

电源技术规格书 (客户承认书)  
**SPECIFICATION FOR APPROVAL**

**The powerful switching power supply...**

客户/CUSTOMER: \_\_\_\_\_

客户物料号/CUSTOMER NO.: \_\_\_\_\_

机种型号/MODEL NO.: 1501FC-190-07890

机种料号/P/N .: \_\_\_\_\_

承认书版本/APPROVAL REV.: \_\_\_\_\_

样品编号: /SAMPLE NO: \_\_

日期 /DATE: 2023.11.15

产品颜色: SAMPLE COLOR: Black  White

符合环保项: ROHS  REACH

客户承认签核准/CUSTOMER AUTHORIZED SIGNATURE			
承认章/CUSTOMER	承认/ ACCEPTED	审核/CHECKED	批准/APPROVED

客户确认签字，盖章后请回传一份承认书给我司。

Please return to us on copy of "SPECIFICATION FOR

确认章/SUPPLIER	拟制/ DRAFTED	审核/CHECKED	批准/APPROVED

APPROVAL" with your approved signature.

广州市永青源电子有限公司  
Guangzhou Yong-qing-yuan Electronic Co., Ltd



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1、描述/ DESCRIPTION:

本规格书适应于1501FC-190-07890型号的开关电源.

The purpose of the document is to specify the functional requirements of a 1501FC-190-07890 switching power supply.

Input AC plug Type/输入AC插头类型:

DISK TOP IEC320 TYPE /桌上型品字尾类型Class II	YES	
DISK TOP IEC320 TYPE 3 PIN C14/桌上型3PIN类型C14 Class I	---	
DISK TOP IEC320 TYPE 3 PIN C6/桌上型3PIN类型C6 Class I	---	
WALL MOUNT CHINA/插墙型中规	---	
WALL MOUNT US/UL/插墙型美规	---	
WALL MOUNT EUROPE/CE/插墙型欧规	---	
WALL MOUNT UK/插墙型英规	---	
WALL MOUNT JAPAN/插墙型日规	---	
WALL MOUNT BRAZIL/插墙型巴西规	---	
WALL MOUNT KOREA/插墙型韩规	---	
WALL MOUNT AUSTRALIA/插墙型澳规	---	

2、输入特性/INPUT CHARACTERISTICS:

2. 1. 输入电压/Input Voltage:

额定电压/Rated Voltage:110~240Vac

调整范围/Variation Range:100-264Vac

2. 2. 输入频率/Input Frequency:

额定频率/ Rated Frequency: 50/60Hz.

调整频率/Variation Frequency:47-63Hz

2. 3. 输入电流/Input Current:

当输入交流电压为额定值的下限电压负载满载时,最大输入交流电流 3.0 A.

3.0Amps max At any input voltage and rated, DC output rated load.

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2. 4. 浪涌电流/Inrush Current:

当输出为额定负载, 环境温度为 25°C, 输入 220Vac 冷态起机时的最大浪涌电流小于为 60A.

60 Amps Max. Cold start at 220Vac input, rated output load and 25°C ambient.

2.5. AC漏电流/Ac Leakage Current:

当输入电压 240Vac 时, 最大漏电流为 0.5mA.

0.5mA Max. At240Vac input.

2.6. 功率因素/Power Factor:

输入电压110-240Vac, 满载条件, PF≥0.9

Input Voltage110-240Vac, Full load condition PF≥0.9

3、输出特性/OUTPUT CHARACTERISTICS

☒ 3.1. 恒压负载特性/ Constant voltage load characteristics

输出 Output	输出负载范围 Output Current Rated (A)		输出电压范围/Output Voltage Rated (V) DC接头或USB 端		额定输出功率 Output Power
	Min Load	Max Load	Min Load	Max Load	Max Power.
+19V dc	0.0A	7.89A	+18.4V	+19.6V	150W

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3.3. 负载特性, 调整率/Combined Load/Line Regulation

当额定输入电压±10%内变化, 带额定负载, 线性调整小于±3%

The line regulation is less than ±3% while measuring at rated load an±10% of input voltage changing.

当额定输入电压固定, 当输出负载变化, 输出负载调整率小于±5%.

When the rated input voltage is fixed, when the output load changes, the output load adjustment rate is less than ±5%.

3.4. 纹波和噪音 Ripple and Noise

测试条件: 在输入115/230Vac和输出最小及最大负载时, 使用示波器带宽为 20MHz连接到适配器的输出端, 同时输出端并联一个 47uF 的电解电容和一个 0.1uF的瓷片电容.

At 115/230Vac input and output Min and Max.Load, the ripple and noise are as follows when measure with Max.Bandwidth of 20MHz and Parallel 47uF/0.1uF, crossed connected at testing point.

Output/输出	+19V/7.89A		
最大纹波/最大噪音 Ripple and Noise (Max)	190mVp-p		

3.5. 启动延迟时间/Turn on delay time:

当输入 115Vac和输出最大负载时, 最大启动时间为 4S.

4Seconds Max.at 115Vac input and output Max.load.

3.6. 上升时间/Rise time:

当输入 115Vac和输出最大负载时最大时间为 100 mS.

100 mS Max.at 115Vac input and output Max load.

3.7. 保持时间/Hold up time:

当输入 115Vac 和输出最大负载时, 最小保持时间为 10 mS .

10 mS Min.at 115Vac input and output Max.Load.

3.8. 效率/Efficiency:

当115/230Vac输入电压时, 1/4, 1/2, 3/4和满载计算平均效率, 最小。

Min, At 115/230Vac input voltage, 1/4, 1/2, 3/4 and full load calculation average efficiency.

适配器满足能效 。能效为热机30分钟后测试.

Adapter meet efficiency lever 。Energy efficiency test for the heat machine after 30 minutes.

3.9. 待机功耗/Standby power consumption:

在输入230Vac条件下, 空载功耗≤0.21W ,

(≤0.21W@Input 230ac & NO Load)

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4、保护功能/PROTECTION FUNCTION:

4.1. 短路测试/Short circuit test:

该电源供给器在短路解除时能恢复正常工作.

The power supply will be auto recovered when short circuit faults remove.

4.2. 过流保护/Over current Protection:

过电流保护应按下表要求进行, 电源将保护, 故障排除后能恢复正常工作.

Max over current protection shall be follow below requirement.will be auto recovered when over currentfaults remove.

Output/输出	+19V/7.89A		
OPP Range/OPP范围	11A-15A		

4.3. 过压保护/Over Voltage Protection:

当输出电压超过额定电压的 120%~180%时, 电源将保护, 故障排除后能恢复正常工作.

The power supply will auto recovered when faults remove 120%~180%.

4.4 过冲/Overshoot:

在电源开启或关闭的时候, 输出过冲电压不能超过上限电压的 15%.

During either Turn-On or Turn-Off, the output overshoot voltage shall not exceed upper limit voltage 15%

4.5 过温度保护/Over Temperature Protection:

当温度超过电源内部控制芯片的最高温度时, 控制芯片自动停止工作. 待芯片温度恢复正常工作温度时, 电源自动恢复工作.

When the temperature exceeds the maximum temperature of the internal control chip of the power supply, the control chip automatically stops working. When the temperature of the chip returns to normal temperature, the power supply automatically resumes operation.

5、环境要求/ENVIRONMENTAL REQUIREMET:

5.1. 工作温度/Operating Temperature:

-10°C-40°C, 满载, 正常工作.

-10°Cto 40°C ,Full load, Normal operation.

5.2. 工作湿度/Relative Humidity:

10%~90%, 满载, 正常工作.

10%~90%RH, Full load, Normal operating.

5.3. 储藏温度/Storage Temperature:-40°C to 70°C

带外壳/With package

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5.4. 储藏环境相对湿度:5% 至 95%/Storage Ambient Relative Humidity:5% to 95%  
带外壳/With package

5.5. 低温工作实验/Operation at the low temperature:

环境温度  $-10\pm 2^{\circ}\text{C}$ , 在输入端施加额定电压 110VAC -240Vac 输出端空载与满载状态下工作 2 小时, 试验后常温放置 2 小时, 无特性异常。

Within the input voltage from 110VAC to 240VAC and the output with rated load and no load for 2 hours at the temperature of  $-10\pm 2^{\circ}\text{C}$ , after 2 hours at ambient temperature, the adapter shall be without abnormal performance.

5.6. 高温工作实验/Operation at the high temperature:

环境温度  $40\pm 2^{\circ}\text{C}$ , 在输入端施加额定电压 110VAC -240Vac 输出端空载与满载状态下工作 2 小时, 试验后常温放置 2 小时, 无特性异常

Within the input voltage from 110VAC to 240VAC and the output with rated load and no load for 2 hours at the temperature of  $40\pm 2^{\circ}\text{C}$ , after 2 hours at ambient temperature, the adapter shall be without abnormal performance.

5.7. 低温存储/Storage at the low temperature:

在 $-40\pm 2^{\circ}\text{C}$ 非工作状态下进行试验 48 小时, 试验后常温放置 2 小时后测试无异常。

At  $-40\pm 2^{\circ}\text{C}$ , test of non-operated 48 hours, No abnormality in electric and mechanical characteristic after 2 hours recovery at the room temperature.

5.8. 高温存储/Storage at the higher temperature:

在  $70\pm 2^{\circ}\text{C}$ 非工作状态下进行试验 48 小时, 试验后常温放置 2 小时后测试无异常。

At  $70\pm 2^{\circ}\text{C}$ , test of non-operated 48 hours, No abnormality in electric and mechanical characteristic after 2 hours recovery at the room temperature.

5.9. 振动/Vibration:

1). 测试标准:国际电工电子委员会

Operating: IEC 721-3-3 3M3

5~9Hz, A=1.5mm

加速度(9~200Hz, Acceleration 5m/S<sup>2</sup>)

2). 运输/Transportation:

IEC 721-3-2 2M2

5-9Hz, A=3.5mm

9~200Hz, 加速度 Acceleration=5m/S<sup>2</sup>

200~500Hz, 加速度 Acceleration=15m/S<sup>2</sup>

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3). 轴向振动/Axes, 10 cycles per axis.

在测试过程中不能出现永久性的损坏.

No permanent damage may occur during testing.

在电源开启和关闭后, 样机能够恢复到最初条件.

The SAMPLE has to restore to its original situation after power off/on.

5.10. 跌落试验/Dropping Packed:

插墙式跌落高度为 1000mm、桌面式跌落高度为 760mm; 共 3次, 测试完成后产品无安全损坏.

1000mm for wallmount type and 760mm for desktop type as above described.

A total of times, There is no safety damage after the test.

测试台面是厚 13mm的夹木板, 离地面高 19-20mm

The horizontal surface consists of hardwood at least 13mm thick, mounted on two layers of plywood each 19mm to 20mm thick, all supported on a concrete or equivalent non-resilient floor.

6、安全及 EMI 要求/SAFETY AND EMI REQUIREMENT:

6.1. 安全/ Safety:符合标准 / accord with

- IEC 60950-1     IEC 60065     IEC 60335     IEC 61558     IEC 61347  
 ETL 60950-1     ETL 1310     UL 60950-1     UL 1310     GB 4706  
 GB 4943     GB 8898     GB 19510

类型 type	国家country	类型type	国家country
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<input type="checkbox"/> ETL/CETL	美国/USA	<input type="checkbox"/> PSB	新加坡/Singapore
<input type="checkbox"/> GS	欧洲/Europe	<input type="checkbox"/> CB	欧洲/Europe
<input type="checkbox"/> FCC	美国/USA	<input type="checkbox"/> C-TICK/SAA	澳洲/Australia
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<input type="checkbox"/> IRAM	阿根廷/Argentina	<input type="checkbox"/> GOST R	俄罗斯/Russia

6.2. 高压/DIELECTRIC STRENGTH Hi-Pot:

初级对次级/Primary to secondary:

3000Vac, 10mA 或者4242Vdc, 5mA, 标准测试1分钟, 量产测试 1800Vac, 5mA, 3秒钟 3000Vac, 10mA or 4242Vdc/5mA , 1minute for type test. 1800Vac, 5mA for 3 seconds for product.

6.3. 绝缘抗阻/ Insulation resistance:

初级对次级/Primary to secondary:20MΩ min at 500V DC.

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#### 6.4. EMI标准/EMI STANDARD

Meets the Limits of/测试符合

<1> Radiation emissions test 电磁辐射干扰测试

Test criteria (测试标准): GB9254/EN55032/ CISPR 22, class B/FCC Part 15.

<2> Conducted emissions test 电磁传导干扰测试

Test criteria (测试标准): GB9254/EN55032//CISPR 22, class B/FCC Part 15.

<3> EFT test EFT 测试

EN 55024:2015, EN 61000-4-4:2012

Power line: 1.0kV

Performance Criteria B

<4> Lightning test 雷击测试

EN 55024:2015, EN 61000-4-5:2014

Differential mode standard(差模标准):  $\pm 1.0\text{kV}$

Common mode standard(共模标准):  $\pm 2.0\text{kV}$

Performance Criteria B

<5> ESD test 静电测试

EN 55024:2015, EN 61000-4-2:2009

Contact Discharge(接触放电):  $\pm 4\text{kV}$

Air Discharge(空气放电):  $\pm 8\text{kV}$

Performance Criteria B

#### 7. 可靠性要求/RELIABILITY REQUIREMENT

##### 7.1 煲机/Burn-in

环境温度:  $40\pm 2^\circ\text{C}$ , 标准的输入电压, 输出满载, 开发阶段老化时间24小时, 量产老化时间2H。

Typical input voltage and typical load current,  $40\pm 2^\circ\text{C}$ , development phase aging time 24H, production aging time 2H.

##### 7.2 Temperature rise/温升

环境温度:  $25^\circ\text{C}$ , 标准的输入电压, 输出满载, 外壳温度符合安规要求。

Test at surface of the case with typical, typical input voltage and typical load,  $25^\circ\text{C}$ , Temperature rise meet safety approval at the surface of case.

##### 7.3 平均无故障运行时间/MTBF

常温在  $25^\circ\text{C}$  环境下, 电源工作在规格范围下, 平均无故障时间至少20000 hours. 参考标准: MIL-HDBK-217F

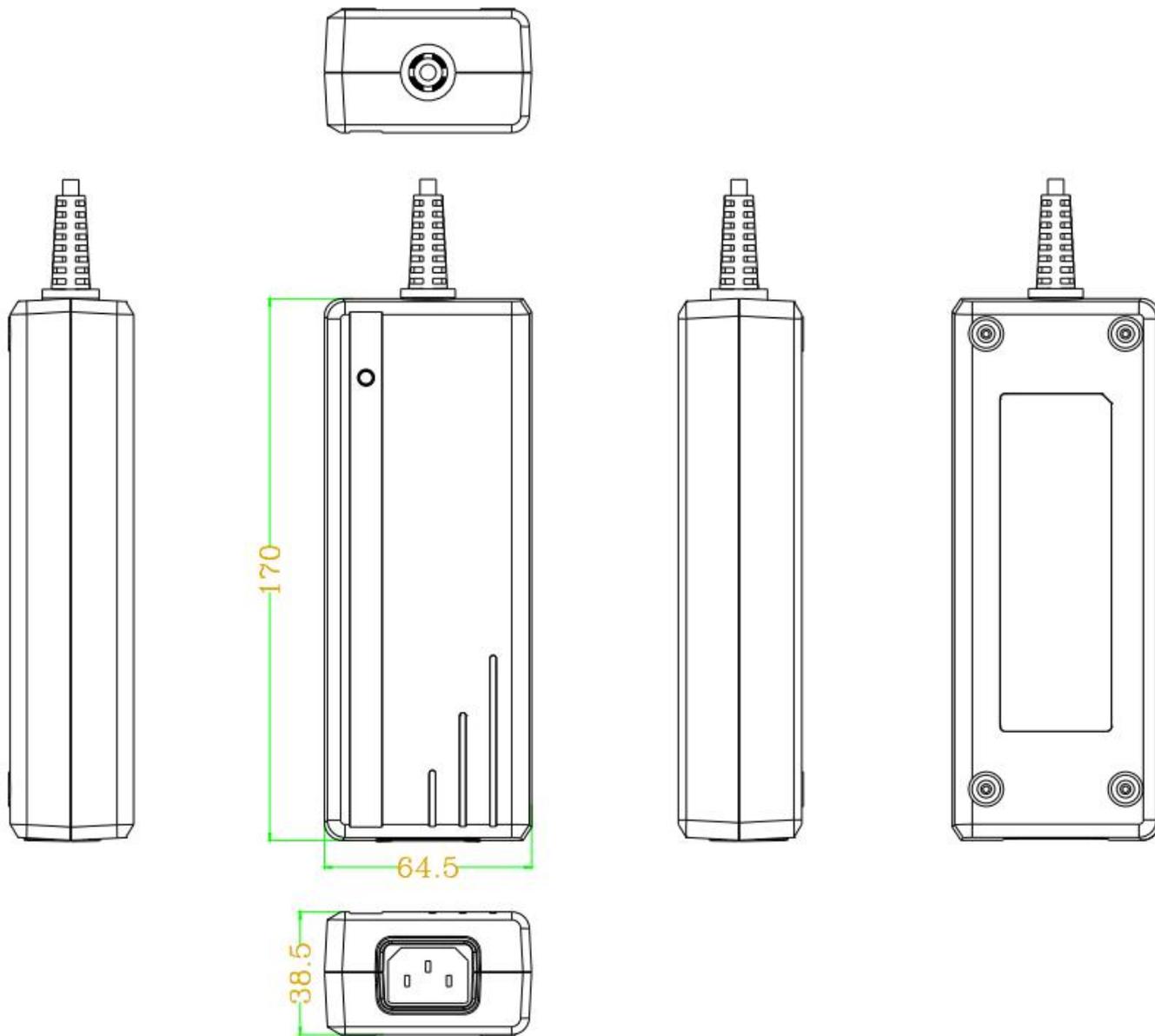
When the power supply is operating within the limits of this specification the MTBF shall be at least 20000 hours at  $25^\circ\text{C}$ . Reference standard: MIL-HDBK-217F

#### 8. 结构参数/MECHANICAL REQUIREMENT

L:长170mm\*宽64.5mm\*高38.6mm

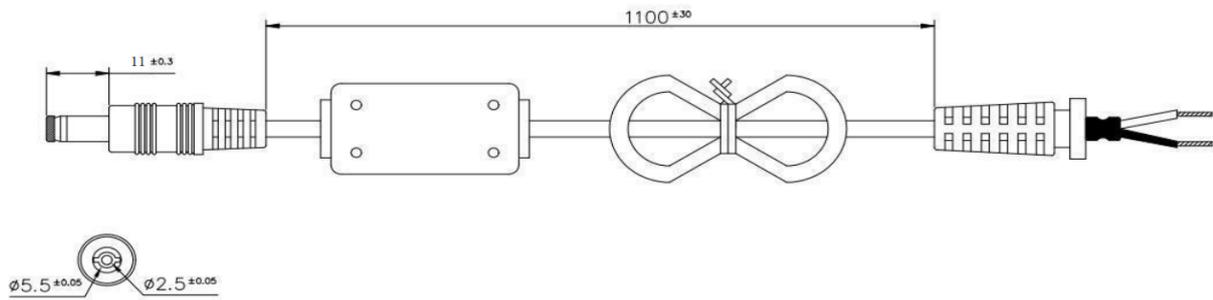
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结构  
参数/MECHANICAL REQUIREMENT



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线材/CORD



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铭牌附图/LABEL



SWITCHING POWER SUPPLY

开关电源

MODEL/型号: YQ-1501FA-190-07890

INPUT/输入: 220-240V~ 50-60Hz 3A

OUTPUT/输出: +19.0Vdc  $\approx$  7.89A



CAUTION: 注意

For use with IT equipment only.

仅限信息技术设备使用

For use below 2km meters above sealevel only.

仅限海拔2000米以下使用

To safe use in non-tropical climates!

仅适用于非热带气候条件下安全使用!

This apparatus must be earthed.

本产品必须接地

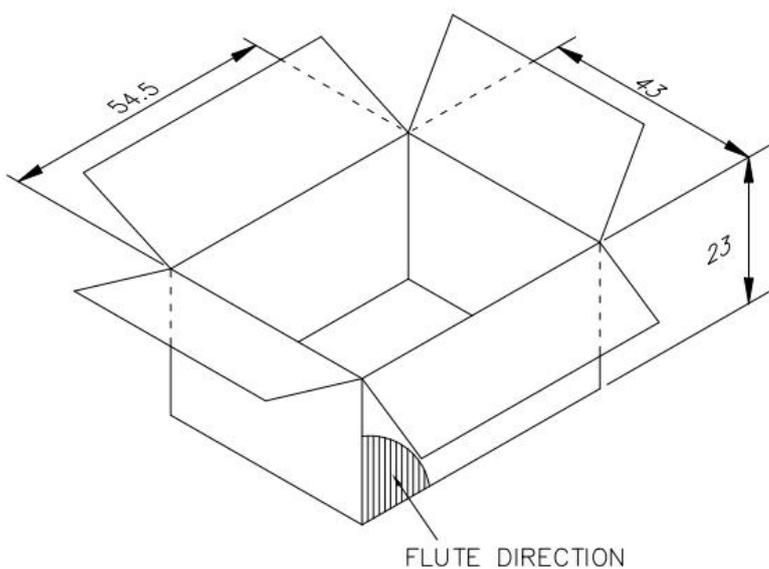
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制造商:广州市永青源电子有限公司  
Guangzhou Yong-qing-yuan Electronics co.,Ltd  
中国制造 MADE IN CHINA

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包装说明/PACKING



NOTE:

1. CARTON 材質為AB 楞五層(t=7mmTYP), 抗張力16 公斤/cm<sup>2</sup>.
2. 外箱尺寸為外部尺寸,公差為: +5,-0.
3. 裝箱方式: 以40PCS 為一層, 共裝一層, 共計 40PCS/CTNS

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