

## 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

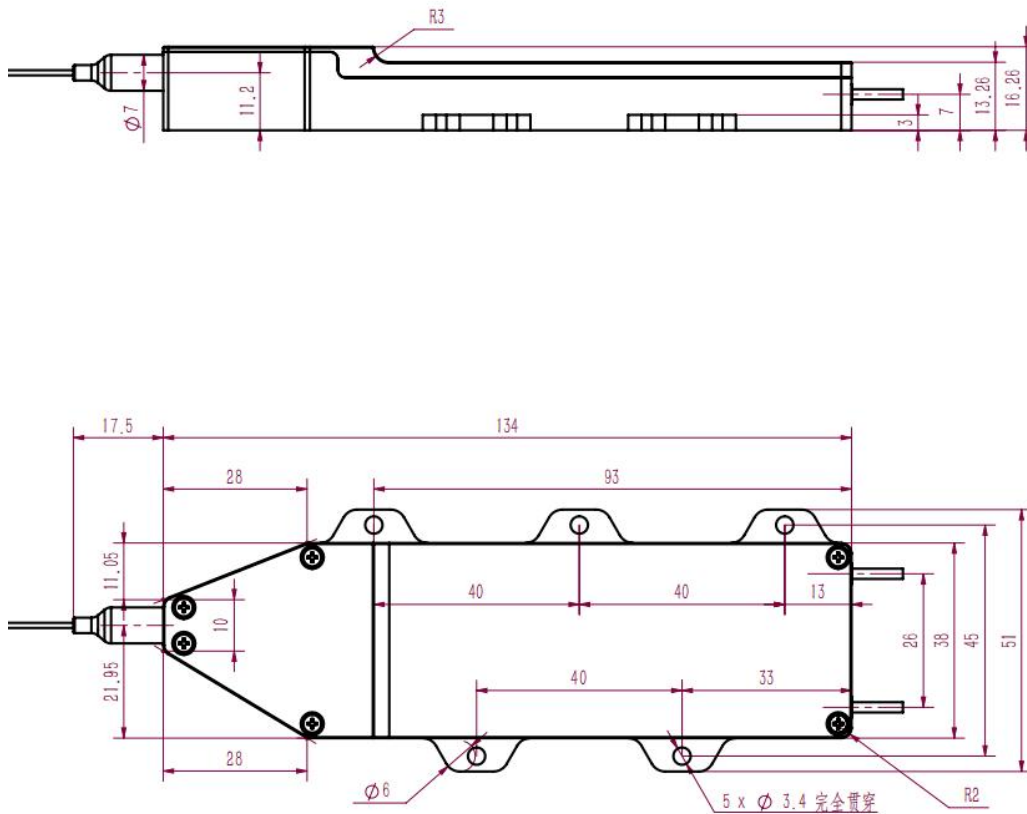
- Industry Processing
- Direct semiconductor
- Scientific research

### 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)	
Safety Note			High power invisible laser radiation. Avoid exposure.	

Echo Isolation	nm	1030-1200		
<b>Electric Parameters</b>	<b>Units</b>	<b>Minimum</b>	<b>Typical</b>	<b>Maximum</b>
Electron-optical Efficiency	%	48	50	
Working Current	A		28	29
Working Voltage	V		38	40
<b>Fiber Parameters</b>	<b>Units</b>	<b>Minimum</b>	<b>Typical</b>	<b>Maximum</b>
Fiber Core Diameter	$\mu\text{m}$		200	
Fiber NA			0.22	
Fiber Cladding Diameter	$\mu\text{m}$		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.

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## 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.