



茂硕电源科技股份有限公司

MOSO POWER SUPPLY

TECHNOLOGY CO. LTD

MOSO Industrial Park, Nanshan District,
Shenzhen, Guangdong 518108, P. R. China
TEL: 86-755-27657000 27657555
P.C.:518108
FAX: 86-755-27657908
http://www.mosopower.com

参考规格书

SPECIFICATION FOR REFERENCE

CUSTOMER/客户： _____

CUSTOMER P.N./客户物料号： _____

MODEL NO./产品型号： MSS-V2500WR120-030E1-US

PRODUCT NO./产品编号： _____

SAMPLE DATE/送样日期： 2021-12-22

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

拟 制：	安规工程师：	项目工程师：	批 准：

**** Table Of Content/目录 ****

1.	SCOPE.....	4
1.1.	Description	4
2.	Input Characteristics/输入特性.....	4
2.1.	Input Voltage & Frequency/输入电压与频率	4
2.2.	Input AC Current/AC 输入电流	4
2.3.	Inrush Current (cold start)/浪涌电流(冷启动).....	4
2.4.	Averaged Efficiency /平均效率.....	4
2.5.	Energy Consumption /空载功耗.....	4
3.	Output Characteristics/输出特性	4
3.1.	Static Output Characteristics <Vo & R+N>/静态输出特性	4
3.2.	Line/ Load Regulation/线性/负载调整率	5
3.3.	Turn - on Delay Time/开机延迟时间	5
3.4.	Hold-up Time/关机维持时间.....	5
3.5.	Rise Time/上升时间	5
3.6.	Fall Time/下降时间	5
3.7.	Output Overshoot / Undershoot/输出过冲/欠冲	5
3.8.	Output Load Transient Response/输出负载瞬态响应	5
4.	Protection Requirements/保护要求.....	5
4.1.	Over Current Protection/过流保护:.....	5
4.2.	Short Circuit Protection/短路保护	5
4.3.	Over Voltage Protection/过压保护	6
5.	Environment Requirements/环境要求.....	6
5.1.	Operating Temperature and Relative Humidity/操作温/湿度要求	6
5.2.	Storage Temperature and Relative Humidity/存储温/湿度要求.....	6
5.3.	Sea level 2,000 meters/海拔 2,000 米。	6
5.4.	Vibration/振动	6
5.5.	Drop Test/跌落.....	6
6.	Reliability Requirements/可靠性要求.....	6
6.1.	Burn-in/煲机.....	6
6.2.	MTBF Qualification/平均间隔故障时间估算	6
7.	EMC Standards/ EMC 标准	6
7.1.	EMI Standards/EMI 标准.....	6
7.2.	EMS Standards/EMS 标准	6
8.	Safety Standards/安规标准	8
8.1.	Dielectric Strength(Hi-pot)/介电耐压强度(高压).....	8
8.2.	Leakage Current/漏电流	8
8.3.	Insulation Resistance/绝缘阻抗	8



茂硕电源科技股份有限公司

MOSO POWER SUPPLY
TECHNOLOGY CO. LTD

MOSO Industrial Park, Nanshan District,
Shenzhen, Guangdong 518108, P. R. China
TEL: 86-755-27657000 27657555
P.C:518108
FAX: 86-755-27657908
<http://www.mosopower.com>

8.4.	Regulatory Standards/安规标准	8
9.	Mechanical Outline Drawing/外观示意图	9
10.	I/O Marking Drawing/铭牌示意图	9
11.	Package Drawing/包装示意图	10

1. SCOPE

The document detail the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 30W continuous output power. **NO-Y**

资料详细描述了一款 **30W(连续输出功率)**开关电源的电气性,结构性及环境等要求.**NO-Y**

The power supply shall meet the **RoHS & Halogen-free** requirements

此款电源符合 **RoHS & 无卤**要求.

1.1. Description

- 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

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	60Hz/50Hz	63Hz

2.2. Input AC Current/AC 输入电流

1A max. @ 100-240Vac input & Full load.

输入电压 **100-240Vac** 满载时, 输入电流不超过 **1A**。

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

100A max. @ 264Vac input

输入电压 **264Vac** 时, 输入电流不超过 **100A**。

2.4. Averaged Efficiency /平均效率

86.95% min. @115/230Vac input (@25%, 50%, 75% and 100% of max load).

输入电压 **115V/230V** 时, **25%、50%、75%和 100%**载时的平均效率不低于 **86.95%**。

2.5. Energy Consumption /空载功耗

No load consumption $\leq 0.1W$ (115Vac/60Hz & 230Vac/50Hz input) .

空载功耗 $\leq 0.1W$ (115Vac/60Hz & 230Vac/50Hz input)

3. Output Characteristics/输出特性

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

Output Rate	Rated Load/额定负载		Output Range 输出电压范围	R+N 纹波与噪声	Remark 备注
	Min. Load	Max. Load			
+12.0V	0.0A	2.5A	11.4V ~12.6V	120mVp-p	100-240V

Ripple & Noise: Measurement is done by 20MHz b width oscilloscope paralleled a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor. (test under the condition of rated input and rated output)。

纹波与噪声: 测量时, 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 **10uF** 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 Rate	Load Condition/负载条件		Line Regulation 线性调整率	Load Regulation 负载调整率	Remark 备注
	Min. Load	Max. Load			
+12.0V	0.0A	2.5A	± 5%	± 5%	

3.3. Turn - on Delay Time/开机延迟时间

3S max. @ 100Vac to 240Vac input & Full load.

输入电压 **100-240V** 满载时, 开机延迟时间不超过 **3S**。

3.4. Hold-up Time/关机维持时间

10mS min. @ Full load & 115Vac/60Hz input turn off at the worst case.

输入电压 **115Vac/60Hz** 满载时, 关机时间最差情况不小于 **10** 毫秒。

20mS min. @ Full load & 230Vac/50Hz input turn off at the worst case.

输入电压 **230Vac/50Hz** 满载时, 关机时间最差情况不小于 **20** 毫秒。

3.5. Rise Time/上升时间

30mS max. @ Rated load.

额定负载时, 上升时间不超过 **30** 毫秒。

3.6. Fall Time/下降时间

30mS 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.

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 11.4-12.6V for load step from 25% to 50% to 25%, 50% to 75% to 50%
 R/S: 0.5A/uS, Transient Response Recovery Time :200uS, Dynamic response overshoot 5%.

输出电压 **11.4-12.6V** 时, 负载从 **25%** 到 **50%**到 **25%**, 或 **50%** 到 **75%**到 **50%**逐步变化, 斜率 **0.5A/uS**, 动态响应恢复时间 **200uS**, 动态响应过冲均保持±**5%**。

4. Protection Requirements/保护要求

4.1. Over Current Protection/过流保护:

Over Current Point Limited/过流点限制: $5A > I > 3A(100-240Vac)$

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

过流时, 输出将进入打嗝模式, 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 self-recovery when the fault condition is removed.

输出短路时, 输入功率会降低, 且电源不会损坏, 当短路情况解除后, 电源将会自动恢复正常。

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. OVP:18V Max.

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,OVP 最大 18V。

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

温度-20°C to +80°C, 湿度 5%RH to 95%RH。

5.3. Sea level 2,000 meters/海拔 2,000 米。

5.4. Vibration/振动

10 to 300Hz sweep at a constant acceleration of 1.0G(Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z.

扫描频率: 10 to 300Hz, 加速度: 1.0G(位移: 3.5mm), X, Y, Z 三垂直坐标轴向各振动 1 小时。

5.5. Drop Test/跌落

Height: 1m; the product should be fell off on the hardwood with the thickness of 20mm, and the hardwood should be put on the base of the cement or on the ground without flexibility.

Apply one times on all surface, totally 6 surfaces. The electric performance and Hi-Pot test must be OK after the drop tests.

跌落高度:1 米, 并跌落到厚度为 20mm 的硬木上,且硬木应放在水泥基座或等同的无弹性地面上,6 个面, 每面各 1 次。跌落后产品电气性能及高压测试 OK。

6. Reliability Requirements/可靠性要求

6.1. Burn-in/煲机

The power supply shall be burn-in for 2 Hours under normal input and 80% rated load at 40°C ± 5°C, the electric performance and Hi-Pot test must be OK.

产品至少要在 40°C ± 5°C 的环境及 80%额定负载条件下煲机 2 小时, 电气性能及高压测试 OK。

6.2. MTBF Qualification/平均间隔故障时间估算

The MTBF shall be at least 50,000hours at 25°C at 100% load @230Vac/50Hz input.

平均间隔故障时间: 在 25°C满载, 230Vac/50Hz 输入条件下, 至少工作 50,000 小时

7. EMC Standards/ EMC 标准

7.1. EMI Standards/EMI 标准

EN55032 EN55035

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	+/-15KV	A
Contact discharge/接触放电	+/-8KV	A

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
3V/m (r.m.s)	A
80-1000MHz,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	1KV	A
AC-input/交流输入	2KV	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 +/-2KV	A
Differential mode/差模 +/-1KV	

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
0.15-80 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)

Primary to Secondary: 3000Vac /10mA max. / 60 second.(For safety test)

初级对次级: **3000Vac / 10mA max. / 60 秒** (安规试验) .

Primary to Secondary: 3300Vac /5mA max. / 3S.(For MP)

初级对次级: **3300Vac / 5mA max. /3S**(生产作业).

8.2. Leakage Current/漏电流

0.25mA max. at 264Vac / 60Hz.

8.3. Insulation Resistance/绝缘阻抗

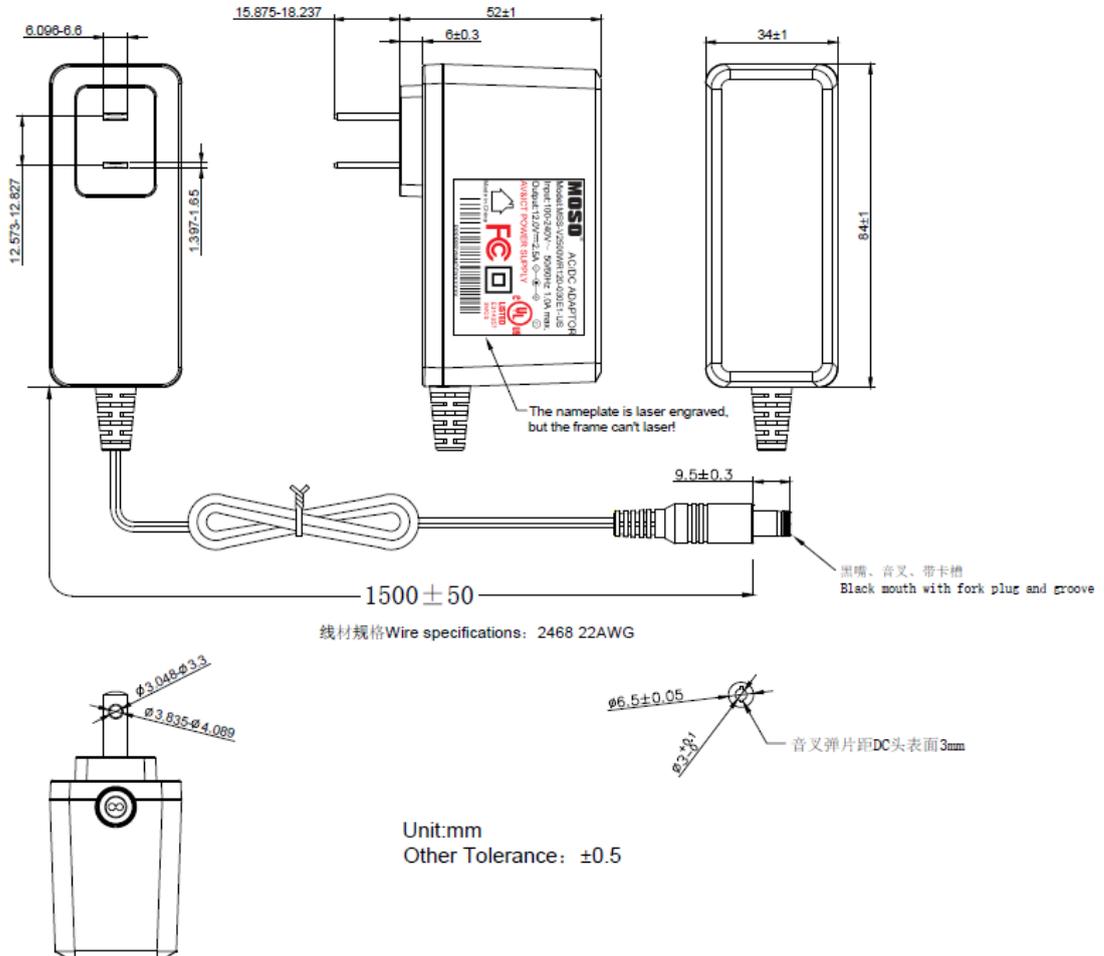
100MΩ min. at primary to secondary add 500Vdc/1min test voltage.

在初级与次级间加 **500Vdc/1min** 进行测试, 绝缘阻抗: 正常大气下 **100MΩ**

8.4. Regulatory Standards/安规标准

Type/安规	Country/国家	Standard/标准	State/状况	Note/备注
UL	USA	UL62368-1	MEET	

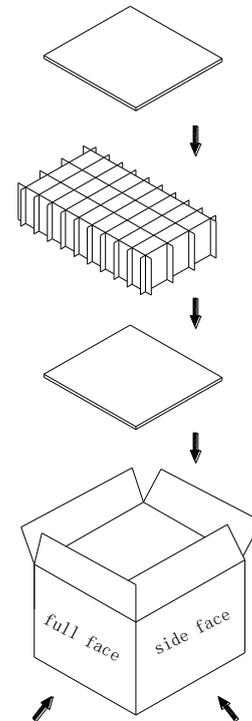
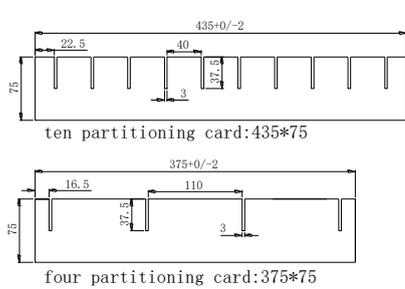
9. Mechanical Outline Drawing/外观示意图



- 外壳材质: ■PC 耐温: 125°C
 □PC+ABS 耐温: 95°C
 备注: 1)PC 材质符合球压测试要求
 2)外壳与线材为黑色 .

10. I/O Marking Drawing/铭牌示意图

11. Package Drawing/包装示意图



Packing Instruction:

I. the product put in the PE bag ,then the packing product put in the partitioning card groove, 27PCS/floor, 4 floors in all, 108PCS/box

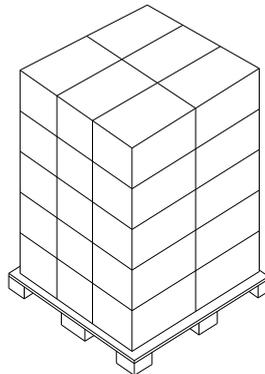
such as: 27pcs/floor*4floor=108 PCS/box

II. the usage of the packing materials:

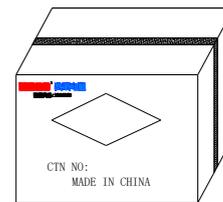
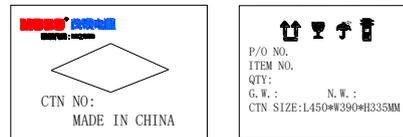
1. the usage of the ten partitioning card 435*75:16PCS
2. the usage of the four partitioning card 375*75:40PCS
3. the usage of the PE bag 265*165: 108PCS
4. the usage of the flat 435*375:5PCS
5. carton box 450*390*335: 1PCS

III. Pallet stacke instruction:

1. Pallet size is:L1200*W950*H135mm
2. per floor set 6pcs
3. stack per 5floor*6pcs carton total 30 pcs carton



The pallet stack drawing



The product will be packed in the carton box and the box will be sealed by the sticker

PE 袋包装要求: PE 袋不用胶带封口;

PE 袋用胶带封口;

其它要求;

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