

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-TB710J240-800A0

PRODUCT NO./产品编号: SCXXX-UT0/XXXXX

SAMPLE DATE/送样日期: 2023-11-13

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 27657599

E-mail:moso@mosopower.com

<http://www.mosopower.com>

拟 制:	项目工程师:	安规工程师:	批 准:

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1. SCOPE/简述

The document details the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 650W continuous output power.

资料详细描述了一款 **650W** 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

- 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

10A max. @ 115Vac input & Full load

输入电压 **115Vac** 满载时, 输入电流不超过 **10A**。

5A max. @ 230Vac input & Full load

输入电压 **230Vac** 满载时, 输入电流不超过 **5A**。

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

50A max. @ 115Vac input.

100A max. @ 230Vac input.

输入电压 **115Vac** 时, 输入电流不超过 **50A**。

输入电压 **230Vac** 时, 输入电流不超过 **100A**。

2.4. Type Efficiency/典型效率

92% min. @230Vac input (100% load).

输入电压 **230Vac** 时, **100%**负载时的效率不低于 **92%**。

2.5. Power factor /功率因素

0.95 min . @230Vac input (100% load).

输入电压 **230Vac** 时, **100%**载时的功率因素不低于 **0.95**。

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 (@ Full load)	Remark 备注
	Min. Load	Max. Load			
+24V	0.0A	27.1A	22.8~25.2V	300mVp-p	@25°C

Ripple & Noise: Measurement is done by 20MHz bandwidth 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	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	Peak Load			
+24V	0.0A	27.1A	32.0A	± 1%	± 1%	Can be turned on at 32A 电源带载 32A 能开启

3.3. Turn - on Delay Time/开机延迟时间

2S max. @ 230Vac input & Full load.

输入电压 **230Vac** 满载时, 开机延迟时间不超过 **2S**。

3.4. Hold-up Time/关机维持时间

10mS min. @ Full load & 110Vac/60Hz input turn off at the worst case.

输入电压 **110Vac/60Hz** 满载时, 关机时间最差情况不小于 **10** 毫秒。

3.5. Rise Time/上升时间

80mS max. @ Rated load

额定负载时, 上升时间不超过 **80** 毫秒。

3.6. Fall Time/下降时间

20mS max. @ Full load

满载时, 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 21.6V~26.4V for load step from 0A to 5A to 0A, R/S: 0.1A/uS, 1mS time period; 1A to 10A to 1A, R/S: 0.5A/uS, 10mS time period, Dynamic response overshoot 10%.

输出电压在**21.6V~26.4V** 之间, 负载变化: 从**0A to 5A to 0A**, 斜率**0.1 A/uS**, 周期为**1mS**; **1A to 10A to 1A** 斜率: **0.5A/uS**, 周期为**10mS**, 动态响应过冲±**10%**。

3.9. Fan start control/风扇启动控制

When the output current is greater than 5A, the fan must be started

当输出电流大于 **5A** 时, 风扇必须开启

4. Protection Requirements/保护要求

4.1. Input Undervoltage /输入欠压保护

70Vac < V < 80Vac (80% Load)

4.2. Undervoltage recovery Range/欠压回差电压范围

75Vac < V < 85Vac (80% Load)

4.3. Over Current Protection/过流保护

Over Current Point Limited/过流点限制: 32A~40.65A (100-240Vac)

The output shall hiccup when the over currents applied to the output rail,
The power supply must come back to nominal working the AC voltage will be
restarted after removal of the the fault condition .

过流时, 输出将进入打嗝模式, 过流情况解除后, 重启 AC 电压, 产品恢复正常.

4.4. Short Circuit Protection/短路保护

The input power shall decrease when the output rail short, the power supply shall no damage,
The power supply must come back to nominal working the AC voltage will be
restarted after removal of the Short Circuit Protection.

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, , 重启 AC 电压, 产品恢复正常.

4.5. 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 the AC voltage will be
restarted after removal of the over voltage condition.

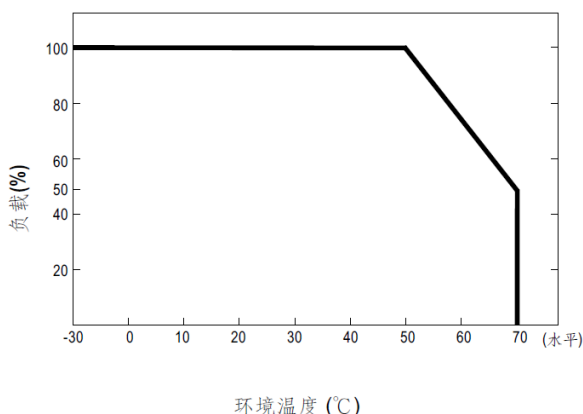
The Over Voltage Protection is 27.6V < V < 33.6V.

当过压保护时, 产品输出功率不会损伤, 当过压情况解除后, 重启 AC 电压, 产品恢复正常. 过电压状
态下的过电压保护 27.6V < V < 33.6V

5. Environment Requirements/环境要求

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

0°C to +70°C, 10%RH to 90%RH non-condensing @ Sea level shall be low 5,000m
海拔 5,000 米以下, 温度 0°C 到 +70°C, 湿度 10% 到 90% RH。



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

-40°C to +85°C, 5%RH to 95%RH non-condensing @ Sea level shall be low 7,000m.
海拔 7,000 米以下, 温度 -40°C to +85°C, 湿度 5%RH to 95%RH。

5.3. Vibration/振动

Frequency/频率: 10Hz ~ 500Hz

constant acceleration/恒定加速度: 2G 10 min/cycle (10Hz~500Hz~10Hz) for 1Hour for each of the perpendicular axes X, Y, Z.

2.0G(位移: 3.5mm), 10 分钟/周期, X, Y, Z 三垂直坐标轴向各振动 1 小时

6. Reliability Requirements/可靠性要求

6.1. Burn-in/老化

The first step: Input 115 VAC, full load of 24V/27.1 A The test time exceed 4 hours.

The first step: Input 230VAC, full load of 24V/27.1 A The test time exceed 4 hours.

After finished above two steps, no damage to the parts and the electrical performance meet with the requirements. Pass ok.

第一步: 在输入115VAC时, 24V/27.1 A载, 老化大于等于4小时.

第二步: 在输入230VAC时, 24V/27.1 A载, 老化大于等于4小时

以上两步完成后, 无部件损坏, 电气性能符合要求, 即为 OK.

6.2. MTBF Qualification/平均间隔故障时间估算

The MTBF of power supply shall be over than 100,000H @ 25°C 100% load. Test standard: MIL-HDBK-217F.

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100,000小时。测试标准: MIL-HDBK-217F.

6.3. E-caps lifetime/电解电容寿命

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

25°C下, 在 100% 负载和 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

EMI	Standards	Margin Measurements
Radiated Emission	*EN55032, CLASS A *GB9254, CLASS A *FCC PART15 CLASS A	-----
Conduction Emission	*EN55032, CLASS B *GB9254, CLASS B *FCC PART15 CLASS B	-----

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	+/-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	judgment criteria/评定标准
3V/m (r.m.s)	B
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	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	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	judgment criteria/评定标准
3V	B
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)

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

输入对输出: **3KVac / 5mA max. / 60 秒.**

I/P-FG: 1.5KVac / 5 mA max. / 60 second .

输入对地: **1.5KVac / 5 mA max. / 60 秒**

O/P-FG: 0.5K Vac / 5 mA max. / second.

输出对地: **0.5KVac / 5 mA max. / 60 秒.**

8.2. Leakage Current/漏电流

100 μ A max. @ 115VAC, 60Hz

165 μ A max. @ 230VAC, 50Hz

8.3. Insulation Resistance/绝缘阻抗

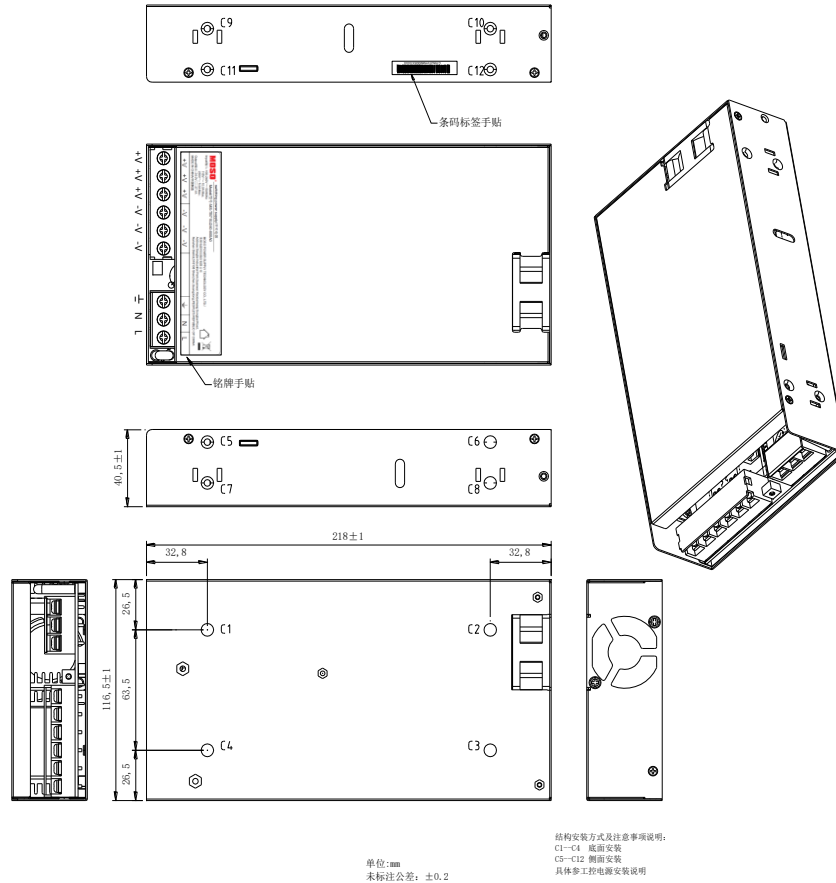
50M Ω min. at primary to secondary add 500Vdc test voltage.

在初级与次级之间加载测试电压 **500V** 测试, 绝缘阻抗最小 **50M Ω .**

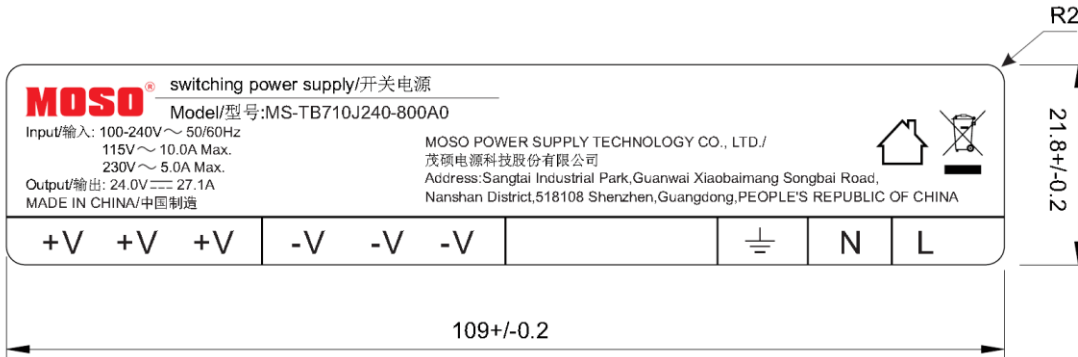
8.4. Regulatory Standards/安规标准

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



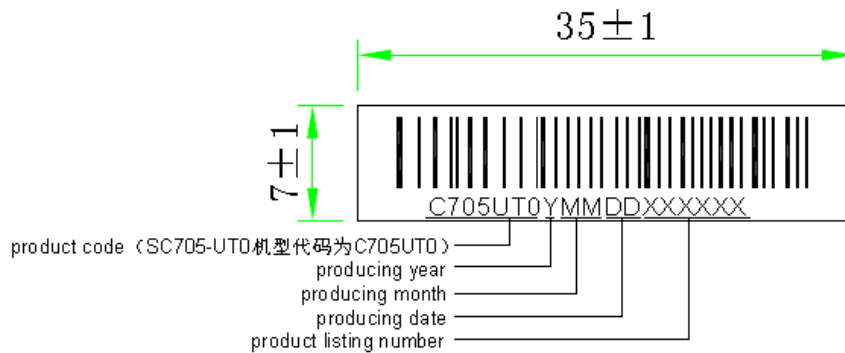
10. I/O Marking Drawing/铭牌示意图



备注:

1. 材质: 100#消银龙+光膜
 2. 颜色: 银底黑字 (LOGO红色)
 3. 符合REACH, ROHS 与MOSO环保要求
 4. The size of garbage bin is no less than 7mm
 5. The size of "回" mark is no less than 5mm.
- 背胶耐温90°C, 96h内不翘角, 不脱落, 不起泡.
酒精擦拭和清水各擦15秒, 用100克的砝码包棉布擦,
字体清晰可见, 无其他不良(如卷边、翘角等)

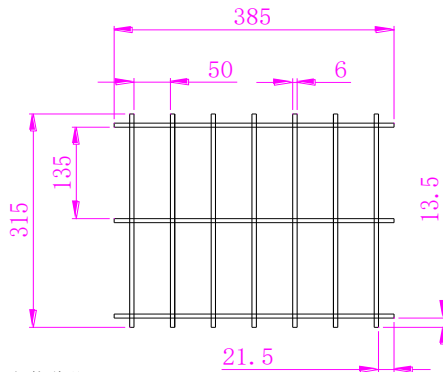
符合茂硕环保要求



备注:

1. 材质: 50#PET
2. 白底黑字(公司内部打印)
3. 条码类型: CODE 128
4. 共用料号: 3230100432

11. Package Drawing/包装示意图



包装说明:

一、将每个产品直接装入气泡袋中,再装入刀卡中,每层装12PCS,共装1层,每箱装12PCS

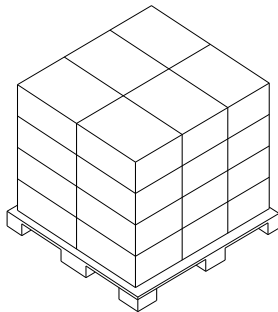
即:6pcs/层*1层=12PCS/箱
1PCS≈1.15kg

二、包装材料使用说明为:

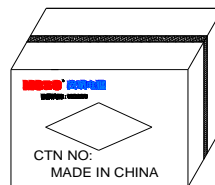
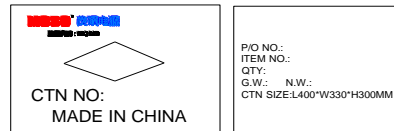
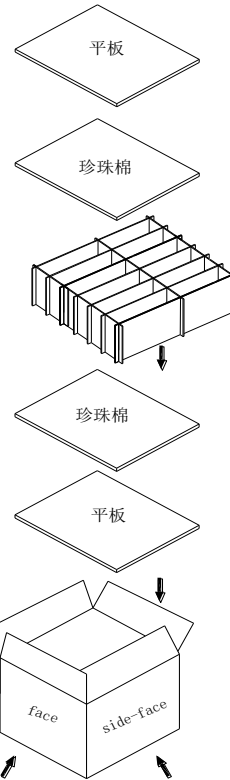
- 1、气泡袋300*250*: 12PCS
- 2、刀卡385*315*240: 1PCS
- 3、平板385*315MM: 2PCS
- 4、珍珠棉385*315*10MM: 2PCS
- 5、纸箱L400*W330*H300MM: 1 PCS

三、栈板堆放说明为:

- 1、栈板尺寸为: L1000*W800*H100mm
- 2、每层放2行*3列=6箱
- 3、竖直堆放4层*6箱共24箱



栈板堆放示意图



封箱示意图

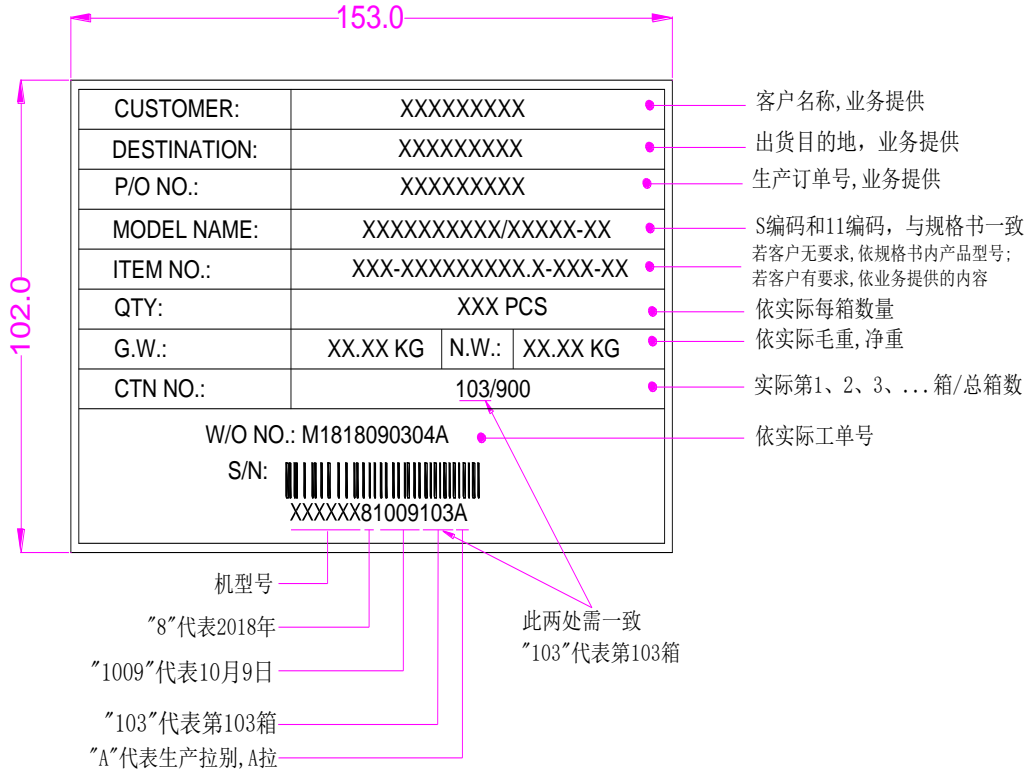
PE 袋包装要求: 气泡袋不用胶带封口;

气泡袋用胶带封口;

其它要求;

备注:若客户未进行选择 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.

Carton label



技术要求:

1. 材质: 80P铜版纸 (来料为空白标签)
2. 颜色: 白底黑字, 公司内部打印
3. 背附胶, 粘贴在纸箱上后, 无翘边等不良;
4. 符合ROHS标准及茂硕环保要求
5. 使用空白料号3230200011