

## 830nm Fiber-Coupled CW Module

### K83S04F-0.75W



#### Key Features:

- ◆ 0.75W output power
- ◆ 62.5 $\mu$ m fiber core diameter
- ◆ 0.22NA
- ◆ 830nm wavelength

#### Applications:

- ◆ Printing

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.

## 830nm Fiber-Coupled CW Module

### K83S04F-0.75W

Specifications (25°C)		Symbol	Unit	K83S04F-0.75W
Optical data	CW-output power	$P_o$	W	0.75
	Center wavelength	$\lambda_c$	nm	830
	Tolerance of $\lambda$	-	nm	$\pm 10$
	Spectral width (FWHM)	$\Delta\lambda$	nm	<3
	Temperature drift of $\lambda$	-	nm/°C	~0.3
Fiber data	Fiber core diameter	$W_c$	$\mu\text{m}$	62.5
	Numerical aperture	NA	-	0.22
	Fiber connector	-	-	FC, ST, SMA-905
Electrical data	Operation current	$I_{op}$	A	1.2
	Threshold current	$I_{th}$	A	0.2
	Conversion efficiency <sup>1</sup>	$\eta$	%	30
	Slope efficiency <sup>2</sup>	$\eta_D$	W/A	0.7
	Operation voltage	$V_{op}$	V	1.9
	Reverse voltage	$V_{re}$	V	2
Output power data	NA=0.15	-	%	>95
	NA=0.12	-	%	>90
	NA=0.06	-	%	>50
Other specifications	Operation temperature	$T_{op}$	°C	10~30
	Storage temperature	$T_{st}$	°C	-20~80
	Expected lifetime	MTBF	h	>10,000
	Dimensions (fiber and connector not included)	-	mm	~26×13×13
	Weight laser head	-	g	~24
	Lead soldering temperature	$T_{is}$	°C	260(10 sec.)

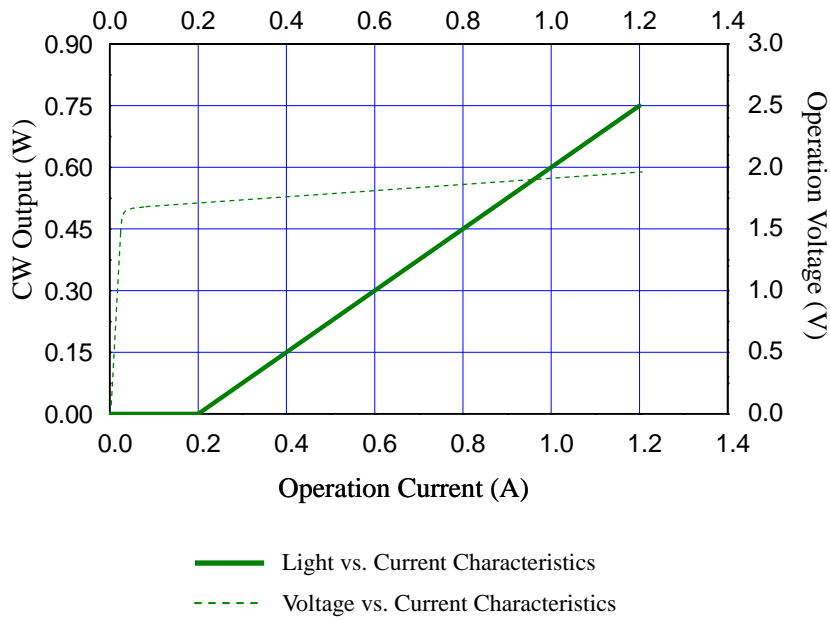
1.  $\eta = P_o / (I_{op} V_{op})$ .

2.  $\eta_D = P_o / (I_{op} - I_{th})$ .

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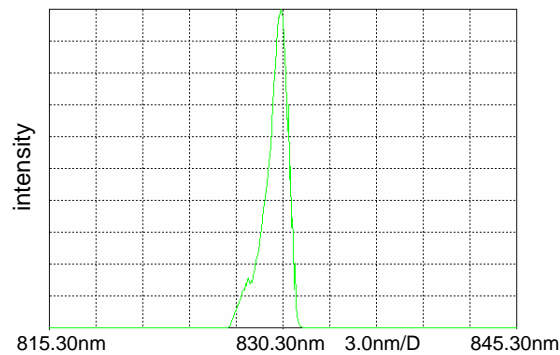
K83S04F-0.75W

### LD Characteristics



### Typ. spectrum (T=25°C)

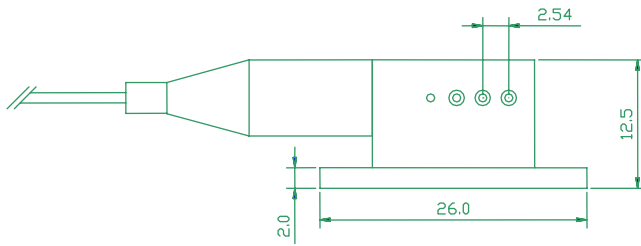
Typ. spectrum of 830nm diode laser modules



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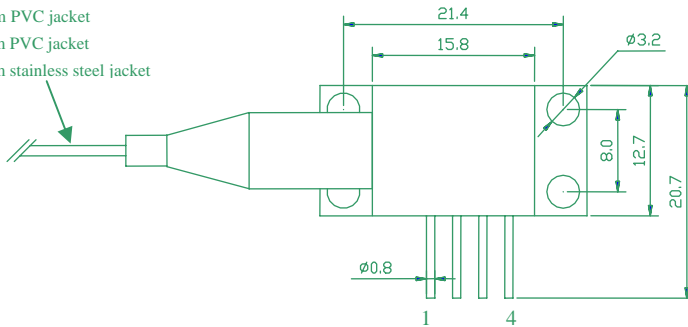
K83S04F-0.75W

### Package Dimensions (mm)



**Customer Selectable:**

- 900μm PVC jacket
- 3.0mm PVC jacket
- 2.1mm stainless steel jacket



Pin	Function	Pin	Function
1	Laser Anode (+), Case	3	PD(N)
2	Laser Cathode (-)	4	PD(P)

### OPERATING NOTES

- Avoid eye exposure to direct or scattered radiation when the device is in operation.
- ESD precautions must be taken when handling unit.
- Using constant power supplies to guarantee the component works under the limits of its maximum peak optical power.
- The laser diode must be used under the specifications.
- Unit requires a condition to spread the heat as well as possible.
- Keep the fiber end clean before use. Fiber is not allowed to be curved so much. The diameter of curvature should be 300 times greater than fiber diameter.
- Environment temperature is 10°C--30°C.
- Storage temperature is -20°C--80°C, short circuit store.



VISIBLE AND/OR INVISIBLE LASER RADIATION  
AVOID EYE EXPOSURE TO DIRECTOR SCATTERED RADIATION  
MAXIMUM OUTPUT IS DEPENDANT UPON AND LESS THAN INPUT  
RADIATION EMITTED WAVELENGTH DEPENDS UPON FILTER  
SETTING  
CLASS IV LASER PRODUCT



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 with out notice.