

LMF-976A-C510-F200-C24-B Specification Manual

Product Description

This product is a fiber-coupled output semiconductor module. It is a semiconductor component used in welding equipment. It features a compact structure, small size, light weight, high efficiency, stable performance, and long service life. Suitable for industrial processing, it is an important part of the system.



Main Feature

- High environmental adaptability
- High efficiency conduction heat dissipation
- Long life
- Compact structure and light weight

Main Application

- Industry Processing
- Direct semiconductor
- Scientific research

Technical Parameter @25°C Water Cooling

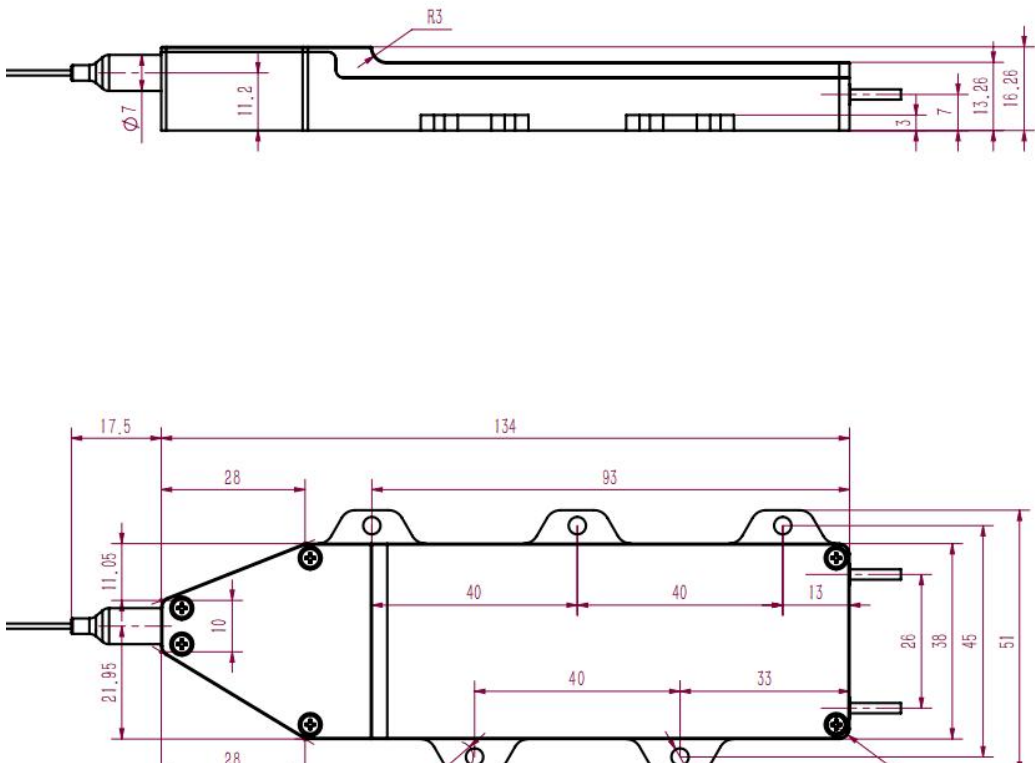
Optical Parameters	Units	Minimum	Typical	Maximum
Output Power 25°C	W	510		
Central Wavelength	nm	975.3	976	976.7
Spectra Width (FWHM)	nm			1
Lock wave range		Lock wave at 70% -100% power		
95% Power NA	NA		0.2	
Temperature Drift Coefficient	nm/°C		0.02	
Laser Safety Class		Class 4 (IEC 60825-1)		
Risk Description		Class 4 laser product per IEC 60825-1:2014. Direct, reflected, and diffuse radiation are hazardous to eyes		

and skin. Fire hazard exists. Customer need to use
with appropriate safety controls.
High power invisible laser radiation. Avoid exposure.

Safety Note

Echo Isolation	nm	1030-1200		
Electric Parameters	Units	Minimum	Typical	Maximum
Electron-optical Efficiency	%	48	50	
Working Current	A		28	29
Working Voltage	V		38	40
Fiber Parameters	Units	Minimum	Typical	Maximum
Fiber Core Diameter	μm		200	
Fiber NA			0.22	
Fiber Cladding Diameter	μm		242	
Fiber Length	m		1.5	Customized
Fiber Optic Sheath Diameter	mm		0.9	Customized
Terminal	Pigtail output/SMA 905			

Layout Drawing



Safety Instructions:

- Only trained and qualified personnel should operate this device.
- Use laser protective eyewear with adequate Optical Density (OD) at 976 nm.
- Implement appropriate engineering controls, interlocks, and follow laser safety standards (IEC 60825-1 / equivalent national regulations).
- Do not operate without proper cooling and power supply protection.

ate

Note:

- During transportation, storage, and use, anti-static measures must be taken, and short-circuit wires should be connected between the pins during transportation and storage.
- Before use, ensure the fiber optic end-face is clean.
- Use a constant current power supply and avoid peak currents and surges during operation.
- When the laser is in operation, avoid direct exposure of eyes or skin to the laser.
- The device should be used within its rated current and power.
- Ensure good heat dissipation when the laser is working; it is recommended to use high thermal conductivity silicone grease on the heat-conducting surface.
- For water cooling, a temperature range of 23–25 degrees Celsius is recommended.
- Do not bend the fiber optic cable at sharp angles; the bending radius should be greater than 300 times the diameter of the fiber.