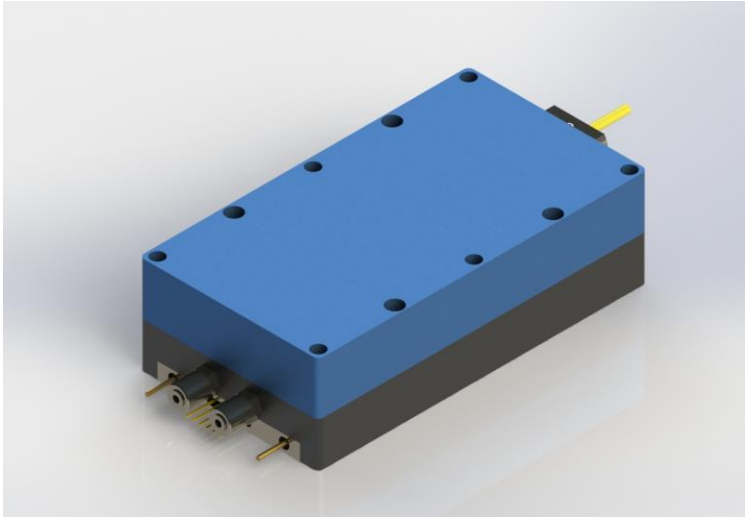


**450nm 50W High Power Fiber Coupled Diode Laser**  
**K450FTRFN-50.00W**



**Features:**

- ◆ 450nm wavelength
- ◆ 50W output power
- ◆ 200 $\mu$ m fiber core diameter
- ◆ 0.22N.A.
- ◆ Water Cooling

**Applications:**

- ◆ Material processing

BWT Beijing's 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.

At BWT Beijing, to provide high quality products with reasonable price is our always goal.

## 450nm 50W High Power Fiber Coupled Diode Laser

### K450FTRFN-50.00W

Specifications(25°C)		Symbol	Unit	K450FTRFN-50.00W		
				Minimum	Typical	Maximum
Optical Data <sup>(1)</sup>	CW-Output Power	P <sub>o</sub>	W	50	-	-
	Center Wavelength	λ <sub>c</sub>	nm	450±10		
Electrical Data	Electrical-to-Optical Efficiency	PE	%	-	23	-
	Operating Current	I <sub>op</sub>	A	-	2.5	3
	Threshold Current	I <sub>th</sub>	A	-	0.2	-
	Operating Voltage	V <sub>op</sub>	V	-	81	93.6
	Slope Efficiency	η	W/A	-	20	-
Fiber Data <sup>(2)</sup>	Core diameter	D <sub>core</sub>	μm	-	200	-
	Cladding diameter	D <sub>clad</sub>	um	-	220	-
	Numerical Aperture	N.A.	-	-	0.22	-
	Total Fiber Length	L <sub>f</sub>	m	-	2	-
	Fiber Loose Tubing Diameter	-	mm	3mm Stainless Steel Tube		
	Minimum Bending Radius	-	mm	88	-	-
	Fiber termination	-	-	-	SMA 905	-
Thermistor	-	R <sub>t</sub>	(KΩ)/β(25°C)	-10±3%/3477		
Others	ESD	V <sub>esd</sub>	V	-	-	500
	Lead Soldering Temp	T <sub>is</sub>	°C	-	-	260
	Lead Soldering Time	t	sec	-	-	10
	Operating Case Temperature <sup>(3)</sup>	T <sub>op</sub>	°C	-	25	-
	Storage Temperature (Non-operating) <sup>(4)</sup>	T <sub>st</sub>	°C	-20	-	70
	Relative Humidity	RH	%	15	-	75

(1) Data measured under operation output at 50W@25°C (Thermistor temperature) .

(2) Other fiber length available upon request.

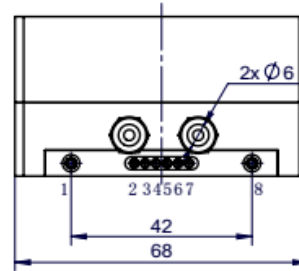
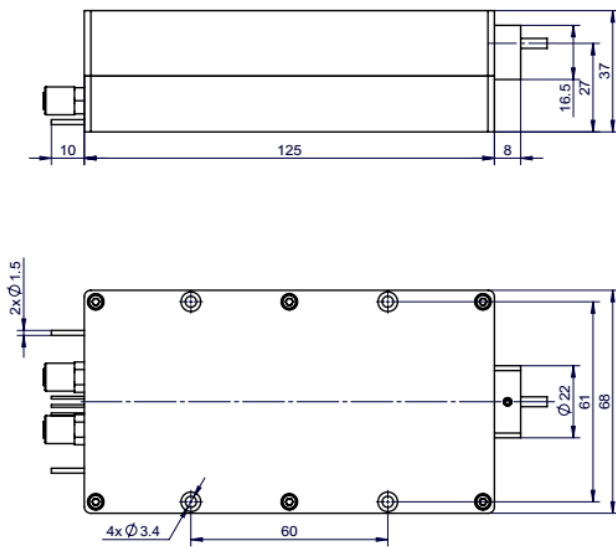
(3) Operating temperature defined by the package case. Acceptable operating range is 15 - 30C, but performance may vary.

(4) A non-condensing environment is required for operation and storage conditions are from -20 to +70 °C with relative humidity between 15 to 75 %.

## 450nm 50W High Power Fiber Coupled Diode Laser

### K450FTRFN-50.00W

#### Package Dimensions (mm)



<b>Pin</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4*</b>
<b>Function</b>	LD (+)	Thermistor	Thermistor	Aiming Beam (+7V)
<b>Pin</b>	<b>8</b>	<b>7*</b>	<b>6*</b>	<b>5*</b>
<b>Function</b>	LD (-)	PD (N)	PD (P)	Aiming Beam (0V)

\* Optional functions

#### OPERATING NOTES

- ◆ Avoid eye exposure to direct or scattered radiation.
- ◆ ESD precautions must be taken.
- ◆ Soldering point should be close to the root of the pins. Soldering temperature should be lower than 260°C and time shorter than 10 second.
- ◆ Use constant current power supply. Avoid surge current.
- ◆ Laser diode must be used according to the specifications.
- ◆ Laser diode must work with good cooling.
- ◆ Operation temperature is 15°C~ 30°C.
- ◆ Storage: -20°C~ +70°C, all pins short-circuit.
- ◆ **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.18-1

