

参考规格书

SPECIFICATION FOR REFERENCE

CUSTOMER: 客 户:	
CUSTOMER P.N.: 客户料号:	
MODEL NO.: 产品型号:	K30-P6000J120-072E0
PRODUCT NO.: 产品编号:	SCXXX-F0
SAMPLE DATE: 送样日期:	2024-03-18

CUSTOMER AUTHORIZED SIGNATURE 客户承认签核		

Please return to us one copy of "SPECIFICATION FOR APPROVAL" with you approved signature.

客户确认签字，盖章后请回传一份承认书给我司。

ADD: MOSO Industrial Park, Nanshan District, Shenzhen, Guangdong 518108, P. R. China

地址:深圳市南山区茂硕科技园

TEL: 86-755-27657000 27657555

P.C.: 518108

FAX: 86-755-27657908

E-mail:moso@mosopower.com

<http://www.mosopower.com>

MANUFACTURER AUTOGRAPH 制造商签名			
Reviser 修订	Confirm 确认	Checked 审查	Approval 批准

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1. SCOPE/范围

The document detail the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 72W continuous output power.

资料详细描述了一款 **72W (连续输出功率)**开关电源的电气性,结构性及环境等要求。

The power supply shall meet the **HSF** requirement.

此款电源符合 **HSF** 要求.

1.1.Description /类型

- SMPS Adaptor(Wall mount)/插墙式适配器 SMPS Adaptor(Desk-top)/桌面型适配器
 Open Frame/开放式结构 SMPS Unit (With Case)/带铁壳型
 Others/其他

1.2.Green Requirements/环保要求

- RoHS:2011/65/EU & (EU) 2015/863;
 REACH:1907/2006/EC;
 Halogen-free:IEC 61249-2-21;
 CA Prop 65;
 POPs:(EU)2023/1608;
 PAHs: 2005/69/EC;
 Packaging Directive:94/62/EC;
 US EPA Toxic Substances Control Act (TSCA);
 MOSO Environmental standards: WI-QM006-G;
 Others

1.3.Energy Efficiency Requirements/能效要求

No.	Country/国家地区	Energy efficiency abbreviation/能效简称	Whether it meets the requirements/是否符合(YES/是 <input checked="" type="checkbox"/> , NO/否 <input type="checkbox"/>)
1	USA/美国	DoE VI	<input checked="" type="checkbox"/>
2		CEC	<input type="checkbox"/>
3	Canada/加拿大	NRCAN	<input type="checkbox"/>
4	Australia/New Zealand/ 澳大利亚/新西兰	GEMS	<input type="checkbox"/>
5	Europe/欧盟	Erp VI	<input checked="" type="checkbox"/>
6		CoC Tier 2	<input type="checkbox"/>
7	South Korea/韩国	KMEPS	<input type="checkbox"/>
8	Mexico/墨西哥	MEPS	<input type="checkbox"/>
9	Byelorussia/白俄罗斯	MEPS	<input type="checkbox"/>

2. Input Characteristics/输入特性

2.1. Input Voltage & Frequency/输入电压与频率

The range of input voltage is from 90Vac to 264Vac single phase,
输入电压范围: 从 **90Vac** 到 **264Vac**, 单相输入。

	Minimum/最小	Nominal/额定值	Maximum/最大
Input Voltage/输入电压	90Vac	100Vac~240Vac	264Vac
Input Frequency/输入频率	47Hz	50Hz /60Hz	63Hz

2.2. Input AC Current/AC 输入电流

Input Voltage/输入电压	100Vac~240Vac	Full load
Input AC Current/AC 输入电流	2A Max	Full load

2.3. Inrush Current (cold start)/浪涌电流(冷启动)

The energy of inrush current should not be over the I^2T of fuse & bridge diodes.
冷启动时, 浪涌能量不能超过整流桥和保险丝的 I^2T , 且不能有损坏。

2.4. Averaged Efficiency/平均效率

88% min. @ 115Vac/60Hz, 230Vac/50Hz input (Average @ 25%, 50%, 75% and 100% of max load)

输入电压 **115Vac/60Hz, 230Vac/50Hz** 时, **25%、50%、75%和 100%**载时的平均效率不低于 **88%**

2.5. Energy Consumption /空载功耗

No load Consumption $\leq 0.21W$ (230Vac/50Hz).

在额定输入 **230Vac/50Hz** 时, 空载功耗 $\leq 0.21W$ 。

3. Output Characteristics/输出特性

3.1. Static Output Characteristics <Vo & R+N>/静态输出特性

Output	Rated Load/额定负载		Output Range	R+N	Remark
Rate	Min. Load	Rate.Load	输出电压范围	纹波与噪声	备注
+12 V	0.0A	6A	11.4V~ 12.6V	120mVp-p	115/230V

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor. (test under the condition of rated input and rated output).

纹波与噪声: 量测时示波器选用 **20MHz** 带宽限制, 输出端要并联一颗 **0.1uF** 的陶瓷电容和一颗 **47uF**

的

电解电容。(在额定输入及输出的条件下检测)。

3.2. Line/ Load Regulation/线性/负载调整率

Output	Load Condition/负载条件		Line Regulation	Load Regulation	Remark
Rate	Min. Load	Rate.Load	线性调整率	负载调整率	备注
+12 V	0.0A	6A	$\pm 2\%$	$\pm 5\%$	

3.3. Turn - on Delay Time/开机延迟时间

3S max. @ 115Vac to 230Vac input & Full load.

输入电压 **115Vac to 230Vac** 满载时, 开机延迟时间不超过 **3S**。

3.4.Hold-up Time/关机维持时间

16mS min. @ Full load &230Vac/50Hz input turn off at worst case.

输入电压 230Vac/50Hz 满载时, 关机时间最差情况不小于 16 毫秒。

3.5.Rise Time/上升时间

50 mS max. @ Rated load.

额定负载时, 上升时间不超过 50 毫秒。

3.6.Fall Time/下降时间

30 mS max. @ Full load.

满载时, 下降时间不超过 30 毫秒。

3.7.Output Overshoot / Undershoot/输出过冲/欠冲

10 % max. When the power on or off, when it is the full input voltage and full load.

开关机时, 输出过冲/欠冲均不大于 10%。

3.8.Output Load Transient Response/输出负载瞬态响应

Output voltage within 10.8V~13.2V for load step from 25% to 50% to 25%,50% to 75% to 50% R/S: 0.25A/uS, Transient Response Recovery Time :200uS, Dynamic response overshoot 10%.

输出电压在 10.8V~13.2V 之间,负载变化: 从 25% to 50% to 25%, 50% to 75% to 50%斜率: 0.25A/uS, 动态响应恢复时间: 200uS, 动态响应过冲±10%。

4. Protection Requirements/保护要求

4.1.Over Power Protection/过载保护

Over Current Point Limited/过流点限制: 7.2A-10.8A(100-240Vac)

The output shall hiccup when the over current applied to the output rail, and shall be auto-recovery when the fault condition is removed.

当过电流时,输出将进入打嗝模式,当过流情况解除后,产品将会自动恢复正常。

4.2.Short Circuit Protection/短路保护

The input power shall decrease when the output rail short, the power supply shall no damage, and shall be auto-recovery when the fault condition is removed.

当输出短路时,产品输入功率降低且不会损伤,当短路情况解除后,产品将会自动恢复正常。

4.3.Over Voltage Protection/过压保护

The power supply has to be protected against over voltage conditions. No damage allowed. The power supply must come back to nominal working without on/off powering after removal of the over voltage condition. Maximum output value 20V at In any others conditions (over voltage protection).

当过压保护时,产品输出功率不会损伤,当过压情况解除后,产品恢复正常。过电压保护时,最大输出 20V。

5. Environment Requirements/环境要求

5.1.Operating Temperature and Relative Humidity/操作温/湿度要求

0°C to +40°C

10%RH to 90%RH

5.2.Storage Temperature and Relative Humidity/存储温/湿度要求

-20°C to +80°C

5%RH to 95%RH non-condensing

5.3.Sea level shall be low 5.000 meters/低于 5000 米.

5.4.Vibration/振动

10 ~ 500Hz, 5G 10 minutes/cycle, X, Y, Z axis each 60 minutes.

10 ~ 500Hz, 5G 10 分钟/周期, X、Y、Z 轴各 60 分钟

6. Reliability Requirements/可靠性要求

6.1.Burn-in/煲机

The power supply shall be burn-in for 4 Hours under normal input and 80% rated load at 35°C ± 5°C , the electric performance and Hi-Pot test must be OK

35°C ± 5°C, 电源在正常输入电压和 80%额定负载条件下老化 4 小时后, 电气性能及高压测试 OK。

6.2.MTBF/平均间隔故障时间

The MTBF of power supply shall be over than 50,000H @ 25°C 100% load. Test standard : SR-332.

平均间隔故障时间: 在 25°C, 额定输入与满载条件下, 至少工作 50,000 小时。测试标准: SR-332.

6.3.protection function/保护功能

The power supply will not trigger the protection function when it work at 70°C

电源在 70°C工作时不会触发保护功能

6.4.Moisture proof treatment/防潮处理

Three proof paint

三防漆

7. EMI/EMS Standards/EMI/EMS 标准

7.1.EMI Standards/EMI 标准

EN55014-1 EN55014-2 FCC Part15

7.2.EMS Standards/EMS 标准

7.2.1.EN 61000-4-2,electrostatic discharge(ESD) requirement/静电抗扰度要求

Discharge characteristic/静电规格	Test level/测试条件	Test criteria/测试标准
Air discharge/空气放电	+/- 8KV	B
Contact discharge/接触放电	+/- 4KV	B

7.2.2.EN 61000-4-3,radiated electromagnetic field susceptibility(rs)/辐射骚扰场强

Test level/测试条件	Test criteria/测试标准
10V/m (r.m.s)	A
30-1000MHz,80%AM(1KHz) sine-wave	

7.2.3.EN 61000-4-4,electric fast transients(burst) immunity requirement/电快速瞬变脉冲群

Coupling/测试端口	Test level/测试条件	Test criteria/测试标准

AC-input/交流输入	0.5KV	B
AC-input/交流输入	1KV	B

7.2.4.EN 61000-4-5,surge capability requirement/浪涌抗扰度要求

Surge voltage/雷击电压	Test criteria/测试标准
Common mode/共模 +/- 4KV	B
Differential mode/差模 +/-2KV	

7.2.5.EN 61000-4-6, Induced radio frequency fields conducted disturbances immunity requirement/电源端子传导骚扰实验

Test level/测试条件	Test criteria/测试标准
3V	A
0.15-30 MHz,80%AM(1KHz)	

7-2-6 Assessment criteria /评估标准

Acceptance criteria 可接受标准	Performance 性能
A	Agreed operational behavior within the specified limits 性能不允许变化; 如果性能会发生变化, 则变化的范围在产品规格书规定的范围内.
B	Time limited functional diminishment or malfunction during the tests is permitted. The function is self-reactivated by the unit following completion of the tests. 设备在测试过程中,性能降低允许在产品规格书要求范围内,干扰消除后,设备能恢复正常,不允许出现复位和任何方式的人工干预.
C	Malfunction is permitted .The function can be reactivated either by reconnection to the mains or by operator intervention. 在测试过程中, 设备允许出现业务中断, 测试完毕后允许自行恢复或者人工干预恢复(包括硬件上干预); 测试中只允许初级防护器件损坏, 并且更换损坏的初级防护器件后, 设备能恢复正常

8. Safety Standards/安规标准

8.1.Dielectric Strength(Hi-pot)/介电耐压强度(高压)

I/P- O/P: 3KVac / 5 mA max. / 60 second .

输入对输出: 3KVac / 5mA max. / 60 秒.

8.2.Leakage Current/漏电流

3.5mA max. at 264Vac / 60Hz.

8.3.Insulation Resistance/绝缘阻抗

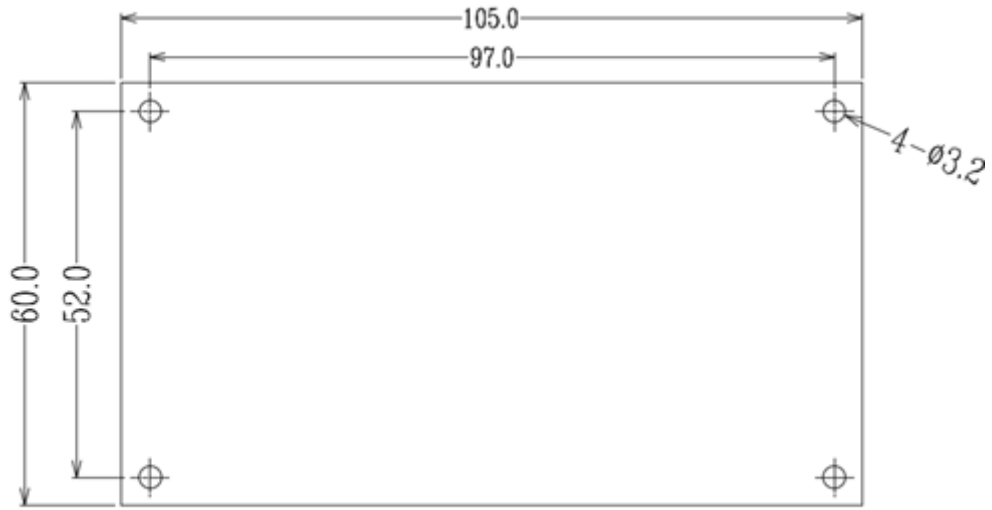
100MΩ min. at primary to secondary add 500Vdc test voltage.

在初级与次级间加 500Vdc 进行测试.

8.4.Regulatory Standards/安规标准

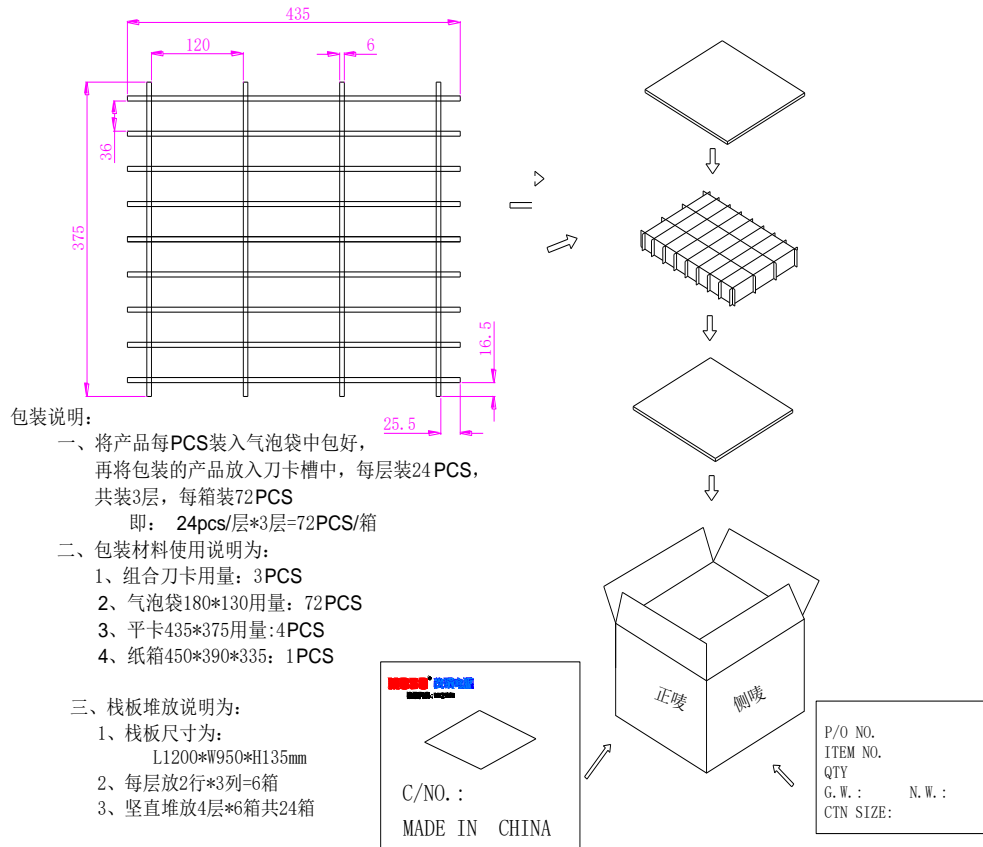
Type/安规	Country/国家	Standard/标准	State/状况	Note/备注
CE	Europe	EN60335-1	MEET	
UL	USA	UL1310	MEET	

9. Mechanical Outline Drawing/外观示意图



12V-6A电源尺寸
高度32mm(含焊脚高度)

10. Packing instructions/包装说明



- 气泡袋包装要求：气泡袋不用胶带封口；
气泡袋用胶带封口；
其它要求；

备注：若客户未进行选择气泡袋包装要求或备注时，
我司默认采用气泡袋不用胶带封口包装方式。