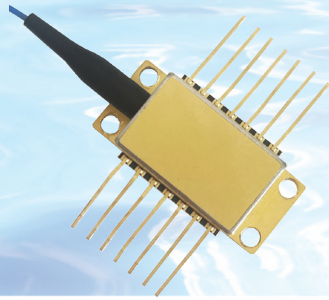




Theotech

Theotech Co., Ltd.



1030nm 系列 DFB 半导体激光器

- ◆ 50mw, 100mw, 200mw optional
- ◆ 14-Pin Butterfly Packaged
- ◆ Backlight Monitoring, TEC equipped
- ◆ Working Temperature Range -10 ° C to 50 ° C

Technical Parameters 技术参数

光电特性参数/ Optical Electrical Characteristics	符号/ Symbol	1030nm DFB 50				1030nm DFB 100				1030nm DFB 200				单位/ Unit
		测试条件/ Test Conditions	最小/ Min	典型/ Type	最大/ Max	测试条件/ Test Conditions	最小/ Min	典型/ Type	最大/ Max	测试条件/ Test Conditions	最小/ Min	典型/ Type	最大/ Max	
中心波长/ Center Wavelength	λ_c	TLD=25°C	1028	1030	1032	T _{LD} =25°C	1028	1030	1032	T _{LD} =25°C	1028	1030	1032	nm
波长调谐范围/ Wavelength Tuning Range	$\Delta\lambda$	—	—	2	—	—	—	2	—	—	—	2	—	nm
峰值光功率/ Peak Output Power	P _p	TLD=25°C	—	50	—	T _{LD} =25°C	—	140	—	T _{LD} =25°C	—	210	—	mW
边模抑制比/ Side-mode Suppression Ratio	SMSR	P _O =50mW	—	40	—	P _O =100mW	—	40	—	P _O =200mW	—	40	—	dB
偏振消光比/ Polarization Extinction Ratio	PER	P _O =50mW	18	20	—	P _O =100mW	18	20	—	P _O =200mW	18	20	—	dB
斜率效率/ Slope Efficiency	SE	P _O =50mW	0.15	0.2	—	P _O =100mW	0.15	0.26	—	P _O =200mW	0.15	0.26	—	W/A
温度波长系数/ Wavelength Temp. Coefficient	d λ /dT	—	—	0.07	—	—	—	0.07	—	—	—	0.07	—	nm/°C
阈值电流/ Threshold Current	I _{th}	TLD=25°C	—	45	70	T _{LD} =25°C	—	45	70	T _{LD} =25°C	—	45	70	mA
正向工作电压/ Forward Operating Voltage	V _{op}	P _O =50mW	—	—	2	P _O =100mW	—	—	2	P _O =200mW	—	—	2.1	V
正向工作电流/ Forward Operating Current	I _{op}	P _O =50mW	—	300	500	P _O =100mW	—	225	300	P _O =200mW	—	370	400	mA
出光功率/ Output Power	P _p	TLD=25°C	50	—	—	T _{LD} =25°C	100	—	—	T _{LD} =25°C	200	—	—	mW
MPD工作电压/ MPD Operating Voltage	V _{mon}	P _O =50mW	—	5	—	P _O =100mW	—	5	—	P _O =200mW	—	5	—	V
MPD响应度/ MPD Responsiveness	I _{mon} /P _{op}	—	—	1	—	—	—	1	—	—	—	1	—	30 uA/mW
热敏电阻BETA值/ Thermistor BETA Value	β	—	—	3500	3930	4100	—	3500	3930	4100	—	3500	3930	4100 K
热敏电阻电流/ Thermistor Current	I _{ther}	—	—	—	1	—	—	—	1	—	—	—	1	mA

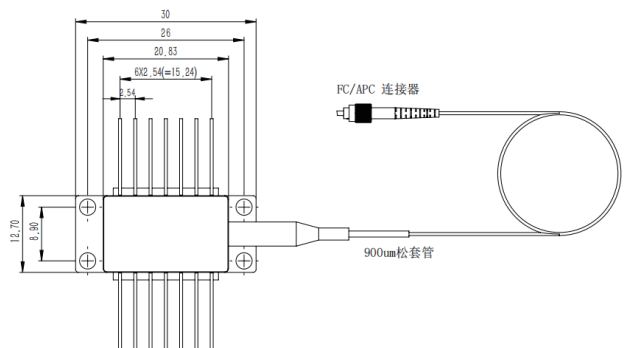
额定极限参数/ Absolute Maximum Ratings	符号/ Symbol	最小/ Min	最大/ Max	单位/ Unit
激光器反向电压/ PD Reverse Voltage	V _R	—	2	V
LD电流/ LD Current	I _F	—	500	mA
管壳温度/ Operating Case Temperature	T _c	-40	85	° C
TEC电压/ TEC Voltage	V _{TEC}	—	4.8	V
TEC电流/ TEC Current	I _{TEC}	—	1.8	A
存储温度/ Storage Temperature	T _{stg}	-40	85	° C
存储湿度/ Storage Humidity	—	5	85	%RH
防静电等级/ Anti-Static Grade	V _{ESD}	—	500	V
引脚焊接温度/ Lead Soldering Temperature	S _{temp}	—	260	° C
引脚焊接时间/ Lead Soldering Time	S _{time}	—	10	sec
MPD反向电压/ MPD Reverse Voltage	—	—	20	V
热敏电阻监控温度/ Thermistor Monitoring Temp.	T _{Rt}	-40	125	° C

光纤参数/ Fiber Characteristics	参数/ Parameters	单位/ Unit
光纤型号/ Fiber Type	PM980	—
套管类型/ Buffer Type	250um裸纤+ 900um松套管	—
尾纤长度/ Fiber length	≥1m	M
连接器类型/ Connector Type	FC/APC	—

引脚定义/ Pin Assignment			
PIN 1	TEC (+)	PIN 8	NC
PIN 2	RT	PIN 9	NC
PIN 3	PD (Anode)	PIN 10	LD (+)
PIN 4	PD (Cathode)	PIN 11	LD (-)
PIN 5	RT	PIN 12	NC
PIN 6	NC	PIN 13	CASE
PIN 7	NC	PIN 14	TEC (-)

注意事项/ Cautions

- 本器件在工作时会辐射高密度激光束，眼睛不能正视光纤端面，否则可能造成人眼损伤。
This device emits high-density laser beams during operation, and the eyes cannot face the fiber end face directly, otherwise it may cause eye damage.
- 本器件是静电敏感器件，在包装、运输和使用过程中，要严格遵守器件的防静电保护措施；也要注意防止来自电源的浪涌冲击，否则可能造成器件的永久性损伤。
This device is an electrostatic sensitive device. During packaging, transportation, and use, it is necessary to strictly follow the anti-static protection measures of the device; Attention should also be paid to preventing surge impact from the power supply, otherwise it may cause permanent damage to the device.
- 光纤易断，不用通过光纤拉拔器件；向管座插、拔器件时，不要压拉管壳尾部的套管，带有连接器的器件在装卸时要将器件与光纤连接器同时拿起。
Fiber optic cables are prone to breakage and do not require the use of fiber optic pulling devices; When inserting or removing components from the socket, do not press or pull the sleeve at the end of the casing. For components with connectors, they should be picked up together with the fiber optic connector during loading and unloading.
- 管脚如需焊接，焊接温度不得超过260°C，焊接时间不得超过10s。应特别注意的是在焊接过程中器件必须处于不带电状态，焊接烙铁也要良好接地。
If the pins need to be welded, the welding temperature should not exceed 260 °C and the welding time should not exceed 10 seconds. Special attention should be paid to the fact that the device must be in a non charged state during the soldering process, and the soldering iron must also be well grounded.



尺寸/ Dimensions

1064nm 系列 DFB 半导体激光器

- ◆ 50mw, 100mw, 200mw optional
- ◆ 14-Pin Butterfly Packaged
- ◆ Backlight Monitoring, TEC equipped
- ◆ Working Temperature Range -10 °C to 50 °C

Technical Parameters 技术参数

光电特性参数/ Optical Electrical Characteristics	符号 /Symbol	1064nm DFB 50				1064nm DFB 100				1064nm DFB 200				单位 /Unit
		测试条件 /Test Conditions	最小 /Min	典型 /Type	最大 /Max	测试条件 /Test Conditions	最小 /Min	典型 /Type	最大 /Max	测试条件/Test Conditions	最小 /Min	典型 /Type	最大 /Max	
中心波长/Center Wavelength	λ C	T _{LD} =25℃	1063	1064	1065	T _{LD} =25℃	1062	1064	1066	T _{LD} =25℃	1062	1064	1066	nm
波长调谐范围/Wavelength Tuning Range	$\Delta \lambda$	—	—	2	—	—	—	2	—	—	—	2	—	nm
出光功率/Output Power	P _e	T _{LD} =25℃	50	—	—	T _{LD} =25℃	—	100	—	T _{LD} =25℃	200	—	—	mW
边模抑制比/ Side-mode Suppression Ratio	SMSR	P ₀ =50mW	40	55	—	P ₀ =100mW	—	40	—	P ₀ =200mW	—	40	—	dB
偏振消光比/ Polarization Extinction Ratio	PER	P ₀ =50mW	18	20	—	P ₀ =100mW	18	20	—	P ₀ =200mW	18	20	—	dB
斜率效率/Slope Efficiency	SE	P ₀ =50mW	0.15	0.18	—	P ₀ =100mW	0.45	0.5	—	P ₀ =200mW	0.45	0.5	—	W/A
温度波长系数/Wavelength Temp. Coefficient	d λ /dT	—	—	0.07	—	—	—	0.07	—	—	—	0.07	—	nm/℃
阈值电流/Threshold Current	I _{th}	T _{LD} =25℃	—	45	70	T _{LD} =25℃	—	45	70	T _{LD} =25℃	—	45	70	mA
正向工作电压/ Forward Operating Voltage	V _{op}	P ₀ =50mW	—	—	1.7	P ₀ =100mW	—	—	2	P ₀ =200mW	—	—	2.3	V
正向工作电流/ Forward Operating Current	I _{op}	P ₀ =50mW	—	300	360	P ₀ =100mW	—	300	360	P ₀ =200mW	—	400	500	mA
MPD工作电压/MPD Operating Voltage	V _{mon}	P ₀ =50mW	—	5	—	P ₀ =100mW	—	5	—	P ₀ =200mW	—	5	—	V
MPD响应度/MPD Responsiveness	I _{mon} /P _{op}	—	1	—	30	—	1	—	30	—	1	—	30	uA/mW
热敏电阻BETA值/Thermistor BETA Value	β	—	3500	3930	4100	—	3500	3930	4100	—	3500	3930	4100	K
热敏电阻电流/Thermistor Current	I _{ther}	—	—	—	1	—	—	—	1	—	—	—	1	mA

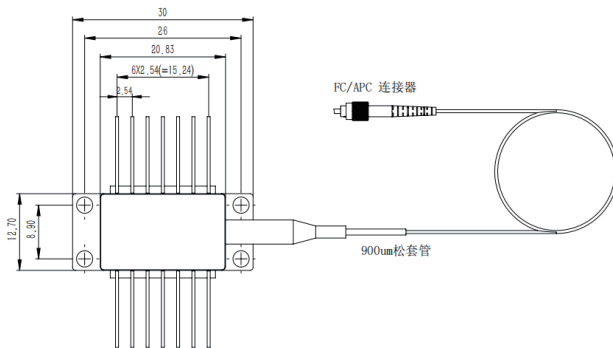
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存储温度/Storage Temperature	T_{stg}	-40	85	°C
存储湿度/Storage Humidity	—	5	85	%RH
防静电等级/Anti-Static Grade	V_{ESD}	—	500	V
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引脚焊接时间/Lead Soldering Time	S_{time}	—	10	sec
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尾纤长度/Fiber length	≥1m	M
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尺寸/Dimensions