

S98D14C-10W-FS

Product Information



Key Features:

- ◆ 10W output power
- ◆ Standard fiber coupling for 200 μ m NA 0.22
- ◆ 976nm wavelength
- ◆ 650nm aiming beam
- ◆ Customer option:
Fiber detector
Constant power control circuit for aiming beam

Applications:

- ◆ Medical use
- ◆ Material processing



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976nm Fiber Detachable Diode Laser

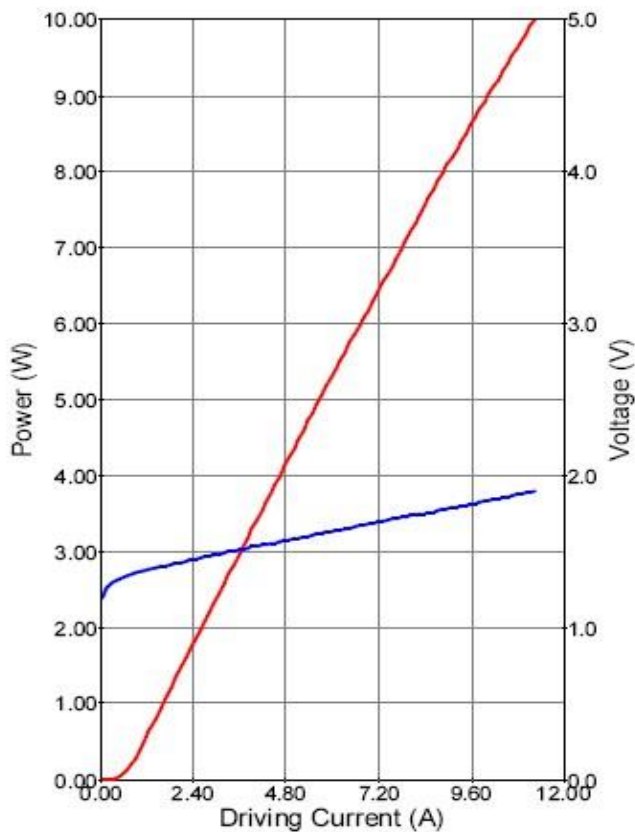
Specifications (25°C)		Symbol	Unit	K98D14C-10.00W-FS
Optical data	CW-output power	P_o	W	10
	Center wavelength	λ_c	nm	976
	Tolerance of λ	-	nm	$\pm 3, \pm 10$
	Spectral width (FWHM)	$\Delta\lambda$	nm	<3
	Temperature drift of λ	-	nm/°C	~0.3
Connector data	Designed for fiber core diameter	W_c	μm	200
	Designed for fiber numerical aperture	NA	-	0.22
	Fiber connector	-	-	SMA-905
Electrical data	Operation current	I_{op}	A	12.0
	Threshold current	I_{th}	A	0.5
	Conversion efficiency ⁽¹⁾	η	%	35~45
	Slope efficiency	η_D	W/A	0.8~1.0
	Operation voltage	V_{op}	V	1.9
	Reverse voltage	V_{re}	V	2
PD data	Current	I_{mo}	mA	0.20~2.00
TEC data	Max. current	I_t	A	6.0
	Max. voltage	V_t	V	9.8
Thermistor data ⁽¹⁾	Thermistor	R_t	(K Ω)/ $\beta(25^\circ\text{C})$	$10 \pm 5\% / 3477$
Aiming beam data	Output power	P_a	mW	>2
	Wavelength	λ_a	nm	650 ± 10
	Voltage	V_a	V	$2.2^{(2)}$
	Current	I_a	mA	<30
Others	Operation temperature	T_{op}	°C	10~30
	Storage temperature	T_{st}	°C	-20~80
	Lifetime	MTBF	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) $R_t = R_0 \cdot \exp(\beta(1/T - 1/T_0))$, ($T_0 = 25^\circ\text{C} = 298\text{K}$).

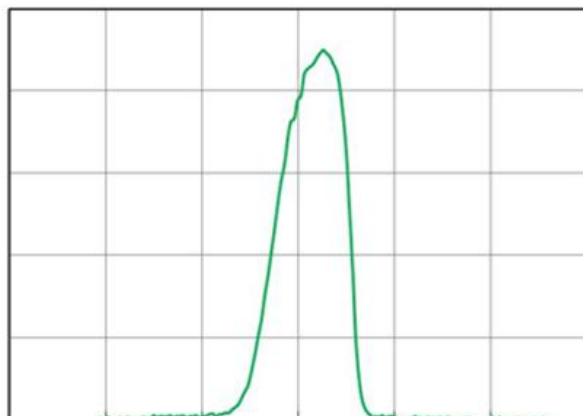
(2) Optional 5V DC input.

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Characteristics



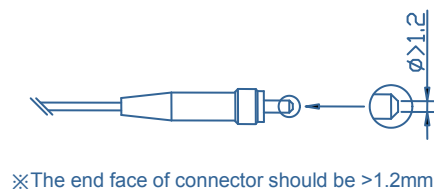
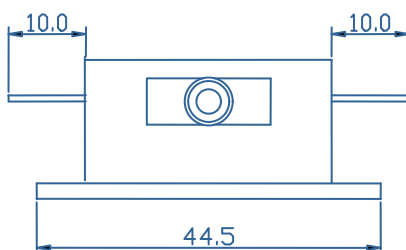
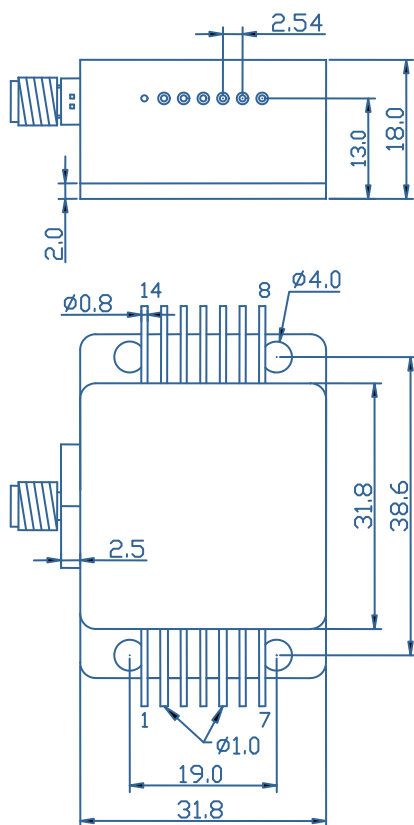
Typ. spectrum (T=25°C)



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Package Dimensions (mm)

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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.

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