

Product Specification for Approval

产品承认书

WE ARE PLEASED IN SUBMITTING OUR SAMPLES WITH SPECIFICATION TO YOU FOR APPROVAL.

很荣幸提供我们的样品规格给您承认。

| | | |
|---------------------|--------------|-----------------|
| CUSTOMER | 客 户: | _____ |
| DESCRIPTION | 描 述: | 12V3A 英规电源适配器 |
| MODEL NO. | 铭普型号: | MABS-1203003605 |
| MNC P/N | 铭普料号: | _____ |
| REVISION | 版 本: | A0 |
| CUSTOMER P/N | 客户料号: | _____ |
| ISSUED DATE | 发行日期: | _____ |
| MADE IN | 制造产地: | CHINA |

| APPROVED BY MNC | | |
|-----------------|--------|---------|
| 铭普核准 | | |
| PREPARE | CHECKE | APPROVE |
| 拟制 | 审核 | 批准 |
| | | |

| APPROVED BY CUSTOMER |
|----------------------|
| 客户核准 |
| SIGNATURE OR STAMP |
| 签字或盖章 |
| |

1. PLEASE SEND BACK US A COPY OF THE SPECIFICATION WITH YOUR STAMP OR SIGNATURE ONCE THE SAMPLES APPROVED.

承认样品后请回传给我们一份盖章或签字的规格书。

2. IT WILL BE DEEMED THE SAMPLES TO BE APPROVED IF NO FEEDBACK.

如无反馈将默认为样品已被承认。

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1、 SUMMARY 产品概述

1.1 Description 类型

- Adapter-Wall Mount 插墙式适配器
 LED Driver LED 电源
 Charger 充电器
- Adapter-Desk-Top 桌面式适配器
 Open Frame 裸板
 Others 其他

1.2 HS MANAGEMENT REQUIREMENTS 有害物质管理要求

- Comply with RoHS directive and other hazardous substances laws and regulations.
 符合 RoHS 指令及其它有害物质法律法规要求。

2、 INPUT CHARACTERISTICS 输入特性

| Item 项目 | Units 单位 | Minimum 最小 | Normal 额定值 | Maximum 最大 | Remark 备注 |
|-------------------------|-------------|---------------|---------------|---------------|--|
| Input voltage 输入电压 | Vac | 90 | 100-240 | 264 | - |
| Input Frequency 输入频率 | Hz | 47 | 50-60 | 63 | - |
| Input Current 输入电流 | A | - | - | 1.0 | at 100Vac/60Hz~240Vac/50Hz |
| Inrush Current 浪涌电流 | A | - | - | - | No damage,cold start,at 240Vac input & 25°C |

3、 OUTPUT CHARACTERISTICS 输出特性

3.1 Output voltage and current 输出电压与电流

| Rated output voltage 额定输出电压(V) | Rated output current 额定输出电流(A) | Peak load current 峰值负载电流 | Output voltage range 输出电压范围(V) | Ripple & Noise 纹波噪声 (mVpp) |
|--------------------------------------|--------------------------------------|--------------------------------|--------------------------------------|----------------------------------|
| +12 | 3 | - | +11.4 ~ +12.6 | ≤150 |

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF aluminum electrolytic capacitor. (test condition: 25°C, rated input and rated output)

纹波噪声: 量测时示波器选用 20MHz 带宽限制, 输出端并联 0.1uF 陶瓷电容与 10uF 铝电解电容。(测试条件: 环境温度 25°C, 额定输入和额定输出)

3.2 Line/Load Regulation 线性/负载调整率

| Output/输出 | Load condition/负载条件 | | Load Regulation 负载调整率 | Line Regulation 线性调整率 |
|-----------|---------------------|----------|--------------------------|--------------------------|
| Rate | Min Load | Max Load | | |
| +12V | 0.0A | 3A | ±5% | ±5% |

3.3 Dynamic response 动态响应

The Dynamic output voltage range is rated output voltage ±10%, The load of 25% to 50% and change at a rate of about 0.1A/usec and frequency of the dynamic load is 100Hz.

在动态负载变化速率 0.1A/usec, 频率为 100Hz, 负载为 25%~50%时, 输出动态电压范围为额定输出电压的±10%。

3.4 Output overshoot 输出过冲

Overshoot voltage less than output voltage 10% at 100-240Vac rated input.

在额定输入 100-240Vac 条件下, 输出过冲电压小于输出电压的10%。

3.5 Turn on delay time 开机延迟时间

3 S max. @230Vac input & rated load.

开机延迟时间小于3 S@230Vac&额定负载。

3.6 Rise time and Fall time 输出上升时间和下降时间

At rated load, Rise time shall be \leq 100 mS; Fall time shall be \leq 100 mS.

在额定负载下, 输出上升时间 \leq 100 mS; 输出下降时间 \leq 100 mS。

3.7 Hold up time 输出保持时间

10 mS min @230Vac/50Hz input & rated load.

在输入 230Vac/50Hz & 额定负载时输出保持时间最少 10 mS。

3.8 Efficiency 电源效率

| Efficiency 能效 | | DOE/ERP | | Remark 备注 |
|-----------------------------------|----|---------|-------|---|
| | | V | VI | |
| Item 项目 | | | | |
| Output voltage 输出电压(V) | 12 | - | 12 | Burn-in 30 minutes &115Vac/60Hz, 230Vac/50Hz - |
| Output current 输出电流(A) | 3 | - | 3 | |
| Output power 输出功率(W) | 36 | - | 36 | |
| Efficiency 电源效率(%) | | - | 86.95 | |
| 10% Load Efficiency 10% 负载电源效率(%) | | - | - | |
| No-load power consumption 空载功耗(W) | | - | 0.1 | |

3.9 Over Current Protection 过流保护

At 100-240Vac input, OCP rang is 3.6~6.0 A.

在输入电压 100-240Vac 条件下过流保护范围 3.3~6.0 A。

3.10 Over Voltage Protection 过压保护

The power has the OVP function at the rated input voltage and could self-recovering when the fault condition is removed.

在额定输入电压下适配器有过压保护功能，当故障状态移除时能自我恢复。

3.11 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 selfrecovery when the fault condition is removed.

当输出短路时,产品输入功率降低且不会损坏,当短路情况解除后,产品将会自动恢复正常。

4、ELECTRO MAGNETIC COMPATIBILITY 电磁兼容

4.1 Radiated Emission 电磁辐射干扰

Test criteria(测试标准): EN55032/FCC Part 15, GB/T 9254.1 Class B

4.2 Conducted Emission 电磁传导干扰

Test criteria(测试标准): EN55032/FCC Part 15, GB/T 9254.1 Class B

4.3 Electrostatic Discharge(ESD) 静电抗扰

EN 55035; IEC 61000-4-2:2008

Air Discharge(空气放电): ±8 KV

Contact Discharge(接触放电): ±6 KV

Performance Criteria(性能标准) B

4.4 Radio-Frequency Electromagnetic Field Amplitude Modulated(RS) 辐射抗扰

EN 55035; IEC 61000-4-3:2010

80MHz to 2700MHz ;10V/m ;80% and 1.0kHz Modulation(level 3)

Performance Criteria(性能标准) A

4.5 Electrical Fast Transient/Burst (EFT) 电快速瞬变脉冲群

EN 55035; IEC 61000-4-4:2012

Power line: ±1 KV

Performance Criteria(性能标准) B

4.6 Lightning Surge Attachment 雷击抗扰

EN 55035; IEC 61000-4-5:2017

Differential mode standard(差模标准): ±4.0 KV

Common mode standard(共模标准): ±4.0 KV

Performance Criteria(性能标准) B

4.7 Radio-Frequency Continuous Conducted(CS) 传导抗扰

EN 55035; EN61000-4-6:2013
 0.15-80 MHz, 3V/m, 80%AM,1KHz
 Performance Criteria(性能标准) A

4.8 Voltage Dips and Interruptions 电压跌落变化

EN 55035; IEC 61000-4-11:2004
 Voltage Dips, 30% reduction- 10ms, Performance Criterion(性能标准) B,
 60% Reduction – 100ms, Performance Criterion(性能标准) C,
 Voltage Interruptions>95% Reduction- 5000ms, Performance Criterion(性能标准) C.

5 、 SAFETY STANDARD 安规标准

5.1 Safety 安规

| Item 安规 | Country 国家 | Standard 标准 | Certified Status 状况 |
|---------|-----------------------|-------------------|---------------------|
| CCC | China 中国 | GB4943.1 | - |
| CE | Europe 欧洲 | EN62368-1 | - |
| UL/cUL | America/Canada 美国/加拿大 | UL62368-1 | - |
| GS | Gearmany 德国 | EN62368-1 | - |
| PSE | Japan 日本 | J62368-1 | - |
| KC | Korean 韩国 | K62368-1 | - |
| CB | Global 全球 | IEC62368-1 | - |
| UKCA | United Kingdom 英国 | BS EN62368-1 | Meet |
| SAA | Australia 澳大利亚 | AS/NZS62368-1 | - |
| BIS | India 印度 | IS 13252 (Part 1) | - |
| PSB | Singapore 新加坡 | IEC 62368-1 | - |
| SASO | Saudi Arabia 沙特 | ISASO-IEC-62368-1 | - |
| ISI | Israel 以色列 | IEC 62368-1 | - |
| NOM | Mexico 墨西哥 | NOM-001 | - |
| BSMI | Taiwan 台湾 | CNS14336-1 | - |
| IRAM | Argentina 阿根廷 | IEC 62368-1 | - |

5.2 HI-POT 耐压

Primary-to-Secondary: 3000Vac for 60 seconds, the leakage current 5 mA max (3seconds for production).

初级到次级:交流 3000Vac 持续 60 秒, 漏电流最大5 mA (生产时高压测试时间: 3S)。

5.3 LEAKAGE CURRENT 漏电流

0.25 mA max. at 264Vac/50Hz input.

输入 264Vac/50HZ, 漏电流最大 0.25 mA。

5.4 INSULATION RESISTANCE 绝缘阻抗

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

500Vdc,初级对次级最小 50 MΩ。

6 、 ENVIRONMENTAL PERFORMANCES 环境性能

6.1 Operating Ambient Temperature: 0 °C to + 40 °C.

使用环境温度: 0 °C至 + 40 °C。

6.2 Operating Ambient Relative Humidity:5% to 90%R.H.

使用环境相对湿度: 5%至 90% R.H。

6.3 Storage Temperature :-10°C to +70°C.

储存温度: -10°C 至 +70°C。

6.4 Storage Humidity : 5% to 90%R.H.

储存湿度: 5%至 90% R.H。

6.5 Altitude: Safe use of belowing the sea level 5000 m area.

适用于海拔 5000 米及以下地区安全使用。

7 、 RELIABILITY 可靠性

7.1 MEAN TIME BETWEEN FAILURE(MTBF) 平均无故障时间

The MTBF should not be less than 50000 hours at the temperature of 25°C

@230Vac.(BELLCORE TR-332)

在 25°C@230Vac 环境温度下平均无故障时间不小于 50000 小时。(BELLCORE TR-332)

7.2 CAPACITOR LIFE 电容寿命

The capacitor life should not be less than 3 years at 80% rated load output and 230Vac input @Ta=25°C.

在 230Vac 输入和 80%额定负载输出, 25°C环境温度下电容寿命不小于 3 年。

7.3 Drop test 跌落试验

The power was dropped from a height of (1.0±0.01)m onto a 20mm plank, hitting it for 1 time/surface(3 surfaces in total),no mechanical damages or other failures, no electrical deterioration and other failures comparing to previous test condition.


电源产品从 (1.0 ± 0.01) m 处落下 1 次/面（共 3 面），落在 20mm 厚的木板上，实验后与实验前状态比较没有机械破损等不良状况，且不出现电器性能损坏。

8、 MECHANICAL 机械性能

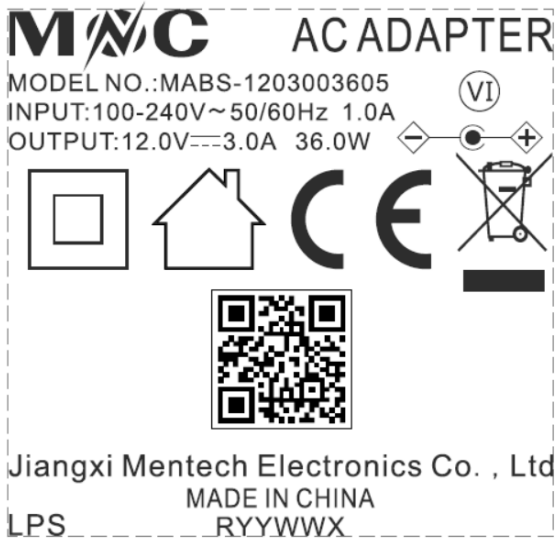
8.1 Connector type 接口类型

AC Input pin 输入插脚: UK 3PIN

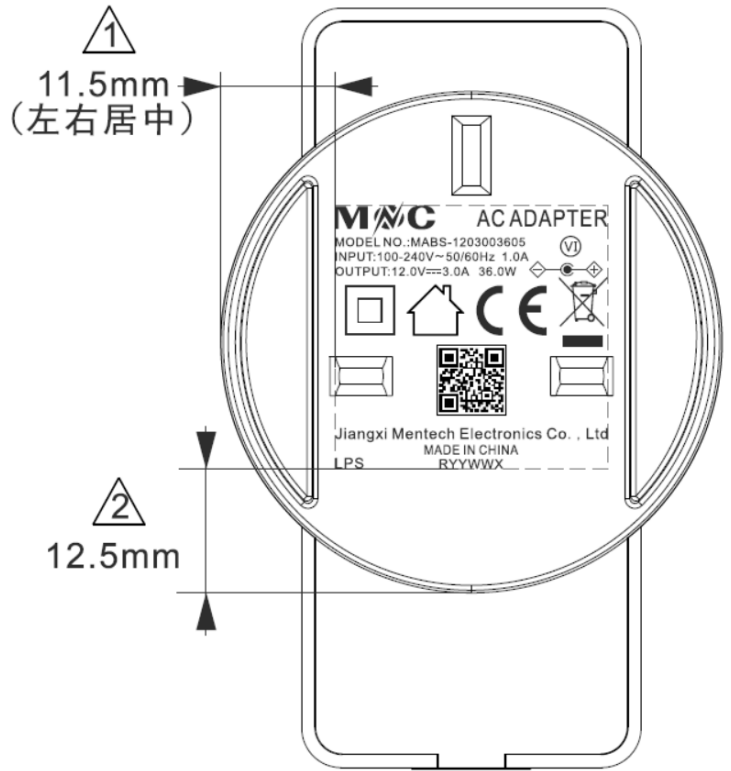
DC Cable DC 线材: 20AWG UL2468 1.5m

DC Plug 插头: 5.5*2.1*9.5mm I TYPE 

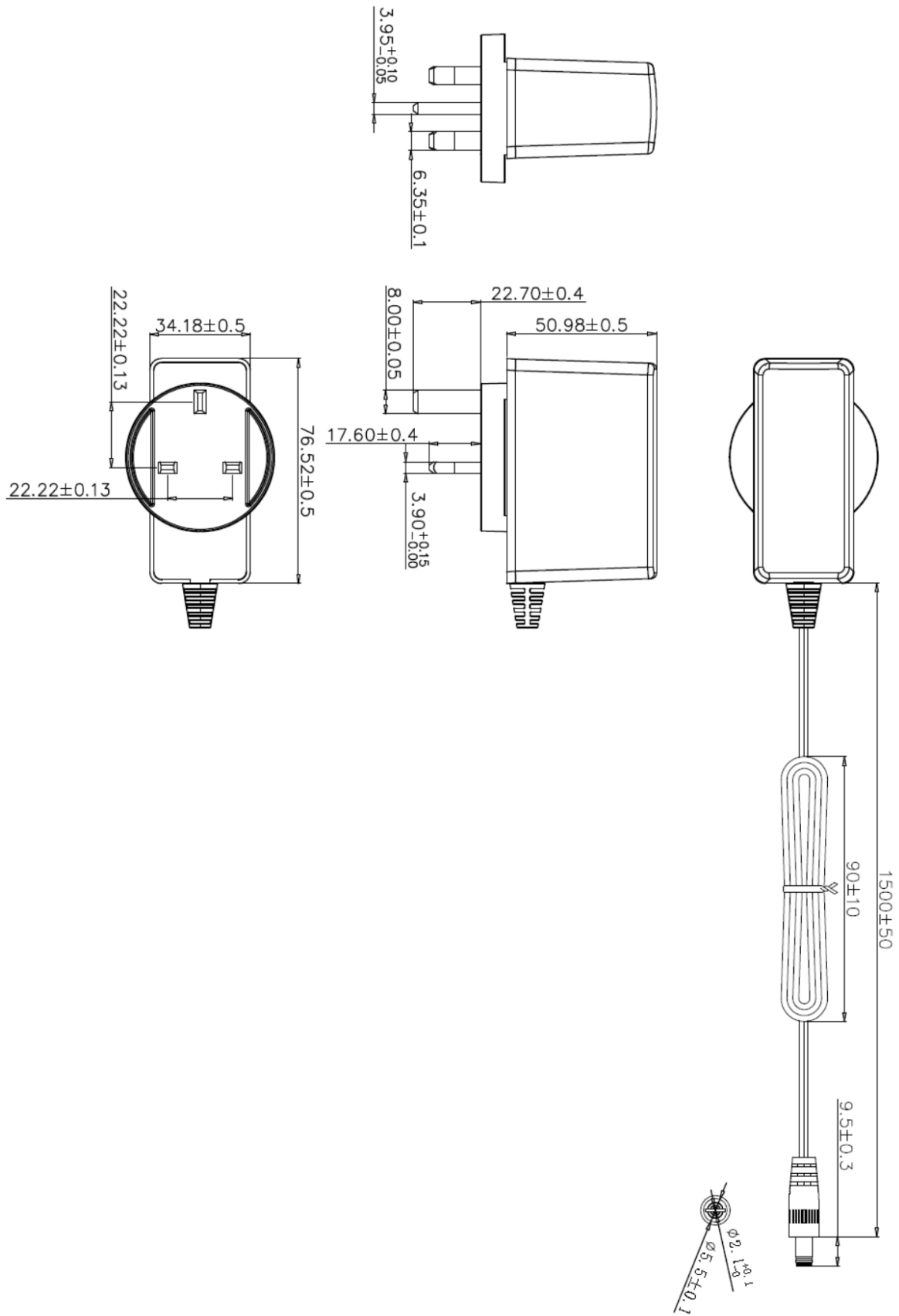
9、 LABEL 铭牌



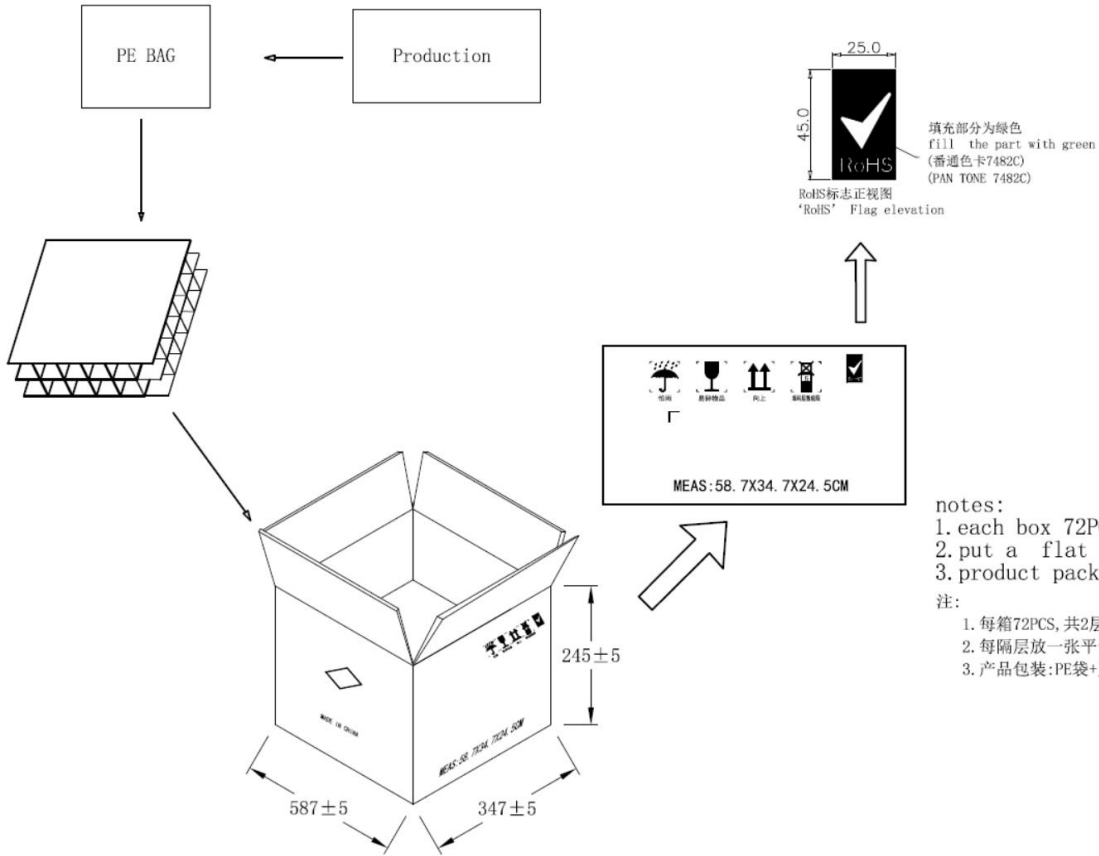
SCALE: 2:1



10、 STRUCTURE AND DIMENSION 结构尺寸规格



11、 PACKAGE 包装方式



- notes:
1. each box 72PCS, 2 level in total
 2. put a flat card on each level
 3. product packaging: PE bag+knife cards
- 注:
1. 每箱72PCS, 共2层.
 2. 每层放一张平卡.
 3. 产品包装: PE袋+刀卡.