


LD-12XX-HHLF-2.5W High Power Diode Laser Module – 2.5W	
	<p>Features:</p> <ul style="list-style-type: none"> • InAs/GaAs Quantum Dot based diode laser • CW, quasi-CW or pulse operation • Proprietary mirror coating technology enabling high reliability <hr/> <ul style="list-style-type: none"> • High Heat Load Fibered package with built-in thermistor and TEC • Isolated electrical contacts • FC/PC optical connector or bare fiber end • Optional: SMA905 optical connector
Specification	DATE: 24 th Mar. 2010

SPECIFICATIONS				
Test conditions: chip temperature 25°C, output power 2.5W in CW operation				
Parameters	Min.	Typ.	Max.	Unit
Output power	2.5			W
Mean wavelength ¹	1130		1320	nm
Mean wavelength tolerance		5	10	nm
Wavelength temperature tunability	0.45	0.5	0.65	nm/°C
Spectral width (FWHM)		10	14	nm
Operating current		7	8	A
Threshold current		0.4	0.6	A
Forward voltage		1.7	2.0	V

¹ Weighted mean ("center of mass") spectral point.

ABSOLUTE MAXIMUM RATINGS				
Parameters	Min.	Typ.	Max.	Unit
TEC Current			3	A
TEC Voltage			15	V
Lead soldering temperature		250 (5 sec.)		°C
Anode reverse voltage			1	V
Forward current			10	A
Chip operating temperature range	5		45	°C
Case operating temperature range	15		60	°C
Sort/long term fiber bending radius	20/40			mm
Storage temperature range (in original sealed pack)	5		80	°C

THERMISTOR SPECIFICATION		
Parameters	Value	Unit
Thermistor type	BC103J1K	
Resistance @25°C	10 ± 1	kOhm
Beta 0-50°C	3890	K

R-T CURVE

Resistance, Ohm

Temperature, C

FIBER SPECIFICATION		
Parameters	Value	Unit
Type	step index, BF05859	
Core diameter	105 ± 5	µm
Cladding diameter	125 ± 5	µm
Buffer diameter	acrylate, 250 ± 5	µm
Jacket	-	
Numerical Aperture	0.22	
Length	1.5 ± 0.5	m
Connector	FC/PC or bare cleaved end	

DIMENSIONS

All sizes in mm

Pin identification:

1. TEC "-"
- 2.
3. LD cathode ("-")
4. LD cathode ("-")
5. Thermistor
6. Thermistor
7. LD anode ("+")
8. LD anode ("+")
9. -
10. TEC "+"

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 screws (bolt down in X-style fashion with initial torque set to 0.075Nm and final X-style bolt down at 0.15Nm) or clamps. 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.



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