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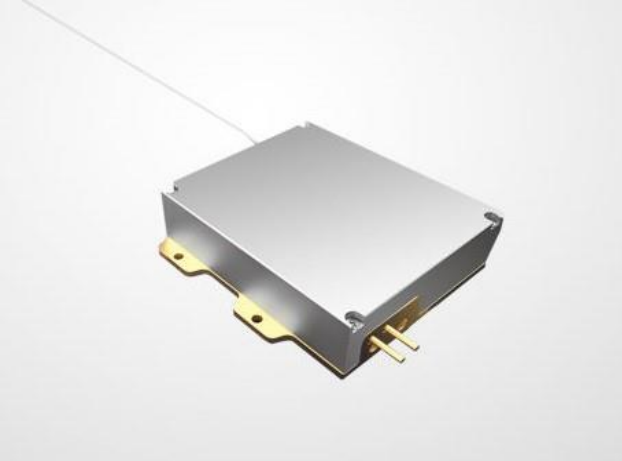
976nm 140W Wavelength-Stabilized High Brightness Fiber Coupled Diode Laser

RPK976S-N1-140.0W-10522-NA (Optional Product)



Features:

- 976nm wavelength
- 140W output power
- 106.5μm fiber core diameter
- 0.22NA
- 1040nm~1200nm feedback protection

Applications:

- Fiber laser pumping

High Power Diode Laser Modules are manufactured by adopting specialized fiber-coupling techniques, resulting in volume products with a high efficiency, stability and superior beam quality. The products are achieved by transforming the asymmetric radiation from the laser diode chip into an output fiber with small core diameter by using special micro optics. Inspecting and burn-in procedures in every aspect come to a result to guarantee each product with the reliability, stability and long lifetime.

Our research staffs are constantly improving and innovating the processing technology in the producing process, based on the professional knowledge and experience accumulated in long-terms. We are also continuously developing new products to meet customers' specific needs.

High quality products with reasonable price is always our goal.

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Specifications(25℃)		Symbol	Unit	RPK976S-140.0W-10522-NA		
				Minimum	Typical	Maximum
Optical Data	CW-Output Power(1)	P_o	W	140	-	-
	Center Wavelength	λ_c	nm	976±1		
	Spectral Width (FWHM)	$\triangle\lambda$	nm	< 1		
	Wavelength Locked range(2)	-	A	$(I_{op}-2) \sim I_{op}$		
	Wavelength Shift with Temperature	$\triangle\lambda/\triangle T$	nm/℃	-	0.02	-
	Wavelength Shift with Current	$\triangle\lambda/\triangle A$	nm/A	-	0.03	-
Electrical Data	Electrical-to-Optical Efficiency	PE	%	-	45	-
	Operating Current	I_{op}	A	-	13.2	14
	Threshold Current	I_{th}	A	-	0.9	-
	Operating Voltage	V_{op}	V	-	22.4	23.8
	Slope Efficiency	η	W/A	-	11	-
Fiber Data	Core Diameter	D_{core}	μm	-	106.5	-
	Cladding Diameter	D_{clad}	μm	-	125	-
	Numerical Aperture	NA	-	-	0.22	-
	Total Fiber Length	L_f	m	-	2	-
	Fiber Loose Tubing Diameter/Length	-	mm	0.9mmPTFE/180cm		
	Minimum Bending Radius	-	mm	50	-	-
	Fiber Termination	-	-	-	None	-
Feedback Isolation	Wavelength Range	λ	nm	1040~1200		
	Isolation	-	dB	-	30	-
Others	ESD	V_{esd}	V	-	-	500
	Storage Temperature (3)	T_{st}	℃	-20	-	70
	Lead Soldering Temp	T_{ls}	℃	-	-	260
	Lead Soldering Time	t	sec	-	-	10
	Operating Case Temperature (4)	T_{op}	℃	25	-	30
	Relative Humidity	RH	%	15	-	75

(1) Data measured under operation output at 140W@25℃.

(2) Wavelength stabilized to >90 % power in band of 975 nm to 977 nm

(3) A non-condensing environment is required for operation and storage.

(4) Operating temperature defined by the package case. Acceptable operating range is 25℃~30℃,but performance may vary.

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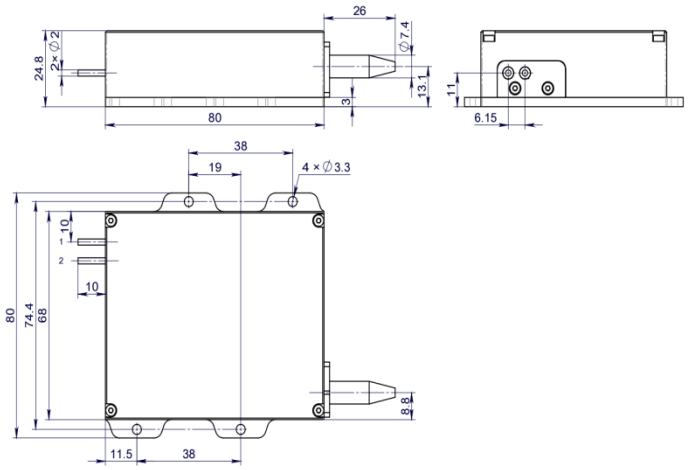
Package Dimensions (mm)



Pin	Function
1	LD (+)
2	LD (-)

OPERATING NOTES

- Avoid eye and skin exposure to direct radiation during operation.
- ESD precautions must be taken during storage, transportation and operation.
- Short-circuit is required between pins during storage and transportation.
- Please connect pins to wires by solder instead of using socket when operation current is higher than 6A. Soldering point should be close to the root of the pins. Soldering temperature should be lower than 260℃ and time shorter than 10 second.
- Make sure the fiber output end is properly cleaned before operation of laser. Follow safety protocols to avoid injury when handling and cutting the fiber.
- Use constant current power supply to avoid surge current during operation.
- Laser diode must be used according to the specifications.
- Laser diode must work with good cooling.
- Operation temperature ranges from 25℃ to 30℃ .
- Storage temperature ranges from -20℃ to +70℃ .

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