

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-V3500WR120-042A0-US

PRODUCT NO./产品编号: SCxxx-U0

PRODUCTION NO./生产编号: _____

SAMPLE DATE/送样日期: 2023-07-14

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.

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1. SCOPE/简述

The document details the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 42W continuous output power.

资料详细描述了一款 42W 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 RoHS requirement.

此款电源符合 RoHS 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 (metal 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	50Hz /60Hz	63Hz

2.2. Input AC Current/AC 输入电流

1.2A max. @ 100-240Vac input & Full load.

输入电压 100-240Vac 满载时, 输入电流不超过 1.2A。

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

No damage shall be presented at the cold start

冷启动时不能有损坏

2.4. Averaged Efficiency/平均效率

87.66% min. @ 115/230Vac input (@25%, 50%, 75% and 100% of max load).

输入电压 115V 60Hz/230V 50Hz 时, 25%、50%、75%和 100%载时的平均效率不低于 87.66%。

2.5. Energy Consumption /空载功耗

No load Consumption \leq 0.1W(115Vac/60Hz,230Vac/50Hz).

输入电压 115Vac/60Hz,230Vac/50Hz 时,空载功耗均小于 0.1W。

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	3.5A	11.4V-12.6V	<120mV	100-240Vac

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	Max. Load	线性调整率	负载调整率	备注
+12.0V	0.0A	3.5A	± 3%	± 5%	

3.3. Turn - on Delay Time/开机延迟时间

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

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

3.4. 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。

3.5. Fall Time/下降时间

30mS max. @ Full load

满载时, 下降时间不超过 **30** 毫秒。

3.6. 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, 输入全电压时, 全负载时, 输出电压小于 **10%**。

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

Output voltage within 11.4-12.6V for load step from 20% to 80%, R/S: 0.5A/uS,
Frequency: 100Hz duration and 8mS at 80%.

输出电压在 **11.4-12.6V** 时, 负载从 **20%**到 **80%**, 斜率 **0.5A/uS**,频率: **100Hz**. **80%**负载持续时间为 **8mS**。

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: $7.0A > I > 3.85A$ (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.

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.

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。

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, 5%RH to 90%RH
温度 0°C到+40°C, 湿度 5%RH 到 90%RH。

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

-20°C to +70°C, 5%RH to 95%RH non-condensing , @ Sea level shall be low 5,000m.
海拔 5,000 米以下, 温度-20°C to +70°C, 湿度 5%RH to 95%RH

5.3. 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, 恒定加速度: 1.0G(位移: 3.5mm), X, Y, Z 三垂直坐标轴向各振动 1 小时。

5.4. Drop in/跌落

Height: 1m; the product should be fell off on the hardwood with the thickness of 20mm, Apply one times on all surfaces, total 6 times. 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 ,6 个面, 每面各 1 次, 在跌落后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 nominal input and 70%~80% load at ambient temperature of 40°C.

电源在额定输入和 70%~80%负载下, 在 40°C环境温度下老化 2 小时。

6.2. MTBF/平均故障时间

The MTBF shall be at least 50,000H at 25°C, under 100% load and 115V/230VAC input condition.

25°C环境下, 在 100%负载和 115V/230VAC 输入条件, 平均故障时间至少 50,000 小时。

6.3. E-caps lifetime/电容寿命

The E-caps used in this PSU must be with lifetime of 3 years @25°C@100% load@115Vac/60Hz and 230Vac/50Hz Input.

25°C下, 在 100%负载和 115V/230VAC 输入条件, 电解电容寿命必须有 3 年。

7. EMI/EMS Standards/EMI/EMS 标准

7.1. EMI Standards/EMI 标准

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	judgment criteria/评定标准
Air discharge/空气放电	+/-8KV	B

Contact discharge/接触放电	+/-4KV	B
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7-2-2 EN 61000-4-3, radiated electromagnetic field susceptibility(rs)/辐射骚扰场强

Test level/测试条件	judgment criteria/评定标准
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	judgment criteria/评定标准
AC-input/交流输入	+/-0.5KV	A
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	judgment criteria/评定标准
Common mode/共模 +/-2KV	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	judgment criteria/评定标准
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. / 60S (when safety testing)

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

Primary to Secondary: 3300Vac /10mA max. / 3S (when production)

初级对次级: 3300Vac / 10mA max. /3S(生产作业)

8.2. Leakage Current/漏电流

0.25mA max. at 264Vac / 50Hz

8.3. Insulation Resistance/绝缘阻抗

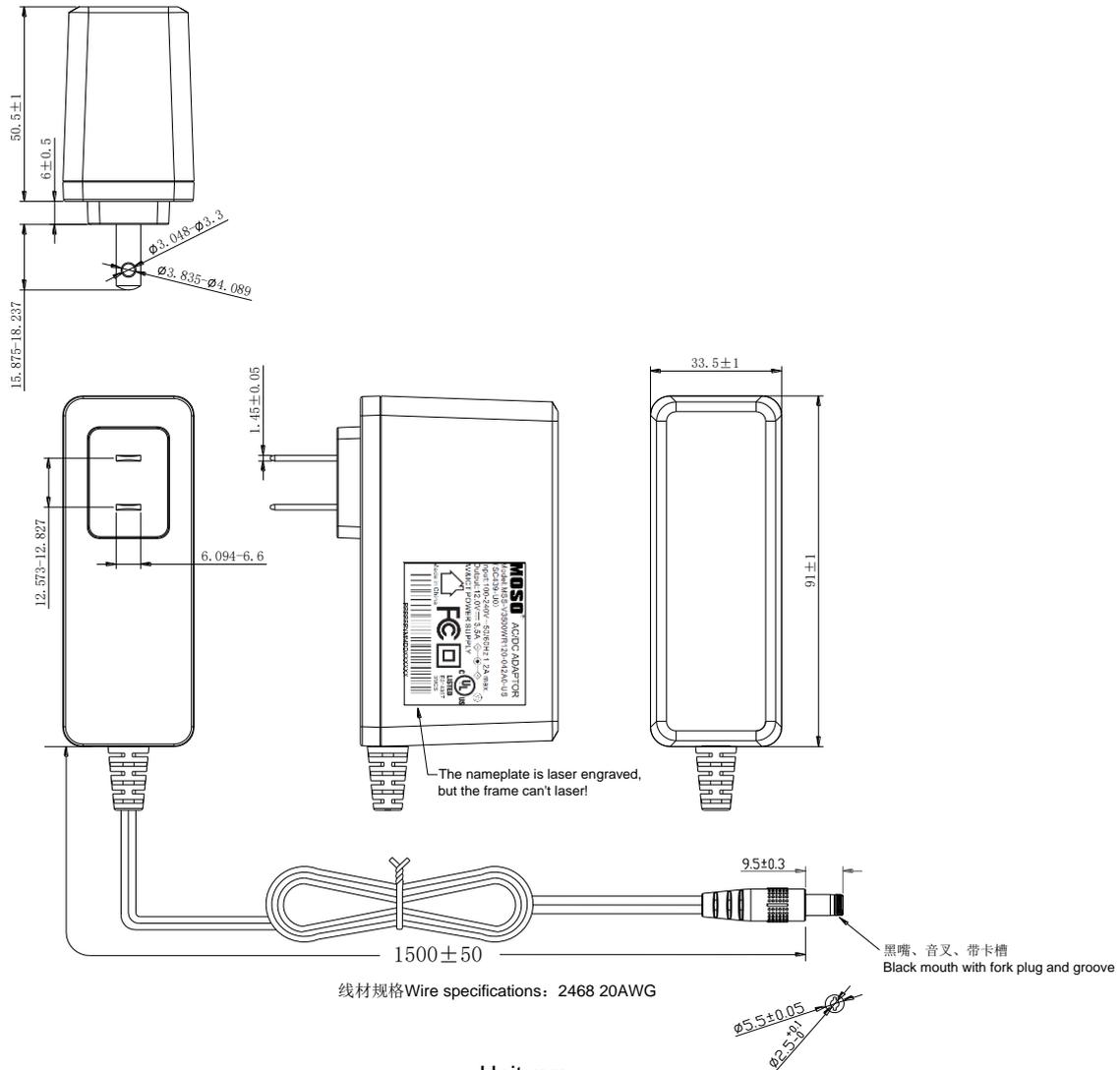
50MΩ min. at primary to secondary add 500Vdc test voltage.

在初级与次级之间加载测试电压 500V 测试, 绝缘阻抗最小 50MΩ.

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	APPROVAL	

9. Mechanical Outline Drawing/外观示意图



Unit:mm
Other Tolerance: ± 0.5

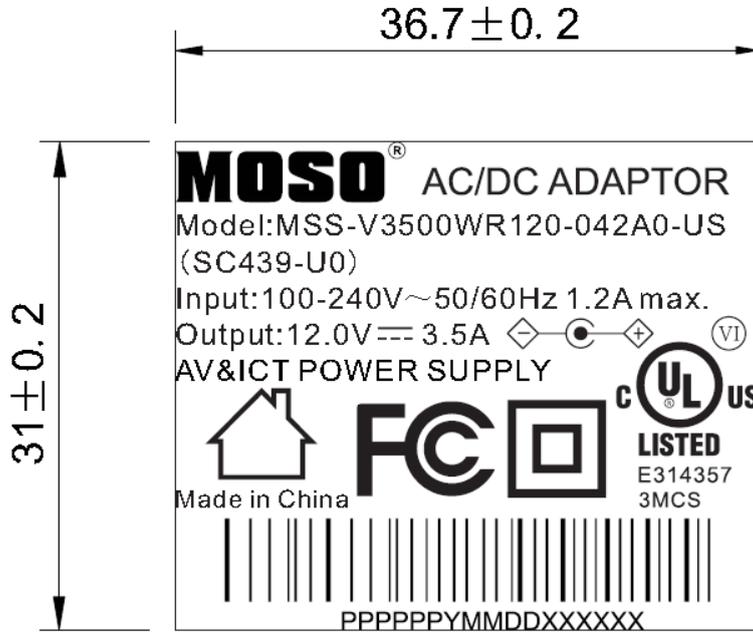
外壳材质: ■PC 耐温: 125°C.

□PC+ABS 耐温: 95°C.

备注: 1)PC 材质符合球压测试要求.

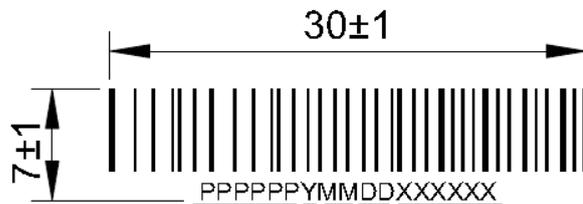
2)外壳与线材为黑色.

10. I/O Marking Drawing/铭牌示意图



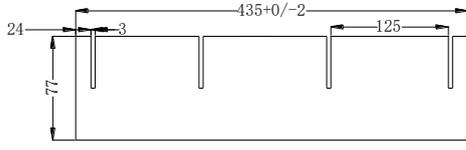
Remark:

1. Above label is laser engraved.
2. The dimension of double insulation mark can NOT less than 5mm.

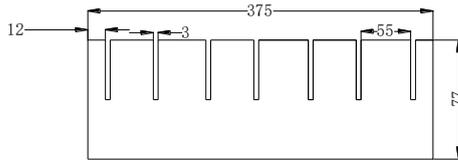


- product code(产品编码:实际S编码后六位, 如SC439-U0, 取C439U0)
- producing year(产品实际生产年份,年份最后一位, 如2023年, 取3)
- producing month(产品实际生产月份, 如11月, 取11)
- producing date(产品实际生产日期, 如12日, 取12)
- product listing number(产品序列号, 000001-999999)

11. Package Drawing/包装示意图



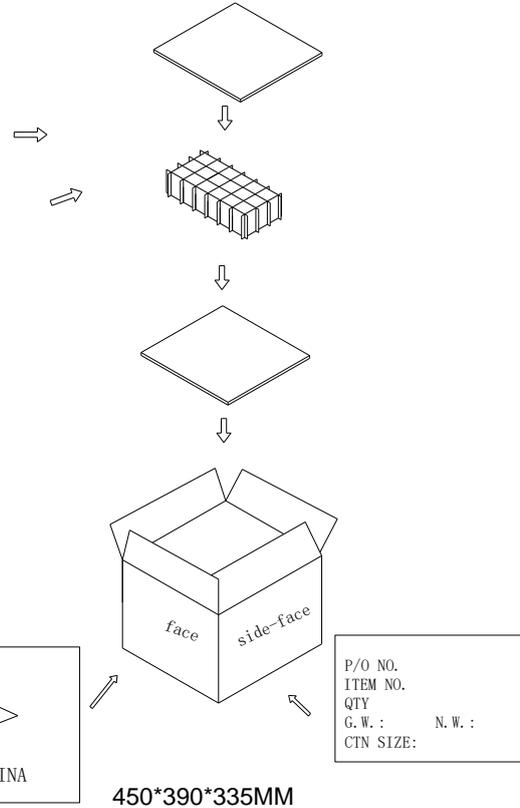
four partitioning card :435*77



seven partitioning card:375*77

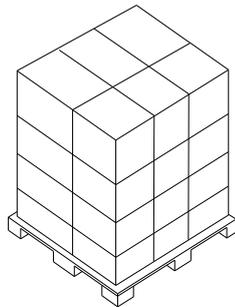
Packing Instruction:

- the product put in the bag , then the packing product put in the partitioning card groove , 18PCS/floor, 4 floors in all , 72PCS/box
such as: 18pcs/floor*4floor=72PCS/box
- the usage of the packing materials:
 - the usage of the four partitioning card 435*77: 28PCS
 - the usage of the seven partitioning card 375*77: 16PCS
 - the usage of the PE bag 250*120: 72PCS
 - the usage of the flat 435*375:5PCS
 - carton box 450*390*335: 1PCS
- Pallet stacke instruction:
 - Pallet size is:L1200*W950*H135mm
 - per floor set 6pcs
 - stacke per 4floor*6pcs carton total 24 pcs carton

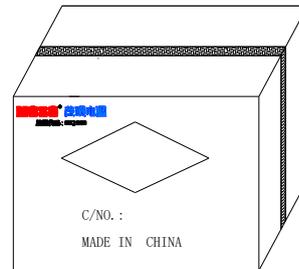


450*390*335MM

the bag of outside size: 450L*390W*335H



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.