

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: MS-V1000R120-012R0-US

PRODUCT NO./产品编号: SCXXX-U0/XXXXX

SAMPLE DATE/送样日期: 2022-03-03

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

The document detail the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 12W continuous output power.

资料详细描述了一款 12W(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 (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

0.3A max. @ 100-240Vac input & Full load.

输入电压 100-240Vac 满载时, 输入电流不超过 0.3A。

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

60Amax. @ 264Vac/50Hz input

输入电压 264Vac/50Hz 时, 浪涌电流不超过 60A。

2.4. Average Efficiency 平均效率

82.96% min. @115Vac 60Hz/230Vac 50Hz 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 82.96%。

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	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			
+12V	0.0A	1A	11.40~12.60V	100mVp-p	100-240V

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 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			
+12V	0.0A	1A	± 5%	± 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. 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

40mS max. @ Rated load.

额定负载时, 上升时间不超过 **40** 毫秒。

3.6. Fall Time/下降时间

20mS max. @ Rated load.

额定负载时, 下降时间不超过 **20** 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 20% to 80%, R/S: 0.5A/uS, frequency: 100Hz duration and 8mS at 80%.

输出电压在 **10.8V~13.2V** 之内 对于 **20%至 80%** 的负载阶跃, **R / S: 0.5A / uS**,

频率: 持续时间为 **100Hz**, **80%** 时为 **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: 1.2A min. (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.

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 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

-5°C to +45°C

5%RH to 95%RH

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

-20°C to +85°C

0%RH to 95%RH non-condensing @ Sea level shall be low 2,000 meters.

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, 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 Test/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/老化

The power supply shall be burn-in for 4 Hours under normal input and 80% rated load at 40°C ± 5°C, the electric performance and Hi-Pot test must be OK.

40°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 Qualification/平均间隔故障时间估算

The MTBF(SR-332) of power supply shall be over than 3300,000 Hours@ 25°C 100% load.

平均间隔故障时间(SR-332): 在 25°C, 额定输入与满载条件下, 至少工作 3300,000 小时。

6.3. E-caps lifetime

The E-caps used in this PSU must be with lifetime of 5 years @25°C@100% load@

115Vac/60Hz and 230Vac/50Hz input.

25℃下, 在 100%负载和 115V/230VAC 输入条件, 电解电容寿命必须有 5 年.

7. EMI/EMS Standards/EMI/EMS 标准

7.1. EMI Standards/EMI 标准

FCC Part 15

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	+/-6KV	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
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	B
AC-input/交流输入	2KV	B

7-2-4 EN61000-4-5, 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 +/-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 (when safety testing)

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

Primary to Secondary: 3300Vac / 5mA Max / 3S (when production)

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

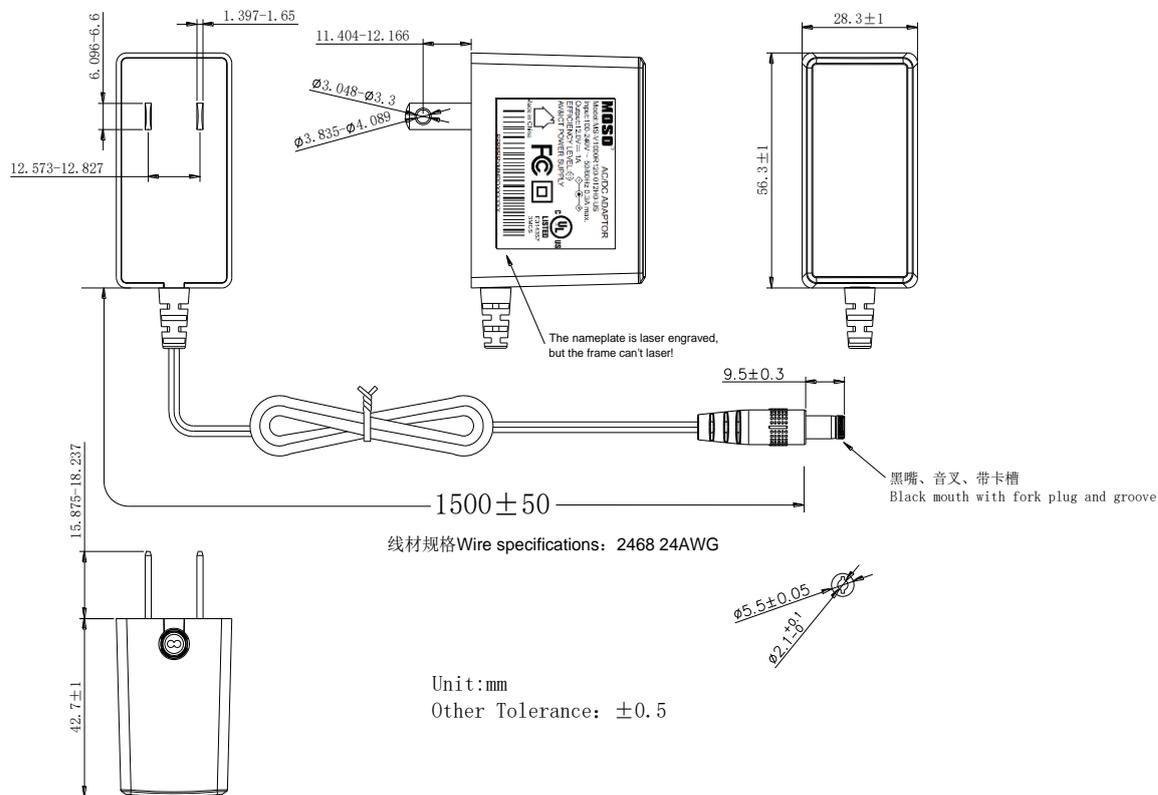
50MΩ min. at primary to secondary add 500Vdc test voltage

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	
UL	USA	UL62368-1	MEET	
NOM	Mexico	NOM-001-SCFI-1993	MEET	

9. Mechanical Outline Drawing/外观示意图



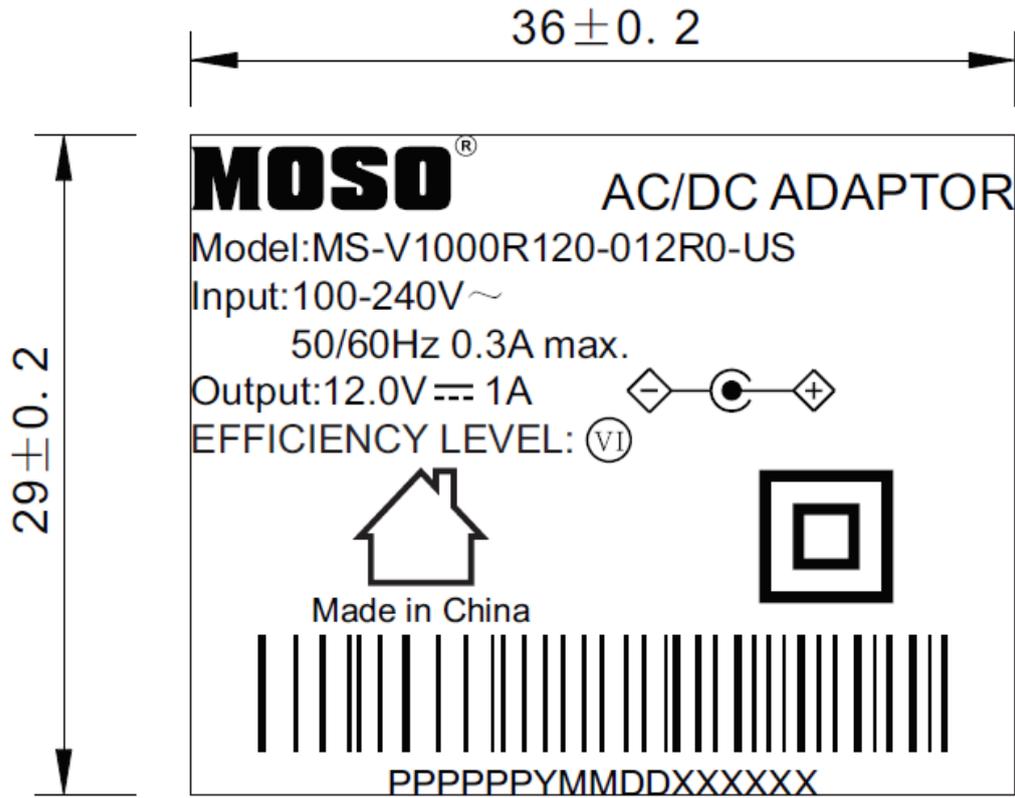
外壳材质: PC 耐温: 125°C

PC+ABS 耐温: 95°C

备注: 1)PC 材质符合球压测试要求;

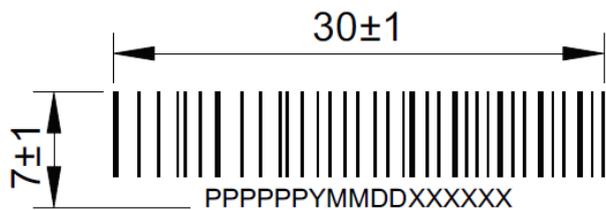
2)外壳与 DC 线为黑色.

10. I/O Marking Drawing/铭牌示意图



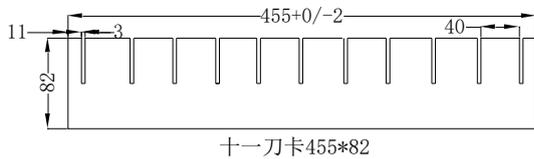
Remark:

1. Above label is laser engraved.
2. The size of double-insulation is no less than 5mm;

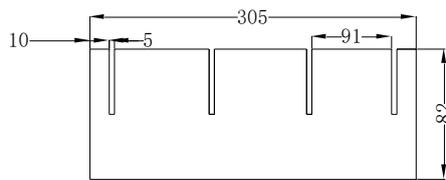


- product code(产品编码:实际S编码后六位, 如SB342-U0,取B342U0)
- producing year(产品实际生产年份,年份最后一位, 如2022年, 取2)
- producing month(产品实际生产月份, 如11月, 取11)
- producing date(产品实际生产日期, 如12日, 取12)
- product listing number(产品序列号,000001-999999)

11. Package Drawing/包装示意图



十一刀卡455*82



四刀卡305*82

包装说明:

一、将产品每PCS装入250*120 (mm)PE袋中包好, 再将包装的产品放入刀卡槽中, 每层装30PCS, 共装4层, 每箱装120PCS

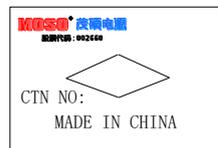
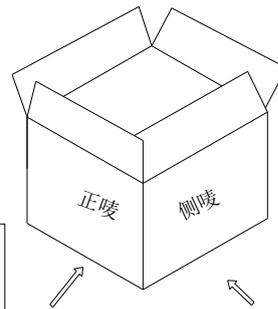
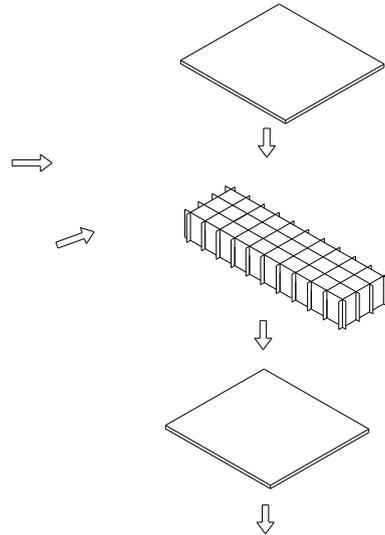
即: 30pcs/层*4层=120PCS/箱

二、包装材料使用说明为:

- 1、十一刀卡455*82用量: 16PCS
- 2、四刀卡305*82用量: 44PCS
- 3、PE袋250*120用量: 120PCS
- 4、平卡455*305用量: 5PCS
- 5、纸箱470*320*355: 1PCS

三、栈板堆放说明为:

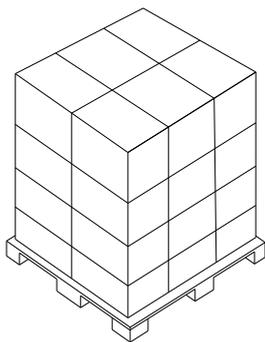
- 1、栈板尺寸为: L1100*W950*H135mm
- 2、每层放2行*3列=6箱
- 3、竖直堆放4层*6箱共24箱



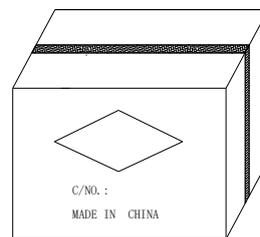
P/O NO.
ITEM NO.
QTY
G. W. : N. W. :
CTN SIZE:

470*320*355MM

纸箱的外尺寸: 470L*320W*355H



栈板堆放示意图



产品装入包装箱用胶袋封箱, 位置参考图中所示.

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.