405nm 4W Fiber Coupled Diode Laser

RPK405-4.000WN1N

www.rpmclasers.com

Features:

- 405nm wavelength
- 4W output power
- 105μm fiber core diameter
- 0.22 NA

Applications:

- Laser engraving
- Material processing
- 3D printing

Specifications(25℃)		Symbol	Unit	RPK405-4.000WN1N		
				Minimum	Typical	Maximum
Optical Data(1)	Total CW Output Power	P_{bol} (4)	W	4	-	-
	Center Wavelength	λ_c	nm	405±5		
	Spectral Width (FWHM)	$\triangle\lambda$	nm	-	6	-
	Wavelength Shift with Temperature	$\triangle\lambda/\triangle T$	nm/℃	-	0.1	-
	Wavelength Shift with Current	$\triangle\lambda/\triangle A$	nm/A	-	1	-
Electrical Data	Electrical-to-Optical Efficiency	PE	%	-	28	-
	Operating Current	I_{bol} (4)	A	-	1.8	2.2
	Threshold Current	I_{th}	A	-	0.43	-
	Operating Voltage	V_{op}	V	-	10	12
	Slope Efficiency	η	W/A	-	15	-
Fiber Data	Core Diameter	D_{core}	μm	-	105	-
	Cladding Diameter	D_{clad}	μm	-	125	-
	Numerical Aperture	NA	-	-	0.22	-
	Minimum Bending Radius	-	mm	50	-	-
	Fiber Loose Tubing Diameter		mm	3mm Stainless Steel		
	Fiber Length	L_f	m	1.0	-	10
	Fiber Termination	-	-	-	SMA905	-
Thermistor	-	Rt	(KΩ)/β(25℃)	-	10±3%/3450	-
Others	ESD	V_{esd}	V	-	-	500
	Storage Temperature (2)	T_{st}	℃	-20		70
	Lead Soldering Temp	T_{ls}	℃	-	-	260
	Lead Soldering Time	t	sec	-	-	10
	Operating Temperature (3)	T_{op}	℃	15	-	30
	Relative Humidity	RH	%	15	-	75

(1) Data measured under operation output at 4W@25℃.

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

(3) Operating temperature defined by the package case. Acceptable operating range is 15℃~35℃, but performance may vary.

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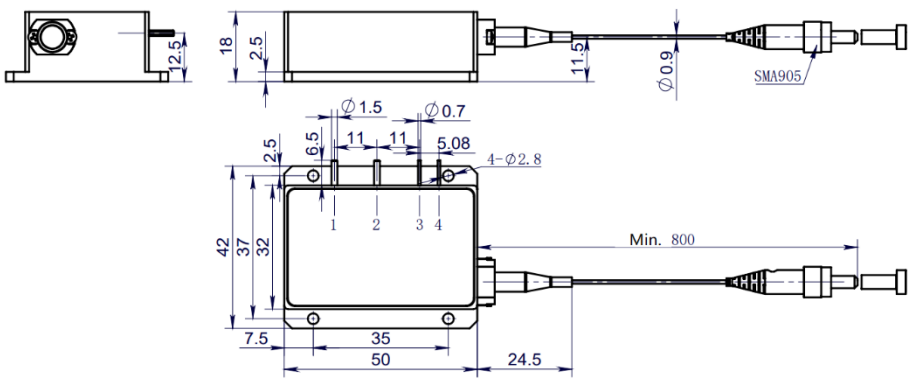
Package Dimensions (mm)



Pin	Function
1	LD (-)
2	LD (+)
3	Thermistor
4	Thermistor

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 middle 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 15℃ to 35℃ .
- ◆ Storage temperature ranges from -20℃ to +70℃.

Declaration: information and specifications contained herein are deemed to be reliable and accurate. BWT Beijing reserves the right to change, alter or modify the design and specifications of these products at any time without notice.21-1