

# 参考规格书

## SPECIFICATION FOR REFERENCE

<b>CUSTOMER:</b> 客 户:	平台
<b>CUSTOMER P.N.:</b> 客户料号:	
<b>MODEL NO.:</b> 产品型号:	T30-TE000J360-K80A0
<b>PRODUCT NO.:</b> 产品编号:	SCXXX-UT0
<b>SAMPLE DATE:</b> 送样日期:	2024-05-16

<b>CUSTOMER AUTHORIZED SIGNATURE</b> 客户承认签核		

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**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](mailto:moso@mosopower.com)**

**<http://www.mosopower.com>**

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## 1. SCOPE/范围

The power supply shall meet the HSF requirement.

此款电源符合 HSF 要求.

### 1.1.Description /类型

- 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

### 1.2.Green Requirements/环保要求

- RoHS:2011/65/EU & (EU) 2015/863;  
 REACH:1907/2006/EC;  
 Halogen-free:IEC 61249-2-21;  
 CA Prop 65;  
 POPs:(EU)2023/1608;  
 PAHs: 2005/69/EC;  
 Packaging Directive:94/62/EC;  
 US EPA Toxic Substances Control Act (TSCA);  
 MOSO Environmental standards: WI-QM006-G;  
 Others

### 1.3.Energy Efficiency Requirements/能效要求

No.	Country/国家地区	Energy efficiency abbreviation/能效简称	Whether it meets the requirements/是否符合 (YES/是 <input checked="" type="checkbox"/> , NO/否 <input type="checkbox"/> )
1	USA/美国	DoE VI	<input type="checkbox"/>
2		CEC	<input type="checkbox"/>
3	Canada/加拿大	NRCAN	<input type="checkbox"/>
4	Australia/New Zealand/ 澳大利亚/新西兰	GEMS	<input type="checkbox"/>
5	Europe/欧盟	Erp VI	<input type="checkbox"/>
6		CoC V5 Tier 2	<input type="checkbox"/>
7	South Korea/韩国	KMEPS	<input type="checkbox"/>
8	Mexico/墨西哥	MEPS	<input type="checkbox"/>
9	Byelorussia/白俄罗斯	MEPS	<input type="checkbox"/>

## 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 198Vac to 264Vac single phase@1800W。

输入电压范围: 从 **198Vac** 到 **264Vac**, 单相输入。

The range of input voltage is from 90Vac to 150Vac single phase@900W。

输入电压范围: 从 **90Vac** 到 **150Vac**, 单相输入。

	Minimum/最小	Nominal/额定值	Maximum/ 最大
Input Voltage/输入电压	198 Vac	220ac	264Vac
output power/输出功率	1800W		
	Minimum/最小	Nominal/额定值	Maximum/ 最大
Input Voltage/输入电压	90 Vac	110Vac	150Vac
output power/输出功率	900W		

### 2.2.Input AC current/AC 输入电流

Input Voltage/输入电压	220Vac/110 Vac	Remark/备注
Input AC Current/AC 输入电流	13A /13.5A Max	Full load

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

The inrush current will not exceed 80A at 220Vac input and Max load for a cold start at 25°C.

在 **220Vac** 输入和 **25°C**冷启动的最大负载下, 浪涌电流不超过 **80A**。

### 2.4.Typical efficiency/典型效率

93% min. @220Vac/50Hz input, 36VDC Output (100% load).

输入电压 **220V/50Hz** 时, 输出电压 **36V**, **100%**负载时效率不低于 **93%**。

### 2.5.Energy consumption /功耗

No Load Consumption ≤5W (220Vac/50Hz,DC36V).

在额定输入 **220Vac/50Hz**, **DC36V**,空载功耗 ≤**5W**。

### 2.6.Standby consumption/待机功耗

Standby consumption ≤5W (220Vac/50Hz,output off).

在额定输入 **220Vac/50Hz**, 输出关闭,待机功耗 ≤**5W**。

### 2.7. Power factor/功率因素

The PF should not be lower than 0.95 at 220Vac & full load.

**220Vac** 满载, 功率因数不低于 **0.95**

### 3. Output characteristics/输出特性

#### 3.1. Static output characteristics <Vo&R+N>/静态输出特性

Output Power	Load Range /负载范围	Output Range 输出电压范围	R+N 纹波与噪声	Remark 备注
1800Watt	0.0A ~50A MAX	+36V/±5%	360mVp-p	AC:220V
900Watt	0.0A ~25A MAX	+36V/±5%	360mVp-p	AC:110V

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output 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: 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 **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			
+36V	1A	50A	±5 %	±5%	

#### 3.3.Description of output characteristics /输出特性说明

编号	项目	The technical requirements/技术要求
1	输出功率/Output power	1800Watt@220Vac,900W@110Vac
2	输出电压/Output voltage	+36V±5%VDC
3	空载电压/No load Voltage	+36V±5%VDC
4	输出电流/ Output current	50A Max @36V
5	电流步进/ Current step	0.2A/step
6	纹波噪声/Ripple and noise	360mVp-p

#### 3.4.load impact/负载冲击

In the case of power output, the charger should not have the damage that cannot recover after short-circuit protection when a 4700uF capacitor is instantly connected;  
在电源输出的情况下, 瞬间接入一个 **4700uF** 的电容时充电器不应出现短路保护不恢复的情况;

#### 3.5.Turn - on delay time/开机延迟时间

3S max. @220Vac input & Full load.

输入电压 **220Vac** 满载时, 开机延迟时间不超过 **3S**。

### **3.6.Hold-up time/关机维持时间**

10mS min. @ Full load &220Vac/50Hz input.

输入电压 **220Vac/50Hz** 满载时, 关机输出保持时间不小于 **10 毫秒**。

### **3.7.Rise time/上升时间**

50mS max. @ rated load, 36VDC output.

额定负载时,直流 **36V** 输出, 上升时间不超过 **50 毫秒**。

### **3.8.Fall time/下降时间**

50mS max. @ Full load

满载时,下降时间不超过 **50 毫秒**。

### **3.9.Output overshoot / undershoot/输出过冲/欠冲**

10% max. When the power on or off at full load.

满载开关机时, 输出过冲/欠冲均不大于 **10%**。

### **3.10.Output load transient response/输出负载瞬态响应**

Output between  $\pm 5\%$  of rated voltage, the load changes from 25% to 50% to 25%, 50% to 75% to 50%. R/S: 0.25A/us. Transient Response Recovery Time: 200us, Dynamic response overshoot  $\pm 5\%$ .

输出在额定电压的 $\pm 5\%$ 之间,负载变化: 从 **25% to 50% to 25%, 50% to 75% to 50%** 斜率:

**0.25A/us**,动态响应恢复时间: **200uS**, 动态响应过冲 $\pm 5\%$ 。

## **4. Protection requirements/保护要求**

### **4.1.Input over voltage protection /输入过压保护**

When the input voltage reaches AC 270V, the power supply cannot be damaged.

输入电压达到 **AC 270V** 时, 电源不能损坏。

### **4.2.Over current protection/过流保护**

Over Current Point Limited/过流点限制: ( $55 \leq I \leq 65A$ ) Full load(@220Vac,DC36V).  
( $27 \leq I \leq 35A$ ) Full load(@110Vac,DC36V)

### **4.3.Short circuit protection/短路保护**

The power supply has short circuit protection, and will auto- recover when short circuit Fault is removed.

该电源供给器在短路会保护,短路解除时能自动恢复正常工作。

### **4.4.Output over Voltage protection/输出过压保护**

The adapter has to be protected against over voltage conditions,NO damage allowed

The adapter must come back to nominal working with on/off powering sfter removal

Of the ove Voltage condition.

此适配器具有过压保护功能, 输出过压时适配器不会损坏, 且重新接入 AC 电后适配器可自动恢复正常输出。

### **4.5.Over temperature protection/过温保护**

The power supply has the function of overtemperature protection. When the temperature exceeds 3s, the output is turned off and the power supply enters the shutdown state.

具有过温保护功能, 温度过高时间超过 **3s** 时关断输出, 进入关机状态。

#### **4.6.Output polarity protection/输出极性保护**

NC

#### **4.7.Input under voltage protection /输入欠压保护**

When the input voltage is less than 75V, turn off the power .

当输入电压低于 75V 时, 关闭电源输出.

### **5. 485 Communication protocol/485 通讯协议**

NC

#### **5.1.Communication circuit design/通讯电路设计**

NC

#### **5.2.Features/功能特性**

1) ESD Protection >8KV/ESD 保护 > 8KV

2) Isolation voltages :AC 1500Vrms/隔离电压 AC 1500Vrms

### **6. The cooling way/ 散热方式**

Natural heat dissipation.

自然散热

### **7. Environment requirements/环境要求**

#### **7.1.Operating Temperature and Relative Humidity 操作温/湿度要求**

操作温度:-20~40℃ Operation:-20to40℃

#### **7.2.Storage temperature and relative humidity/存储温/湿度要求**

Storage temperature is from -40℃ to +85℃, humidity is from 0%RH to 95%RH, non-condensing.

温度-40℃ to +85℃, 湿度 0%RH to 95%RH. 不结露。

#### **7.3.Shell operating temperature/外壳工作温度**

At room temperature of 25℃, when the power supply works normally, the shell temperature is ≤65℃.

在 25℃室温环境下, 电源正常工作时外壳温度≤65℃.

#### **7.4.Sea level ≤2,000 meters/海拔≤2,000 米**

#### **7.5.Vibration/振动**

Frequency 频率: 10~200Hz

Acceleration 加速度: 29.4m/s<sup>2</sup> (3G)

Amplitude 振幅: 0.35mm

Speed rate 速率: 1OCT/min

Time 时间: 2h/direction

Direction 方向: X、Y、Z

#### **7.6.Impact/冲击**

NC

#### **7.7.Drop/跌落**

NC

## 8. Reliability Requirements/可靠性要求

### 8.1. 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, 93% RH.

产品至少要在 40°C ± 5°C, 湿度 93% 的环境及额定输入, 80% 额定负载条件下煲机 2 小时。

### 8.2. Mean time between failures/平均无故障时间

Under rated supply and load conditions, the mean time between failures (MTBF) of the charger shall not be less than 200000 hours, and the expected service life shall not be less than 5 years.

充电器在额定供应和负载条件下, 其平均无故障时间应不低于 200, 000 小时, 预期使用寿命不低于 5 年。

### 8.3. Protection Grade/防护等级: IP67

### 8.4. Three Preventions/三防

NC

### 8.5. E-caps lifetime/电容寿命

The E-caps used in this power must be with lifetime of 3 years @ 25°C @ 80% load @ 220Vac/50Hz/110Vac input.

在 25°C 环境下, 80% 负载, 在 220Vac/50Hz/110Vac 输入电压, 电源中使用的电解电容寿命至少达 3 年。

## 9. EMI/EMS Standards/EMI/EMS 标准

### 9.1. EMI Standards/EMI 标准

CLASS A

### 9.2. EMS Standards/EMS 标准

9-2-1 GB/T 17618-2015, 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	+/-4KV	B

9-2-2 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
10V/m (r.m.s)	A
30-1000MHz, 80%AM(1KHz) sine-wave	

9-2-3 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	0.5KV	B
AC-input/交流输入	1KV	B

9-2-4 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 +/-4KV	B
Differential mode/差模 +/-2KV	

9-2-5 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
0.15-30 MHz,80%AM(1KHz)	

9-2-6 EN 61000-3-2, Harmonic current/谐波电流

Test level/测试条件	Test criteria/测试标准
AC-input/交流输入 220V	B
DC-output/直流输出 FULL LOAD	

9-2-7 EN 61000-3-3, Voltage fluctuation and flicker/电压波动和闪烁

Test level/测试条件	Test criteria/测试标准
AC-input/交流输入 220V	B
DC-output/直流输出 FULL LOAD	

9-2-8 Assessment criteria /评估标准

Acceptance criteria 可接受标准	Performance 性能
A	<p>The performance is not allowed to change; if the performance will change, the range of change is within the scope specified in the product specification.</p> <p>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.</p>
B	<p>During the test, the performance degradation of the equipment is allowed to be within the scope of the product specification. After the dryness is eliminated, the equipment can return to normal without reset or any manual intervention.</p> <p>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.</p>
C	<p>During the test, the equipment is allowed to have interruption, and after the test, it is allowed to recover by itself or manual intervention (including hardware intervention); during the test, only the primary protection device is allowed to be damaged, and after the damaged primary protection device is replaced, the equipment can return to normal.</p> <p>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.</p>

## 10. Safety Standards 安规标准

### 10.1.Dielectric Strength(Hi-pot) 耐压强度(高压)

I/P-O/P: 3KVac/10mA max. / 60 seconds. ARC 6

输入对输出:3KVac / 10mA max. / 60 秒。ARC 6

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

输入对地:1.5KVac / 5mA max. /60 秒。

### 10.2.Leakage Current/漏电流

3.5mA max at 264Vac / 50Hz.

输入 264VAC,漏电流小于 3.5mA。

### 10.3.Insulation Resistance/绝缘阻抗

Add 500Vdc voltage at primary to secondary to test, the insulation impedance is 100MΩ. min. (12 power supplies in parallel, insulation impedance should not be less than 20MΩ)

在初级与次级间加 500Vdc 进行测试, 绝缘阻抗最小 100MΩ. (12 个电源并联, 要求绝缘阻抗不小于 20MΩ)

### 10.4.Grounding impedance test /接地阻抗测试

Grounding Resistance: <0.10 Ω at 12VDC/32A/1S.

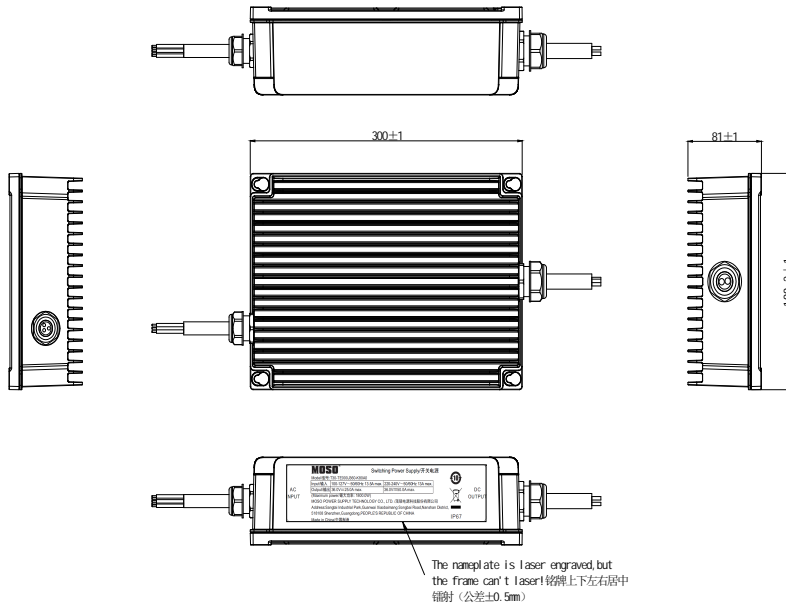
接地电阻: 12VDC/32A/1S 时<0.10Ω。

### 10.5.Safety Standards 安规标准

Safety Type/安规	Country /国家	Standard/标准	State/状况	Remark 备注
CQC	CHINA	GB4943.1-2011 GB9254-2008 GB/T36944-2018 GB/T2947.3-2008	APPROVL	

## 11. Mechanical Outline Drawing /外观示意图

### 11.1. (L\*W\*H)



Unit:mm  
Other Tolerance: ±0.5

## 12. Description of connector/接口说明

### 12.2.1 AC Input Connector/交流输入端口

	端子号	连接定义
	1	L (火线)
	2	N (零线)
	3	PE(安全接地)

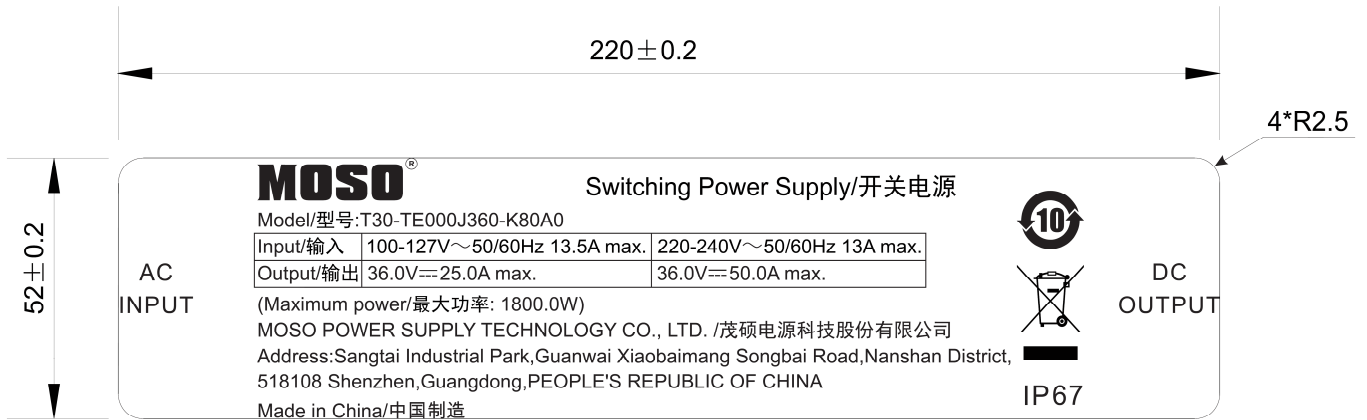
### 12.2.2 DC Output Connector /DC 输出端口

	端子号	连接定义
	1	DC+输出
	2	DC-输出

### 12.2.3 Communication Connector/通讯端口

NC

### 13. I/O Marking Drawing /铭牌示意图



Remark:

1. Above label is laser engraved.
2. The dimension of garbage bin mark can NOT less than 7mm.

## 14. Package Drawing/包装示意图