



**Features:**

- ◆ 445nm wavelength
- ◆ Up to 10W output power
- ◆ 105µm fiber core diameter
- ◆ 0.22 NA

**Applications:**

- ◆ Laser engraving
- ◆ Material processing
- ◆ 3D printing

**445nm 10W Fiber Coupled Diode Laser**  
**RPK445-MT-10.00W-10522-SM**

Specifications(25°C)		Symbol	Unit	RPK445-MT-10.00W-10522-SM		
				Minimum	Typical	Maximum
<b>Optical Data<sup>(1)</sup></b>	Total CW Output Power	$P_{bol}^{(4)}$	W	10	-	-
	Center Wavelength	$\lambda_c$	nm	445±20		
	Spectral Width (FWHM)	$\Delta\lambda$	nm	-	3	-
	Wavelength Shift with Temperature	$\Delta\lambda/\Delta T$	nm/°C	-	0.1	-
	Wavelength Shift with Current	$\Delta\lambda/\Delta A$	nm/A	-	1	-
<b>Electrical Data</b>	Electrical-to-Optical Efficiency	PE	%	-	28	-
	Operating Current	$I_{op}$	A	-	3.5	4
	Threshold Current	$I_{th}$	A	-	0.4	-
	Operating Voltage	$V_{op}$	V	-	13	15
	Slope Efficiency	$\eta$	W/A	-	4	-
<b>Fiber Data</b>	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	-	2.0	-
	Fiber Termination	-	-	-	SMA905	-
<b>Thermistor</b>	-	$R_t$	(KΩ)/β(25°C)	-	10±3%/3450	-
<b>Others</b>	ESD	$V_{esd}$	V	-	-	500
	Storage Temperature <sup>(2)</sup>	$T_{st}$	°C	-20	-	70
	Lead Soldering Temp	$T_{Is}$	°C	-	-	260
	Lead Soldering Time	t	sec	-	-	10
	Operating Temperature <sup>(3)</sup>	$T_{op}$	°C	15	-	30
	Relative Humidity	RH	%	15	-	75

(1) Data measured under operation output at 10W@25°C.

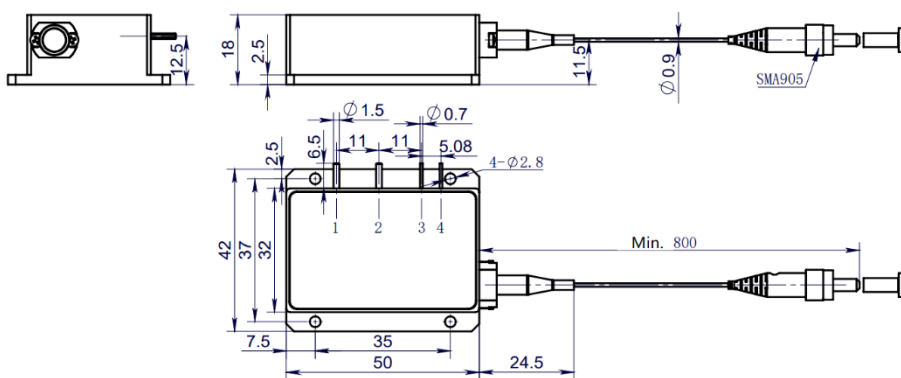
(2) A non-condensing environment is required for operation and storage.

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

## 445nm 10W Fiber Coupled Diode Laser

### RPK445-MT-10.00W-10522-SM

#### Package Dimensions (mm)



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

#### 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°C 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°C to 35°C .
- ◆ Storage temperature ranges from -20°C to +70°C .



**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