Innolume GmbH
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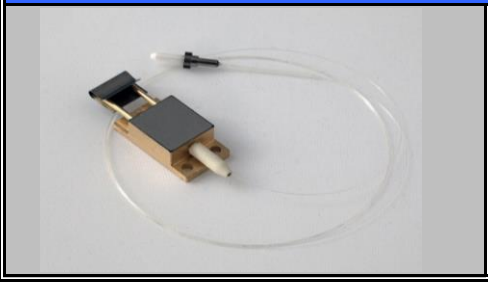
BA-10XX-400-UM-11W-YY

High Power Diode Laser on open heatsink



Features:
- CW, quasi-CW or pulse operation
- Available wavelength range 1010-1130nm
- Case isolated electrical contacts
- Bare cleaved end, 8° angled ferrule SNZ-3A or SMA905
- Small form factor

Application:
- Medical, industrial

SPECIFICATIONS

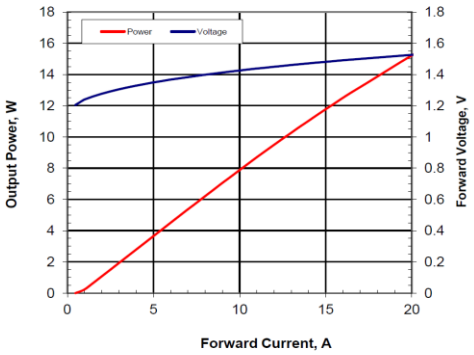
Test conditions: heatsink temperature 25°C

Parameters	Symb.	Min.	Typ.	Max.	Unit
Output power ex-fiber	Pout	11			W
Range of available wavelength	λ	1010		1130	nm
Mean wavelength tolerance		λ-10		λ+10	nm
Spectral width @ -3dB level at Pout	Δλ		4	8	nm
Wavelength temperature tunability	Δλ/ΔT	0.3	0.35	0.4	nm/°C
Threshold current	Ith		0.9	1.3	A
Operating current at Pout	Iop		14.5	16.5	A
Forward voltage at Pout	Vf		1.45	1.6	V
Recommended operating heatsink temperature	Top	20	25	30	°C

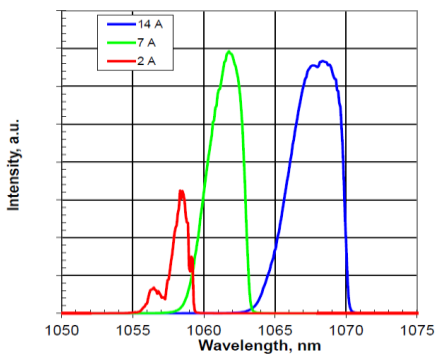
TYPICAL PERFORMANCE for reference only*

Test conditions: 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.

ABSOLUTE MAXIMUM RATINGS

Parameters	Min.	Max.	Unit
Laser Diode reverse voltage	-	1	V
Laser Diode CW forward current	-	18.0	A
Lead soldering temperature		200 (5sec.)	°C
Operating temperature range	15	60	°C
Fiber bend radius	3	-	cm
Storage temperature range	5	80	°C

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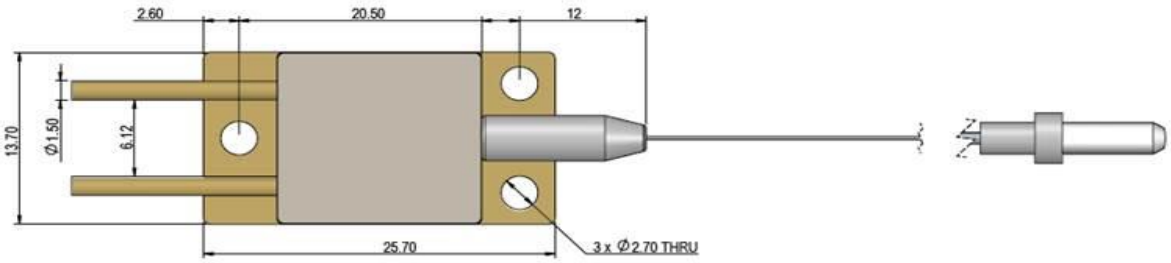
DIMENSIONS (in mm)



FIBER SPECIFICATIONS

Parameters	Value	Unit
Type	step index	
Core diameter	400 ± 5	µm
Cladding diameter	440 ± 5	µm
Buffer diameter	acrylate, 470 ± 5	µm
Numerical apperture	0.22	
Length	1.0 ± 0.1	m
Connector	bare cleaved end, 8° angled ferrule SNZ-3A or SMA905	

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 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-1064-400-UM-11W-SMA -> 11W output power at mean wavelength 1064nm in 400µm fiber with SMA905 connector

NOTE: Innolume product specifications are subject to change without notice