

S81D14C-2W-FS S81D14C-4W-FS S81D14C-8W-FS

# Product Information



## Key Features:

- ◆ 808nm wavelength
- ◆ 2-8W output power
- ◆ Standard fiber coupling for 200 $\mu$ m NA 0.22
- ◆ 650nm aiming beam
- ◆ Customer option:
  - Fiber detector
  - Constant power control circuit for aiming beam

## Applications:

- ◆ Medical use
- ◆ Material processing



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# 808nm Fiber Detachable Diode Laser

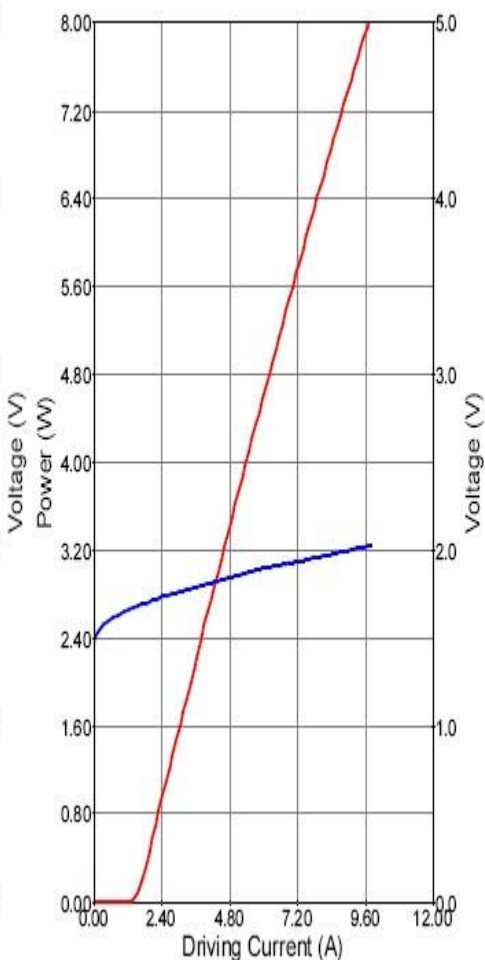
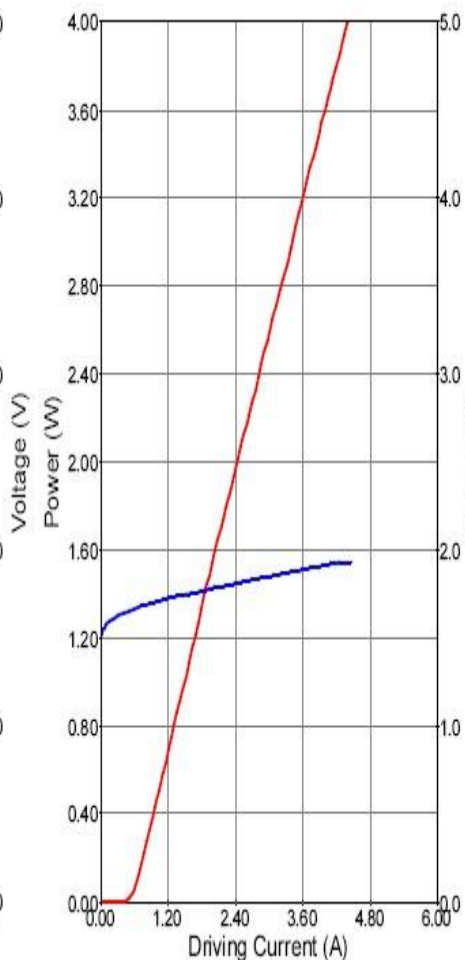
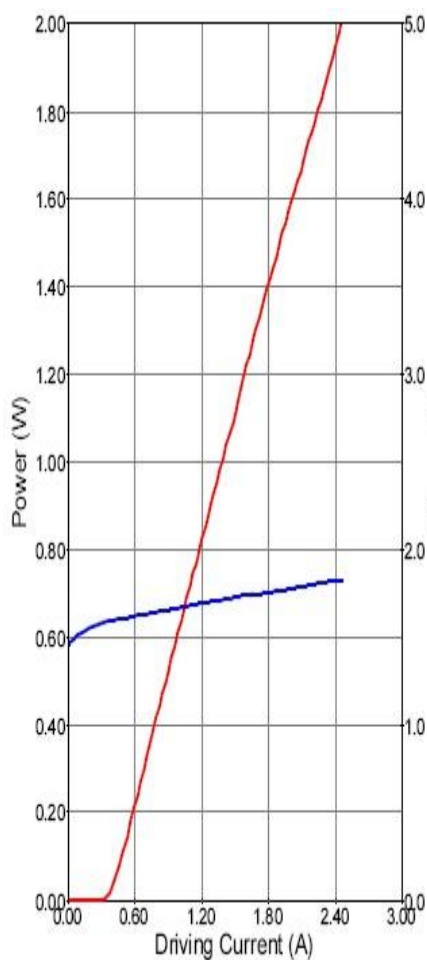
Specifications (25°C)		Symbol	Unit	K81D14C-2.00W-FS	K81D14C-4.00W-FS	K81D14C-8.00W-FS
Optical data	CW-output power	$P_o$	W	2	4	8
	Center wavelength	$\lambda_c$	nm	808		
	Tolerance of $\lambda$	-	nm	$\pm 3, \pm 10$		
	Spectral width (FWHM)	$\Delta\lambda$	nm	<3		
	Temperature drift of $\lambda$	-	nm/°C	~0.3		
Connector data	Designed for fiber core diameter	$W_c$	$\mu\text{m}$	200		
	Designed for fiber numerical aperture	NA	-	0.22		
	Fiber connector	-	-	SMA-905		
Electrical data	Operation current	$I_{op}$	A	2.5	5.0	10.0
	Threshold current	$I_{th}$	A	0.4	0.8	1.5
	Conversion efficiency	$\eta$	%	35~45		
	Slope efficiency	$\eta_D$	W/A	0.8~1.0		
	Operation voltage	$V_{op}$	V	1.8	2.1	2.2
	Reverse voltage	$V_{re}$	V	2		
PD data	Current	$I_{mo}$	mA	0.10~2.00		
TEC data	Max. current	$I_t$	A	4.0	4.0	6.0
	Max. voltage	$V_t$	V	9.8		
Thermistor data <sup>(1)</sup>	Thermistor	$R_t$	(K $\Omega$ )/ $\beta(25^\circ\text{C})$	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 <sup>(2)</sup>		
	Current	$I_a$	mA	<30		
Others	Operation temperature	$T_{op}$	°C	10~30		
	Storage temperature	$T_{st}$	°C	-20~+80		
	Lifetime	MTTF	h	>10,000		
	Dimensions (fiber and connector not included)	-	mm	44.5 $\times$ 31.8 $\times$ 18.0		
	Lead soldering temperature	$T_{is}$	°C	260(10 sec.)		

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

(2) Optional 5V DC input.

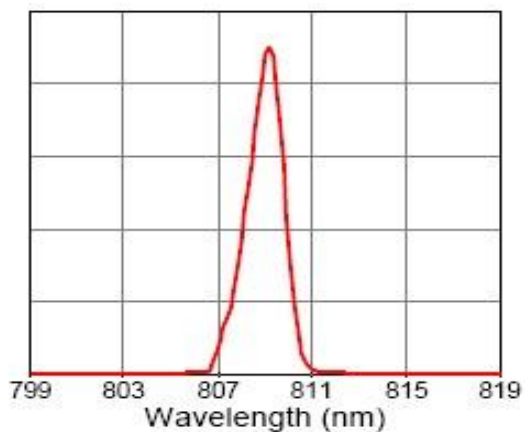
# 808nm Fiber Detachable Diode Laser

## Characteristics



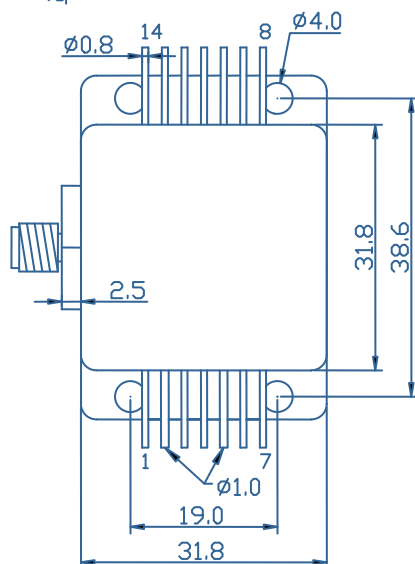
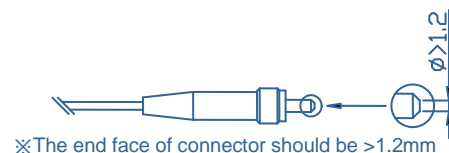
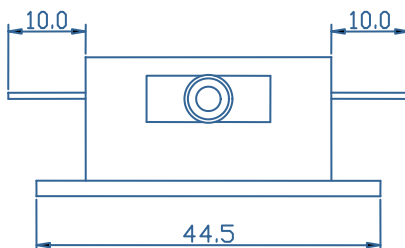
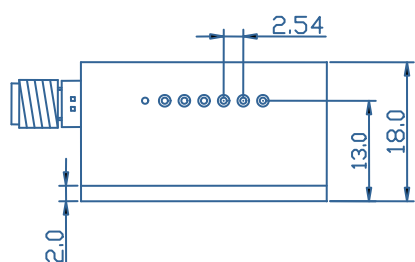
Typ. spectrum (T=25°C)

## Spectrum



# 808nm Fiber Detachable Diode Laser

## Package Dimensions (mm)



Pin	Function	Pin	Function
1	Case	8	TEC (-)
2	LD (+)	9	FCD PD (P)
3	Thermistor	10	FCD LED (-)
4	Thermistor	11	FCD LED (+), FCD PD (N)
5	LD (-)	12	Aiming Beam LD (+)
6	PD (P)	13	Aiming Beam LD (-)
7	PD (N)	14	TEC (+)

※FCD: Fiber Connector Detector

## OPERATING NOTES

- Avoid eye exposure to direct or scattered radiation.
- ESD precautions must be taken.
- 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 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 10°C~ 30°C.
- Storage: -20°C~ +80°C, all pins short-circuit.

