

808nm Fiber-Coupled LD Module with Aiming Beam

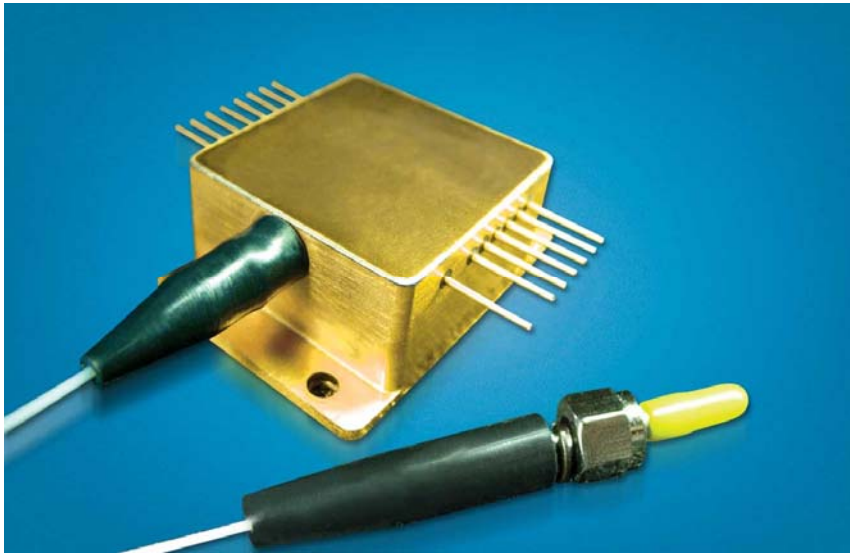
K81D15F-2.00W

K81D15F-3.00W

K81D15F-4.00W

K81D15F-5.00W

K81D15F-7.50W



Key Features:

- ◆ 2-7.5W output power
- ◆ 100 μ m, 200 μ m or 400 μ 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	λ_c	nm	808				
	Tolerance of λ	-	nm	$\pm 3, \pm 5, \pm 10$				
	Spectral width (FWHM)	$\Delta\lambda$	nm	<3				
	Temperature drift of λ	-	nm/°C	~0.3				
Fiber data ¹	Fiber core diameter	W_c	μm	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 ²	η	%	35~45				
	Slope efficiency ³	η_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 ⁴	Thermistor	R_t	(K Ω)/ β (25°C)	10 \pm 5%/3477				
Aiming beam data	Output power	P_a	mW	>2				
	Wavelength	λ_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. $\eta = P_o / (I_{op} V_{op})$.

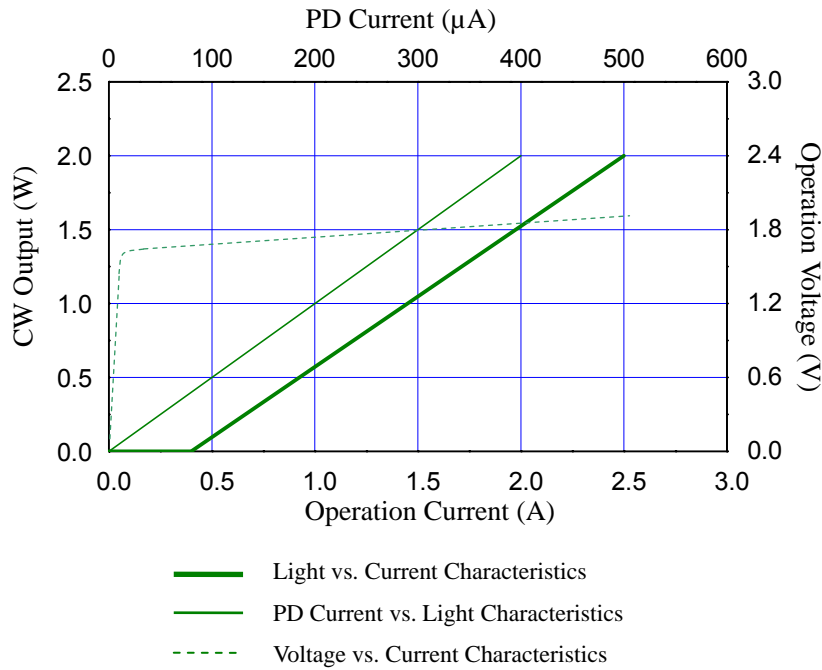
3. $\eta_D = P_o / (I_{op} - I_{th})$.

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

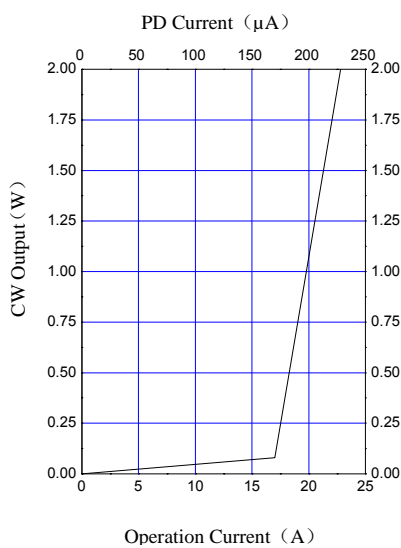
808nm Fiber-Coupled LD Module with Aiming Beam

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

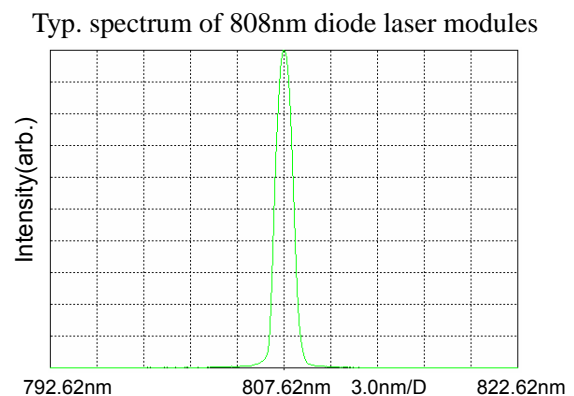
LD Characteristics



650nm LD Light vs. Current Characteristics



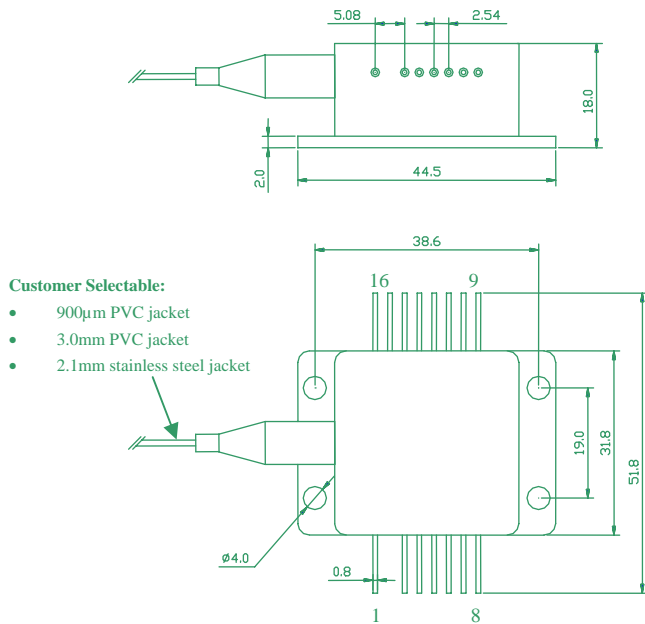
Typ. spectrum (T=25°C)



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 $^{\circ}$ C--30 $^{\circ}$ C.
- Storage temperature is -20 $^{\circ}$ C--80 $^{\circ}$ 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.