, industrial</li> </ul> |

| SPECIFICATIONS                             |                          |              |      |              |       |
|--|--------------------------|--------------|------|--------------|-------|
| Test conditions: heatsink temperature 25°C |                          |              |      |              |       |
| Parameters                                 | Symb.                    | Min.         | Typ. | Max.         | Unit  |
| Output power ex-fiber                      | Pout                     | 20           |      |              | W     |
| Range of available wavelength              | $\lambda$                | 1130         |      | 1320         | nm    |
| Mean wavelength tolerance                  |                          | $\lambda-10$ |      | $\lambda+10$ | nm    |
| Spectral width @ -3dB level at Pout        | $\Delta\lambda$          |              | 10   | 14           | nm    |
| Wavelength temperature tunability          | $\Delta\lambda/\Delta T$ | 0.45         | 0.5  | 0.65         | nm/°C |
| Threshold current                          | I <sub>th</sub>          |              | 0.4  | 0.7          | A     |
| Operating current at Pout                  | I <sub>op</sub>          |              | 7.5  | 8.0*         | A     |
| Forward voltage at Pout                    | V <sub>f</sub>           |              | 8.5  | 10.0         | V     |
| Recommended operating heatsink temperature | T <sub>op</sub>          | 20           | 25   | 30           | °C    |

\* I<sub>op</sub>(Max.) = 10.5A for  $\lambda > 1280\text{nm}$

| TYPICAL PERFORMANCE for reference only*   |   |
|---|---|
| Test conditions: CW operation, heatsink temperature 25°C  |   |
| <p style="text-align: center;"><b>Light-Current-Voltage Characteristics</b></p>  | <p style="text-align: center;"><b>Spectral Characteristics</b></p>  |
| <p>* Performance is given for the 1210nm device. Similar performance is expected for the other wavelengths in the 1130-1320nm range.</p>                            |   |

| ABSOLUTE MAXIMUM RATINGS       |      |             |      |
|--------------------------------|------|-------------|------|
| Parameters                     | Min. | Max.        | Unit |
| Laser Diode reverse voltage    | -    | 1           | V    |
| Laser Diode CW forward current | -    | 11.0        | A    |
| Lead soldering temperature     |      | 200 (5sec.) | °C   |
| Operating temperature range    | 15   | 60          | °C   |
| Fiber bend radius              | 3    | -           | cm   |
| Storage temperature range      | 5    | 80          | °C   |



**FIBER SPECIFICATIONS**

| Parameters         | Value   | Unit |
|--------------------|---|------|
| Type               | step index  |      |
| Core diameter      | 105 ± 5   | µm   |
| Cladding diameter  | 125 ± 5   | µm   |
| Buffer diameter    | acrylate, 250 ± 5                                       | µm   |
| Numerical aperture | 0.22  |      |
| Length             | 1.0 ± 0.1   | m    |
| Connector          | bare cleaved end,<br>8° angled ferrule SNZ-3A or SMA905 |      |

**SAFETY AND OPERATING INSTRUCTIONS**

The laser light emitted from this device is invisible and will be 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 Laser Diode for short period of time only. Exposure to maximum ratings for extended period of time or exposure more than one maximum ratings may cause damage or affect the reliability of the device. Operating the laser diode outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the component must be employed such that the maximum forward current cannot be exceeded.

A proper heatsink for the laser diode module on thermal radiator is required. The module must be mounted on radiator with screw. The deviation from flatness of radiator surface must be less than 0.05mm. It's recommended using of In-foil or similar between bottom of the module and heatsink for thermal interface. It's undesirable to use thermal grease for this.

Do not pull the fiber. Do not bend a fiber with a radius smaller than 3 cm. Operate the laser module with clean fiber connector only. Periodically check and clean the connector if necessary. To clean the connector use a clean-room compatible tissue only, put some Isopropyl alcohol onto it and carefully clean the facet of the connector, or use special fiber cleaning tools. Perform cleaning only with the laser current switched off.

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**

BA-1210-105-UM-20W-SMA -> 20W output power at mean wavelength 1210nm in 105µm fiber with SMA905 connector

NOTE: Innolume product specifications are subject to change without notice