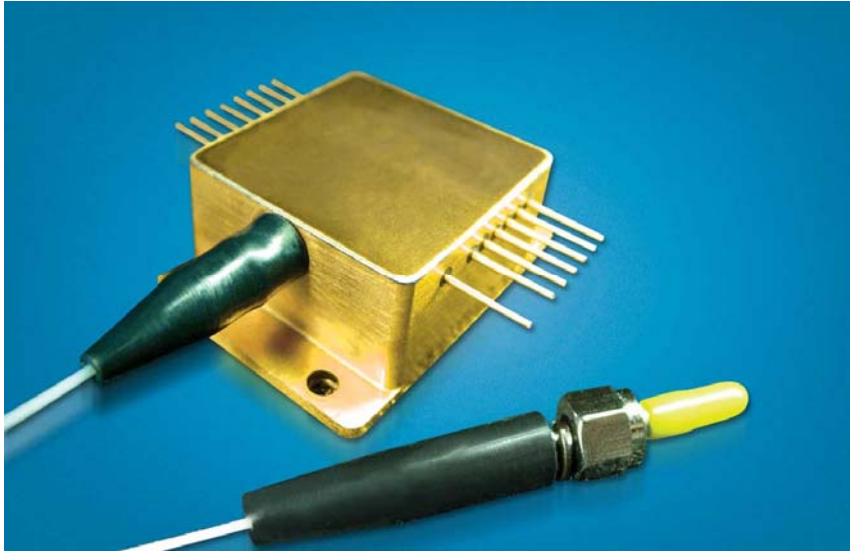


## 808nm Fiber-Coupled LD Module with Aiming Beam

K81D15F-2.00W   K81D15F-3.00W   K81D15F-4.00W   K81D15F-5.00W   K81D15F-7.50W



### Key Features:

- ◆ 2-7.5W output power
- ◆ 100 $\mu$ m, 200 $\mu$ m or 400 $\mu$ m fiber core diameter
- ◆ 0.22NA
- ◆ 808nm wavelength
- ◆ 650nm aiming beam

### Applications:

- ◆ Laser pumping
- ◆ Medical use
- ◆ 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.

## 808nm Fiber-Coupled LD Module with Aiming Beam

**K81D15F-2.00W    K81D15F-3.00W    K81D15F-4.00W    K81D15F-5.00W    K81D15F-7.50W**

Specifications (25°C)		Symbol	Unit	K81D15 F-2.00W	K81D15 F-3.00W	K81D15 F-4.00W	K81D15 F-5.00W	K81D15 F-7.50W
Optical data	CW-output power	$P_o$	W	2	3	4	5	7.5
	Center wavelength	$\lambda_c$	nm	808				
	Tolerance of $\lambda$	-	nm	$\pm 3, \pm 5, \pm 10$				
	Spectral width (FWHM)	$\Delta\lambda$	nm	<3				
	Temperature drift of $\lambda$	-	nm/°C	~0.3				
Fiber data <sup>1</sup>	Fiber core diameter	$W_c$	$\mu\text{m}$	100/200	100/200	100/200	100/200	200/400
	Numerical aperture	NA	-	0.22				
	Fiber connector	-	-	FC, ST, SMA-905				
Electrical data	Operation current	$I_{op}$	A	2.5	4.2	5.3	6.5	10.0
	Threshold current	$I_{th}$	A	0.4	0.6	0.6	0.6	1.5
	Conversion efficiency <sup>2</sup>	$\eta$	%	35~45				
	Slope efficiency <sup>3</sup>	$\eta_D$	W/A	0.8~0.9				
	Operation voltage	$V_{op}$	V	1.85	1.95	2.10	2.25	2.18
	Reverse voltage	$V_{re}$	V	2				
PD data	Current	$I_{mo}$	mA	0.20~1.50				
TEC data	Max. current	$I_t$	A	4.0	4.0	4.0	4.0	6.0
	Max. voltage	$V_t$	V	9.8				
Thermistor data <sup>4</sup>	Thermistor	$R_t$	(K $\Omega$ )/ $\beta$ (25°C)	10 $\pm$ 5%/3477				
Aiming beam data	Output power	$P_a$	mW	>2				
	Wavelength	$\lambda_a$	nm	650 $\pm$ 10				
	Voltage	$V_a$	V	2.2				
	Current	$I_a$	mA	<30				
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	~45 $\times$ 32 $\times$ 18				
	Weight	-	g	~70				
	Lead soldering temperature	$T_{is}$	°C	260(10 sec.)				

1. Other fibers available for OEM applications. Contact BWT Beijing.

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

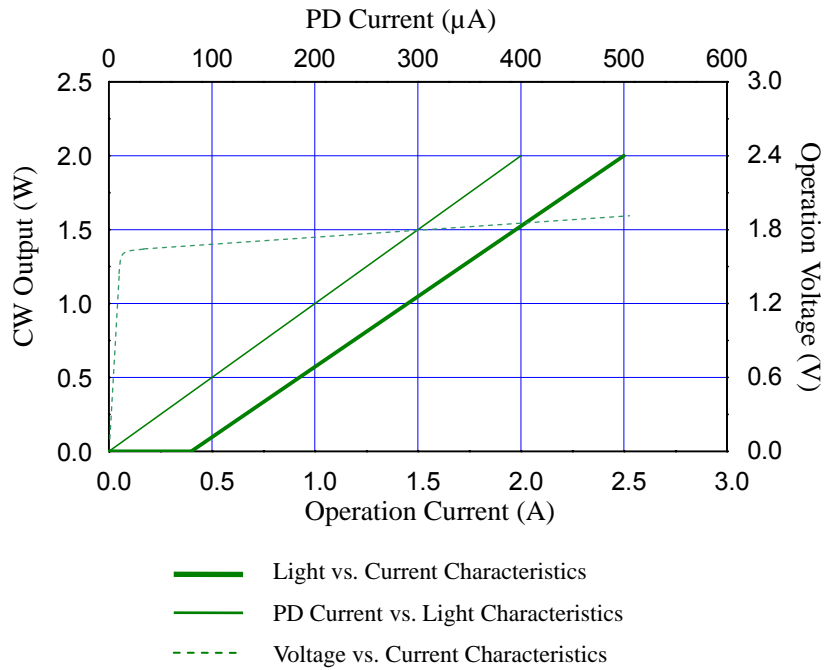
3.  $\eta_D = P_o / (I_{op} - I_{th})$ .

4.  $R_T = R_0 \cdot \exp(\beta(1/T - 1/T_0))$ , ( $T_0 = 25^\circ\text{C} = 298\text{K}$ ).

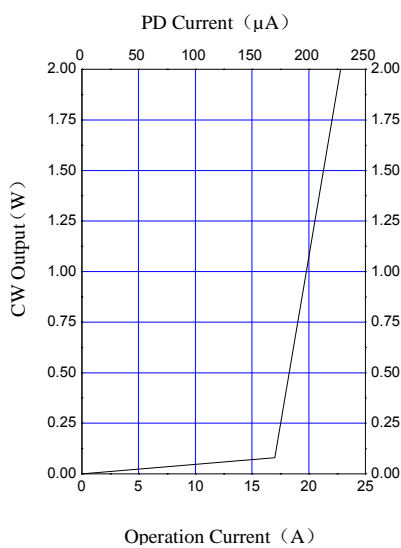
## 808nm Fiber-Coupled LD Module with Aiming Beam

K81D15F-2.00W    K81D15F-3.00W    K81D15F-4.00W    K81D15F-5.00W    K81D15F-7.50W

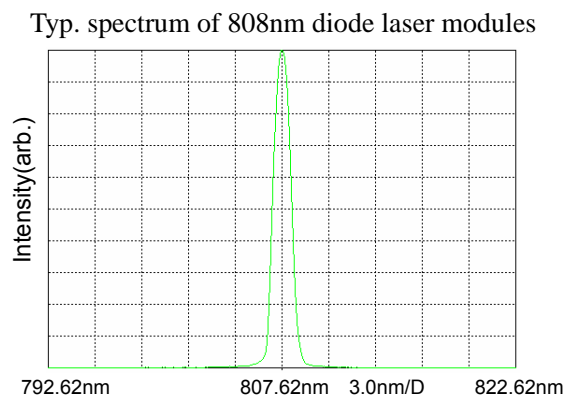
### LD Characteristics



### 650nm LD Light vs. Current Characteristics



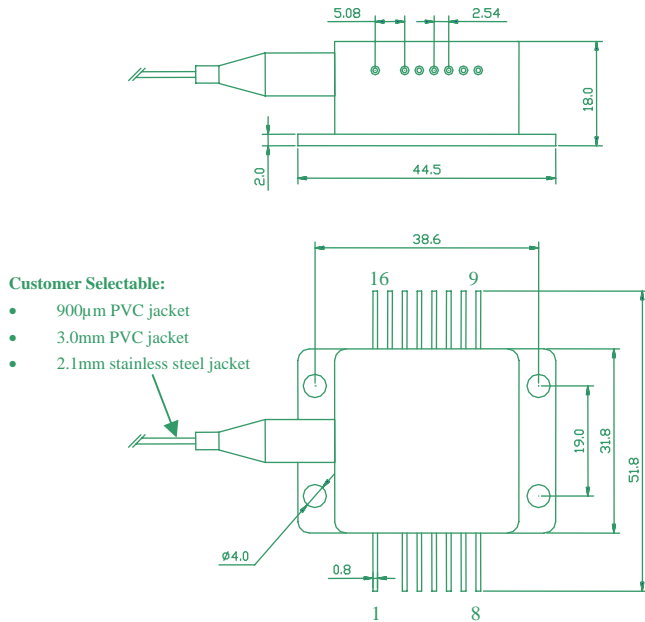
### Typ. spectrum (T=25°C)



## 808nm Fiber-Coupled LD Module with Aiming Beam

K81D15F-2.00W    K81D15F-3.00W    K81D15F-4.00W    K81D15F-5.00W    K81D15F-7.50W

### Package Dimensions (mm)



Pin	Function	Pin	Function
1	Case	9	TEC (-)
2	None	10	None
3	Laser Anode (+)	11	None
4	Thermistor (1)	12	None
5	Thermistor (2)	13	None
6	Laser Cathode (-)	14	Aiming Beam LD Anode(+)
7	PD (P)	15	Aiming Beam LD Cathode (-)
8	PD (N)	16	TEC (+)

### 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 OR SKIN 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.