



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：_____ 平台产品

CUSTOMER P.N./客户物料号：_____

MODEL NO.产品型号：_____ N30-Z1250J480-060I0-Q

PRODUCT NO./产品编号：_____ SCXXX-Q0

SAMPLE DATE/送样日期：_____ 2024-09-18

CUSTOMER AUTHORIZED SIGNATURE/客户承认签核

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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：	项 目 工 程 师：	安 规 工 程 师：	批 准：



MOSO Industrial Park, Nanshan District,
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1. SCOPE

The document detail the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 60.0W continuous output power.

资料详细描述了一款 60.0W (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	100 Vac~ 240 Vac	264Vac
Input Frequency/输入频率	47 Hz	60 Hz/ 50Hz	63Hz

2.2. Input AC Current/AC 输入电流

1.7A max. @ 100-240Vac input & Full load.

输入电压 **100-240Vac** 满载时, 输入电流不超过 **1.7A**。

2.3. Averaged Efficiency/平均效率

80% min. @230Vac/50Hz input (@25%, 50%, 75% and 100% of max load)

输入电压 **230V/50Hz** 时, **25%、50%、75%和 100%**载时的平均效率不低于 **80%**

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
+48V	0.0A	1.25A	45.6V ~ 50.4V	<300mVp-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	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
+48V	0.0A	1.25A	± 1%	± 3%	

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: 2.5A >I>1.375A (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. Power-over-Ethernet

5.1. Output Ports/输出端口

Two LAN ports / 两个 RJ45 端口,

RJ45 pin define: Power +: PIN 1,2,4,5 / Power -: PIN 3,6,7,8

5.2. Data Transmission/数据传输

Support 1000M/2.5G/5G Ethernet / 支持 1000M/2.5G/5G 以太网

5.3. Protocol Standard/协议标准

Comply with IEEE 802.3 bt

6. Environment Requirements/环境要求

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

-10°C to +45°C

10%RH to 90%RH

6.2. 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 5,000 meters/低于 5,000 米.

6.3. 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.

6.4. Drop Test/跌落

Height: 1m; the product should be fell off on the hardwood with the thickness of 20mm.

Apply one time on all surfaces, 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,在跌落后电气性能及高压测试 OK.

7. Reliability Requirements/可靠性要求

7.1. Burn-in/煲机

The power supply shall be burn-in for 2 Hours under normal input and 80% rated load at $40^{\circ}\text{C} \pm 5^{\circ}\text{C}$, the electric performance and Hi-Pot test must be OK.

电源应在正常输入和 $40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 的 80% 额定负载下老化 2 小时, 电性能和 Hi-Pot 测试必须正常。

7.2. 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.

平均间隔故障时间: 在 25°C 满载条件下, 至少工作 50,000 小时。

7.3. E-cap Life /电容寿命

The E-caps used in this PSU must be with lifetime of 3 years @ 25°C under 100% load and 115V/230VAC input condition.

在 25°C 环境下, 满载和 115V/230VAC 输入电压, 电容寿命至少达 3 年。

8. EMS Standards/EMS 标准

8.1. EMI Standards/EMI 标准

EN55032 EN55035
GB17625.1

8.2. 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	A
Contact discharge/接触放电	+/-4KV	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	1KV	A

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
Differential mode/共模 +/-2KV	A
Common 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



9. Safety Standards/安规标准

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

Primary to Secondary: 1500Vac / 10mA max. / 60 second.

初级对次级: **1500Vac / 10mA max./ 60 秒(安规试验)**.

Primary to Secondary: 1800Vac / 5mA max. / 3 S.

初级对次级: **1800Vac / 10mA max. / 3S(生产作业)**.

9.2. Leakage Current/漏电流

0.7mAmax. at 264Vac / 50Hz.

9.3. Insulation Resistance/绝缘阻抗

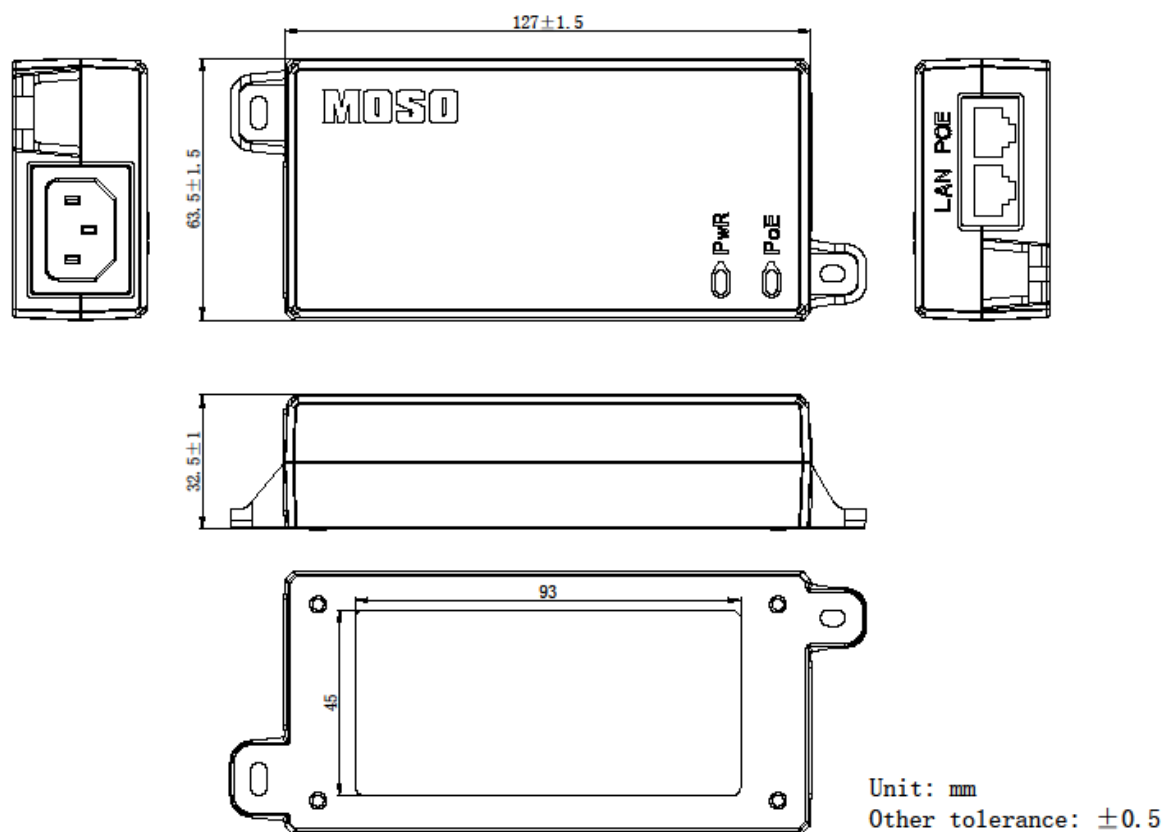
50MΩ min. at primary to secondary add 500Vdc test voltage.

在初级与次级间加 **500Vdc** 进行测试

9.4. Regulatory Standards/安规标准

Type/安规	Country/国家	Standard/标准	State/状况	
CCC	China	GB4943.1	MEET	
CE	Europe	EN62368-1	MEET	

10. Mechanical Outline Drawing/外观示意图



Case material: ☒ PC temperature resistance: 120°C.

☐ PC+ABS temperature resistance: 95°C.

Remark: 1) PC material compliances with ball pressure testing requirement.

2) The color of the casing is black.