

承 认 书
*SPECIFICATION FOR
APPROVAL*

CUSTOMER (客户) : 佳世达

Model Number (型号) : AY042P-1HF01

Part Description (元件描述) : switching power supply

Part No. of Customer (客户编号) : _____

Date of Approval (确认日期) : 2024-6-22

Prepared By: AOYUAN (奥源确认栏)

Reported By	Checked By	Approved By

Please return us one original approved by you with your signatures.

客户承认盖章后敬请寄回正本一份

Customer Signature: (客户签名栏)

Reported By	Checked By	Approved By

Document History

(文件修订记录)

No. 序号	Description 描述	Modified By 修改人	Rev 版本	Date 日期	Approved By 批准人
1	首次发行	王顺兴	V1.0	2024-4-25	刘迪吉
2	效率由 100,115V,230V 测试更改为 230V	王顺兴	V1.0	2024-6-22	刘迪吉

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1. Electrical Specification/电气特性

1.1 General Scope/概述

The specification defines the performance characteristics of a 42 W Switching Power supply. All products including samples delivered will meet all the requirements as outlined in the document. The basic requirements of the design features are listed below:

这是一份详细描述总功率为 42 瓦的开关电源的规格承认书。所有提供的产品包括样品将满足本文件所描述的产品规格。其设计基本要求如下:

1.2 Product Description/产品描述

- | | |
|---|--|
| <input type="checkbox"/> SMPS Adaptor(Wall mount)插墙式适配器 | <input type="checkbox"/> SMPS Adaptor(Desk-top)桌面型适配器 |
| <input type="checkbox"/> SMPS Unit(With Case)带铁壳型电源 | <input type="checkbox"/> Li-ion battery charger 锂电池充电器 |
| <input checked="" type="checkbox"/> Open Frame/开放式结构电源 | <input type="checkbox"/> Others 其他型电源 |

2. Input Characteristics/输入特性

2.1 Input Voltage And Frequency/输入电压与频率

Rated input voltage 额定输入电压	100Vac to 240Vac
Limited working Range 极限工作范围	90 Vac to 264Vac
Frequency range 频率范围	50Hz/60Hz±5%
Leakage Current 泄漏电流	Less Than 0.25mA 264Vac input

2.2 Input AC Current/输入交流电流

1.0Arms Max at 100 Vac input and full load.在 100Vac 输入和满载条件下最大 1.0A.

2.3 Inrush Current/浪涌电流

The inrush current is 30Amax/60Amax at cold or hot start and input voltage is 115Vac/230Vac. 统入 115Vac/230Vac 时冷热机条件下浪涌电流 30A/60A 最大。

2.4 Input Fuse/输入保险丝

Input voltage 264Vac to 0Vac, The input fuse shall not blow up at full load.输出满载条件下, 输入电压从 264Vac 降至 0Vac 时输入保险丝不可爆裂。

2.5 Efficiency/效率

85% min. When the input voltage is 230V
输入电压为 230V 时, PCB 板端的效率为 85% 最小。

2.6 No Load Power Consumption/空载功耗

Input voltage 90V~264V, the input power loss must be less than 0.1W.
输入电压 90V~264V, 输入功率损耗必须小于 0.1W。

3. Output Characteristics/输出特性

3.1 Output voltage regulation/输出电压调整率

Output Channel	Load(A)			Regulation(V)	
	Min	Rated	Peak	Load regulation	Line regulation
19V	0	2.21	2.6	±5%	±2%

1.The Peak current or power should be test at pulse width within 100ms

峰值电流或功率的测试且脉宽小于 100 毫秒。

2.Line regulation is measured from 100Vac to 240Vac 线性调整率的测试条件是 100Vac 到 240Vac

3.Load regulation is measured all output from min load to max load at 115Vac or 230Vac input voltage

负载调整率的测试条件是在 115Vac/230Vac 输入情况下，最小载到最大载之间变化。

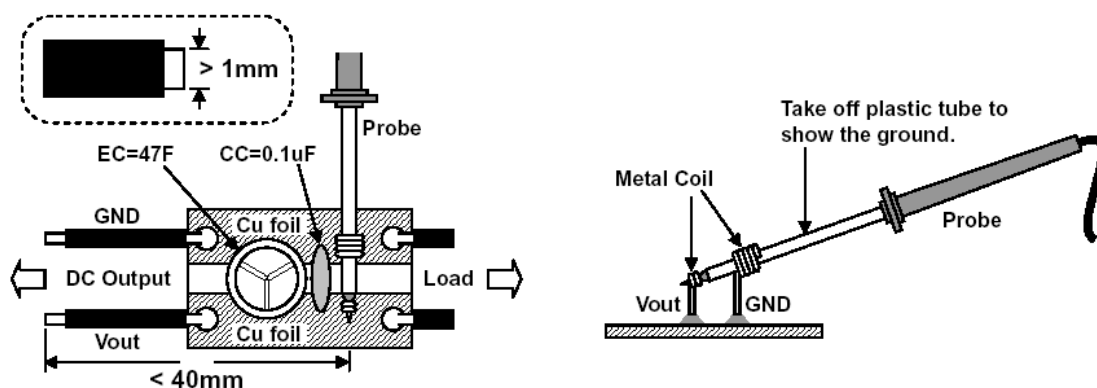
3.2 Ripple and noise/纹波&噪声

Output Channel	Ripple/Noise(mVp-p)阻性负载	Ripple/Noise(mVp-p)整机负载
19V	≤250 @25°C	≤400 @25°C

1.The ripple is measured from peak to peak with bandwidth limit of 20MHz.纹波是使用示波器带宽为 20MHz 测量峰峰值得到的。

2.Input voltage at 100~240Vac and full load, a 0.1uF ceramic disk capacitor & 10uF electrolytic(low ESR) capacitor should be put across the output terminals during ripple & noise measure as fig below.

在输入 100~240Vac,输出满载的情况下,测试纹波和噪声需要在输出端并联一个 0.1uF 的瓷片电容和一个 10uF 低内阻的电解电容,如下图。



3.3 Turn on delay time/开机延迟时间

The turn on delay time is 0.75seconds Max. At 220Vac input and output full load.

当输入 220Vac,输出满载时,开机延迟时间最大为 0.75S.

3.4 Rise time/上升时间

Output Channel	Rise time(mS)
19V	≤50

The output voltages shall rise from 10% to 90% of their output voltage 输出从 10%上升到 90% 的时间。

Input voltage at 90~264Vac and full load 在输入 90~264Vac,输出满载的情况下。

3.5 Hold up time/保持时间

Output Channel	Hold up time	Comments
19V	≥10(mS)	220Vac input @ 80% loads

3.6 Output Overshoot/输出过冲

Output Channel	Over shoot voltage(V)	
	Turn on	Turn off
19V	≤2V	≤2V

Under the condition of input voltage 90~264Vac 在输入电压 90~264Vac, 额定负载输出条件下。

3.7 Dynamic Load/动态负载

Output Channel	Voltage limit	Duty	Slew Rate	Load Change
19V	±8%	50%	0.5A/US	0% ~ 25% ~ 50% ~ 75% ~ 100%

Load change repetition rate is 100Hz to 1kHz 频率跳变为 100 ~ 1kHz 负载测试。

4. Protection requirements/保护功能

4.1 Short circuit protection/短路保护

Output Channel	Comments
19V	Hiccup 打嗝保护

The short circuit protection should be test at an Rated load and input is 90Vac~264Vac 短路保护 测试是在额定负载时测试,输入在 90Vac ~ 264Vac。

4.2 Over current protection/过流保护

Output Channel	Over Current Value(A)	Comments
19V	5A Max	Hiccup 打嗝保护

The over current protection should be test at an Rated load and input is 90Vac~264Vac 过流保护 测试是在额定负载时测试,输入在 90Vac ~ 264Vac。

4.3 Peak current/峰值电流

Output Channel	Peak current(A)	Comments
19V	2.6A Max	100mS Max

The peak current should be test at an Rated load off other output and input is 100Vac~240Vac
峰值电流测试是在其他组额定负载时测试,输入在 100Vac ~ 240Vac。

4.4 Over Voltage protection/过压保护

Output Channel	Over Voltage Value(V)	Comments
19V	25V Max	Hiccup 打嗝保护

The over voltage protection should be test at an Rated load and input is 90Vac~264Vac 过流保护
测试是在额定负载时测试,输入在 90Vac ~ 264Vac。

5. Environmental requirements/环境要求

5.1 Temperature/温度

Operating temperature:-10°C to +40°C.正常工作温度为-10°C至+40°C。

Storage temperature:-20°C to +70°C.存储温度为-20°C至+70°C。

5.2 Humidity/湿度

Operating humidity:5% to 90%(non-condensing).正常工作湿度为 5%至 90%(无冰凝结条件下)。

Storage humidity:5% to 90%(non-condensing).存储湿度为 5%至 90%(无冰凝结条件下)。

5.3 Operating Altitude/海拔高度

≤5000m Elevation.最大海拔高度小于或等于 5000 米。

5.4 Cooling/冷却方式

Cooling shall be with natural convection cooling.空气自然对流冷却。

5.5 Weather conditions/气候条件

Conform to the tropical climate.适用于热带地区

6. Reliability requirements/可靠性要求

6.1 MTBF qualification/平均间隔故障时间估算

The MTBF shall be at least 50000hours at 25°C,full load and input voltage 115Vac and 230Vac conditions, calculated using the Telcordia SR-332 issue2.平均间隔故障时间至少 50000 小时,在 25 °C环境及满载输出,输入电压为 115Vac 和 230Vac 条件下,计算使用标准 Telcordia SR-332。

6.2 E-cap Lifetime/电解电容寿命

The life estimation of aluminum capacitor shall be at least 30000 hours at 25°C, of full load and input voltage 115Vac and 230Vac conditions.铝电解电容寿命计算至少 30000 小时,在 25°C环境及满载输出,输入电压为 115Vac 和 230Vac 条件下。

6.3 Low temperature storage test/低温贮存试验

Shutdown state, $(-40^{\circ}\text{C}\pm 3^{\circ}\text{C})$ low temperature storage 48 h, normal temperature recovery 2 h after inspection. After testing, the basic functions, appearance and assembly inspection should be able to meet the corresponding requirements 关机状态, $(-40^{\circ}\text{C}\pm 3^{\circ}\text{C})$ 低温存储 48h, 常温恢复 2h 后检查.测试后进行基本功能、外观及装配检测, 应能符合相应的要求.

6.4 Low temperature operating test/低温运行试验

The charger is electrified and full load, $(-10^{\circ}\text{C}\pm 3^{\circ}\text{C})$ low temperature test 16h; normal temperature recovery 2 h after inspection. The basic function, appearance and assembly inspection should meet the requirements after normal temperature recovery.

将充电器通电满载工作, $(-10^{\circ}\text{C}\pm 3^{\circ}\text{C})$ 低温试验 16h; 常温恢复 2h 后检查.常温恢复后基本功能、外观及装配检测应符合要求。

6.5 High temperature storage test/高温贮存试验

Shutdown state, $(85^{\circ}\text{C}\pm 3^{\circ}\text{C})$ high temperature storage 48 h, normal temperature recovery 2 h after inspection. After testing, the basic function, appearance and assembly inspection should be able to meet the corresponding requirements.

关机状态, $(85^{\circ}\text{C}\pm 3^{\circ}\text{C})$ 高温存储 48h, 常温恢复 2h 后检查.测试后进行基本功能、外观及装配检测, 应能符合相应的要求。

6.6 High temperature operation test/高温运行试验

The charger is electrified and full load, $(45^{\circ}\text{C}\pm 3^{\circ}\text{C})$ high temperature test 16h; normal temperature recovery 2 h after inspection. The basic function, appearance and assembly inspection should meet the corresponding requirements after normal temperature recovery.

将充电器通电满载工作, $(45^{\circ}\text{C}\pm 3^{\circ}\text{C})$ 高温试验 16h; 常温恢复 2h 后检查.常温恢复后基本功能、外观及装配检测应能符合相应的要求。

6.7 Temperature Impact Test/温度冲击试验

Shutdown state, $(-40^{\circ}\text{C}\pm 3^{\circ}\text{C})/(65^{\circ}\text{C}\pm 3^{\circ}\text{C})$ 30 minutes each temperature impact 16 cycles, starting from low temperature, high and low temperature switching time requirements less than 3 min, normal temperature recovery 2 h after the inspection function, appearance and assembly inspection should meet the requirements.

关机状态, $(-40^{\circ}\text{C}\pm 3^{\circ}\text{C}) / (+65^{\circ}\text{C}\pm 3^{\circ}\text{C})$ 各 30 分钟的温度冲击 16 个循环, 由低温开始, 高低温切换时间要求小于 3min, 常温恢复 2h 后检查功能、外观及装配检测应符合要求。

6.8 Noise testing/噪音测试

When rated load and no load, noise from the adapter should be heard less than 28dB. 30 cm from the adapter (Environment: $< 20 \text{ dBA}$)

额定负载和空载时, 在离适配器 30cm 的地方, 听到来自适配器的噪音应低于 28dB.

(环境: $< 20 \text{ dBA}$)

6.9 Vibration test/振动测试

Test 7~50 HZ adopt fixed amplitude 0.8 mm, 50~200 HZ fixed acceleration 4g.

X,Y,Z axis 1 hour.

测试 7~50HZ 采用定幅 0.8mm, 50~200HZ 定加速度 4g, X,Y,Z 轴各 1 小时.

DUT internal should be silent or obvious parts loose, all functions, performance normal. DUT 内部应无声响或明显部件松动, 各项功能、性能正常.

6.10 Burn-In test/老化测试

Burn-In temperature 40°C, 220vac input, rated load 80-100% continuous work 168h. The electrical performance of the test sample should be normal after the test. 老化温度 40°C, 220ac 输入, 额定负载 80%-100% 持续工作 168h, 试验样品在试验后电气性能需正常.

6.11 AC on/off testing/输入开关机测试

The AC on/off is input voltage 220Vac, output full load, 5 S on / 5 S off once, test 3000 times. 220Vac 输入, 输出满载, 5S 开/5S 关为 1 次, 测试 3000 次.

Power supply should not be damaged after testing. 测试完后电源不能损坏.

7. Safety and EMI requirements/安全及 EMI 要求

7.1 Hi-pot test/高压测试

Hi-pot test shall meet with the following table test requirements, 100% production test must be performed for each test item and be maintained at that level for a minimum of 5 seconds without failure.

高压测试满足下表的要求, 100% 在线间品执行此项测试, 并每一项目至少保持 1min 时间无任何故障.

ITEM	SPECIFICATION	REMARK
Primary to Secondary 输入 - 输出	3000Vac 或 4000Vdc/10mA/1min	No arcing No broken/无飞狐无击穿
Primary to P.G/输入 - 地	1500Vac 或 2122Vdc/10mA/1min	No arcing No broken/无飞狐无击穿

7.2 Insulation resistance/绝缘阻抗

ITEM	SPECIFICATION	REMARK
Primary to Secondary 输入 - 输出	> 100MΩ; DC500V	---
Primary to P.G/输入 - 地	> 50MΩ; DC500V	---

7.3 Safety standards/安规标准

safety: accord with (安全: 符合标准)

Certificate	Country/国家	Standards/标准

<input type="checkbox"/> CCC	China/中国	GB8898-2011
<input type="checkbox"/> CCC	China/中国	GB4943-2011
<input type="checkbox"/> CCC	China/中国	GB4943.1-2022
<input type="checkbox"/> CCC	China/中国	GB17625.1-2022
<input type="checkbox"/> BSMI	台灣	CNS15598-1
<input type="checkbox"/> CQC	China/中国	GB4706
<input type="checkbox"/> CQC	China/中国	GB9706
<input type="checkbox"/> UL/CUL	USA/美国	UL62368
<input type="checkbox"/> UL/CUL	USA/美国	UL1310
<input type="checkbox"/> UL/CUL	USA/美国	UL60601-1
<input type="checkbox"/> CB	/	IEC62368
<input type="checkbox"/> CB	/	IEC60335
<input type="checkbox"/> CB	/	IEC61558
<input type="checkbox"/> CB	/	IEC60601-1
<input type="checkbox"/> GS	Europe/欧洲	EN62368
<input type="checkbox"/> GS	Europe/欧洲	EN 60335
<input type="checkbox"/> GS	Europe/欧洲	EN 61558
<input type="checkbox"/> GS	Europe/欧洲	EN 60601-1
<input type="checkbox"/> CE	Europe/欧洲	EN62368
<input type="checkbox"/> CE	Europe/欧洲	EN 60335
<input type="checkbox"/> CE	Europe/欧洲	EN 61558
<input type="checkbox"/> CE	Europe/欧洲	EN 60601-1
<input type="checkbox"/> UKCA	England/英国	BS EN62368
<input type="checkbox"/> UKCA	England/英国	BS EN 60335
<input type="checkbox"/> UKCA	England/英国	BS EN 61558
<input type="checkbox"/> UKCA	England/英国	BS EN 60601-1
<input type="checkbox"/> RCM	Australia/澳洲	AS/NZS 62368
<input type="checkbox"/> RCM	Australia/澳洲	AS/NZS 60335
<input type="checkbox"/> RCM	Australia/澳洲	AS/NZS 61558
<input type="checkbox"/> RCM	Australia/澳洲	AS/NZS 60601-1
<input type="checkbox"/> PSE	Japan/日本	J62368
<input type="checkbox"/> PSE	Japan/日本	J60335
<input type="checkbox"/> PSE	Japan/日本	J61558

<input type="checkbox"/> PSE	Japan/日本	J60601-1
<input type="checkbox"/> KC	Korea/韩国	K62368
<input type="checkbox"/> KC	Korea/韩国	K60335
<input type="checkbox"/> KC	Korea/韩国	K61558
<input type="checkbox"/> KC	Korea/韩国	K60601-1
<input type="checkbox"/> EAC	Russia/俄罗斯	EN 62368
<input type="checkbox"/> EAC	Russia/俄罗斯	EN 60335
<input type="checkbox"/> EAC	Russia/俄罗斯	EN 61558
<input type="checkbox"/> EAC	Russia/俄罗斯	EN 60601-1

7.4 EMI/电磁干扰

EMI:accord with(EMI: 符合标准)

<input type="checkbox"/> EN55032 <input type="checkbox"/> J55032 <input type="checkbox"/> K32	Electromagnetic compatibility of multimedia equipment — Emission requirements 多媒体设备的电磁兼容性.发射要求
<input type="checkbox"/> GB9254.1-2022	Information technology equipment, multimedia equipment and receivers—Electromagnetic compatibility—Part 1: Emission requirements 信息技术设备、多媒体设备和接收机电磁兼容第 1 部分:发射要求
<input type="checkbox"/> GB4343.1 <input type="checkbox"/> EN55014-1 <input type="checkbox"/> J55014-1 <input type="checkbox"/> K55014-1	Electromagnetic compatibility Requirements for household appliances, electric tools and similar apparatus Part 1:Emission 电磁兼容 家用电器, 电动工具和类似器具的要求 第 1 部分: 发射
<input type="checkbox"/> FCC Part 15 B	FCC CFR 47 Part 15 subpart B 美国联邦通信法规第 47 卷 15 章内无意式的辐射器材的相关规定
<input type="checkbox"/> ICES-003:Issue 7	Electromagnetic compatibility of Information Technology Equipment (including Digital Apparatus) Emission requirements for Canada 加拿大信息技术设备(包含数字设备) 电磁兼容.发射要求

7.5 EMS/电磁抗扰度

EMS:accord with/EMS: 符合标准

<input type="checkbox"/> EN55035 <input type="checkbox"/> K35	Information technology equipment ,Sound and television broadcast receivers —Immunity characteristic limits and methods of measurement 信息技术设备、声音和电视广播接收机抗扰度测量限值和方法	
EN61000-4-2 GB/T17626.2	Electrostatic discharge immunity test 静电放电抗扰度测试	CON:±8KV; AIR:±15KV; 10 charge/point for Con; 10 charge/point for Air Meet criteria: B

EN61000-4-4 GB/T17626.4	Electrical fast transient/burst immunity test 电快速瞬变脉冲群抗扰度测试	AC port:±1KV Meet criteria: B
EN61000-4-5 GB/T17626.5	Surge immunity test 浪涌抗扰度测试	AC port: L-N:±2KV L-PE/N-PE:±4KV 1.2/50uS-8/20uS phase position: 0, 90, 180, 270 Meet criteria: B

8. Mechanical requirements/结构参数

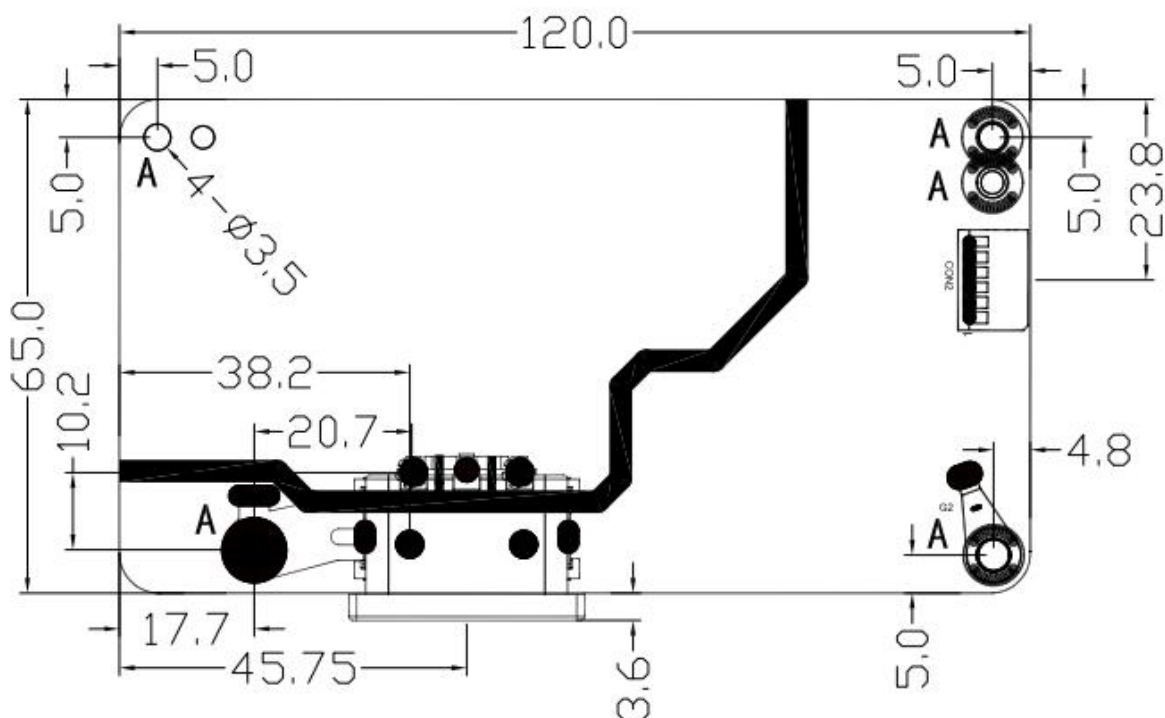
8.1 Weight/重量

单板样机重量约 100g

The single-board prototype weighs about 100 克

8.2 Outline dimensions/结构图

The power supply size/外壳尺寸:120*65*18mm



NOTE: 1. A定位孔

2. 公差: 长度/宽度 ± 1.0 , 孔径 ± 0.2 , 位置 ± 0.5

8.3 Connector pin definition/连接器脚位定义

CON1 Connection and Function/插座 CON1 的引脚定义

NO	Pin Connection	Function	Note
1	AC-L	AC INPUT LINE	3Pin ,pitch 7.0 mm , angle DIP-(H)
2	NC	NC	
3	AC-N	AC INPUT NEUTRAL	

CON2 Connection and Function/插座 CON2 的引脚定义

NO	Pin Connection	Function	Note
1.2.3	+19V	+19V OUTPUT	6Pin ,pitch 2.0 mm , angle DIP-(H)
4.5.6	GND	GROUND	

8.4 MountingNotice/安装注意事项

A、 For safety issue, please keep 8.0mm at least from the metal parts of the system. Or put a high-voltage insulator between the power and the metal parts to avoid the situation of Hi-POT failure or arcing---etc.

出于安全问题的考虑,请在组装时确保板和系统金属材料间保持至少 8mm 以上的距离,或者使用具有足够绝缘等级的绝缘材料加以隔离,以避免产生高压放电

B、 Don' t twist, deform, drop or knock the power supply during assembly

组装时,请确保无扭曲,弯折, 掉落及碰撞等现象的发生

C、 The power supply is usually designed without the case. Please take care about ESD at anytime
因为本产品为无外壳之设计, 故在任何时候均应注意静电防护

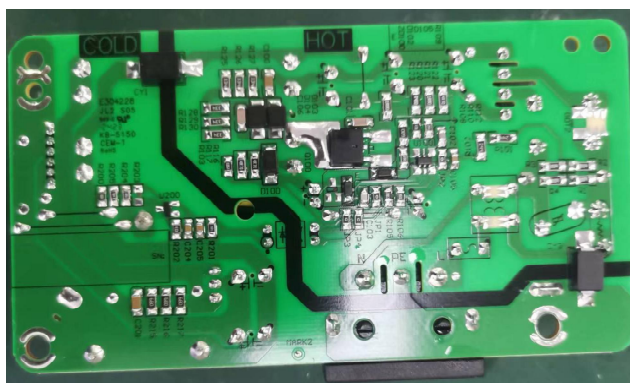
D、 When assembling, in order to avoid interference, please separate AC cable, DC output cable and LED cable from each other, and keep some distance.

组装时, 为避免干扰, 请把 AC 输入线、 DC 输出线与 LED 输出线三线分开并保持一定的距离排放。

8.5 Function Layout/产品外观图

Considering the stability of material supply and the competitiveness of cost , we'll use 2-4 brands for each component of this model.this picture is for you reference only. If you have any requests, please contact with us.

考虑到物料供应的稳定性和成本控制的竞争性，本产品相关物料可能会使用到两至三个品牌规格。此图片仅供参考，有特殊要求请贵司提出双方共同确认。



8.6 Label and Bar code/铭牌与条码

客户条码标签格式：尺寸 10*30mm(此标签贴于电源板标签框内)

左边为二维码	二维码内容 (SN 码;ID;料号;工单号;版本号)
	机种名 AY042P-1HF01

二维码内容列印说明：

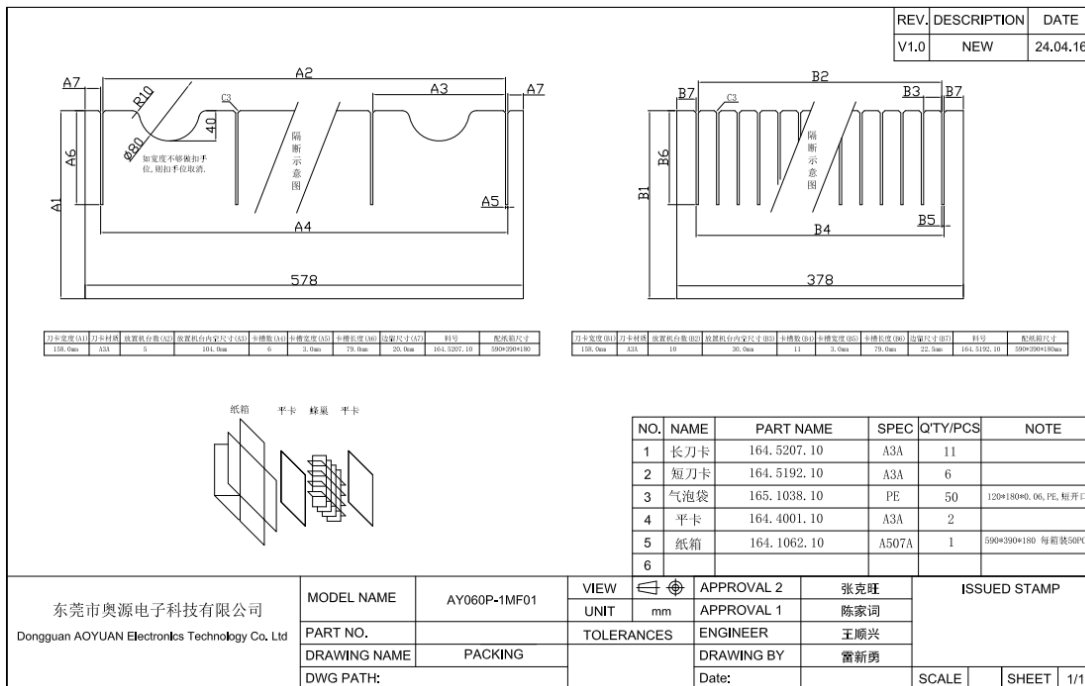
1. SN 码：为 8 位，前 7 位为产品生产编号，用 0-9 表示，产品的生产编号在不同的生产工单号也不能重复，最后一码为固定为 Y，范例 (0000000Y,0000001Y.....9999999Y)
2. ID：由于此产品为电源板，ID 无，列印内容为空格分号，范例 (;)
3. 料号：内容为暂无用空格隔开
4. 工单号：公司内部每批生产排程工单号内容
5. 版本号：EVT 为阶段，内容为 00000

备注：二维码内容一行列印不完，可以另起一行，每项完成后用分号隔开，如：ID;料号;工单号;版本号

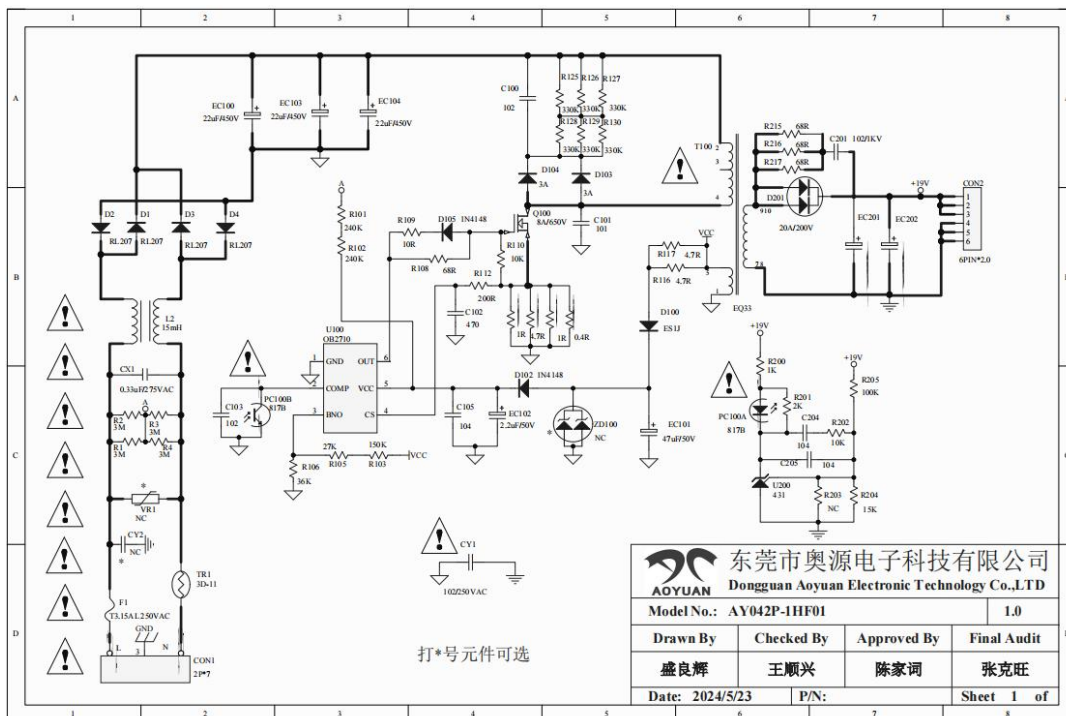
8.7 Package/包装

This package is for reference only/此包装图仅供参考，最终包装方式以客户要求或公司内部确认后为准。

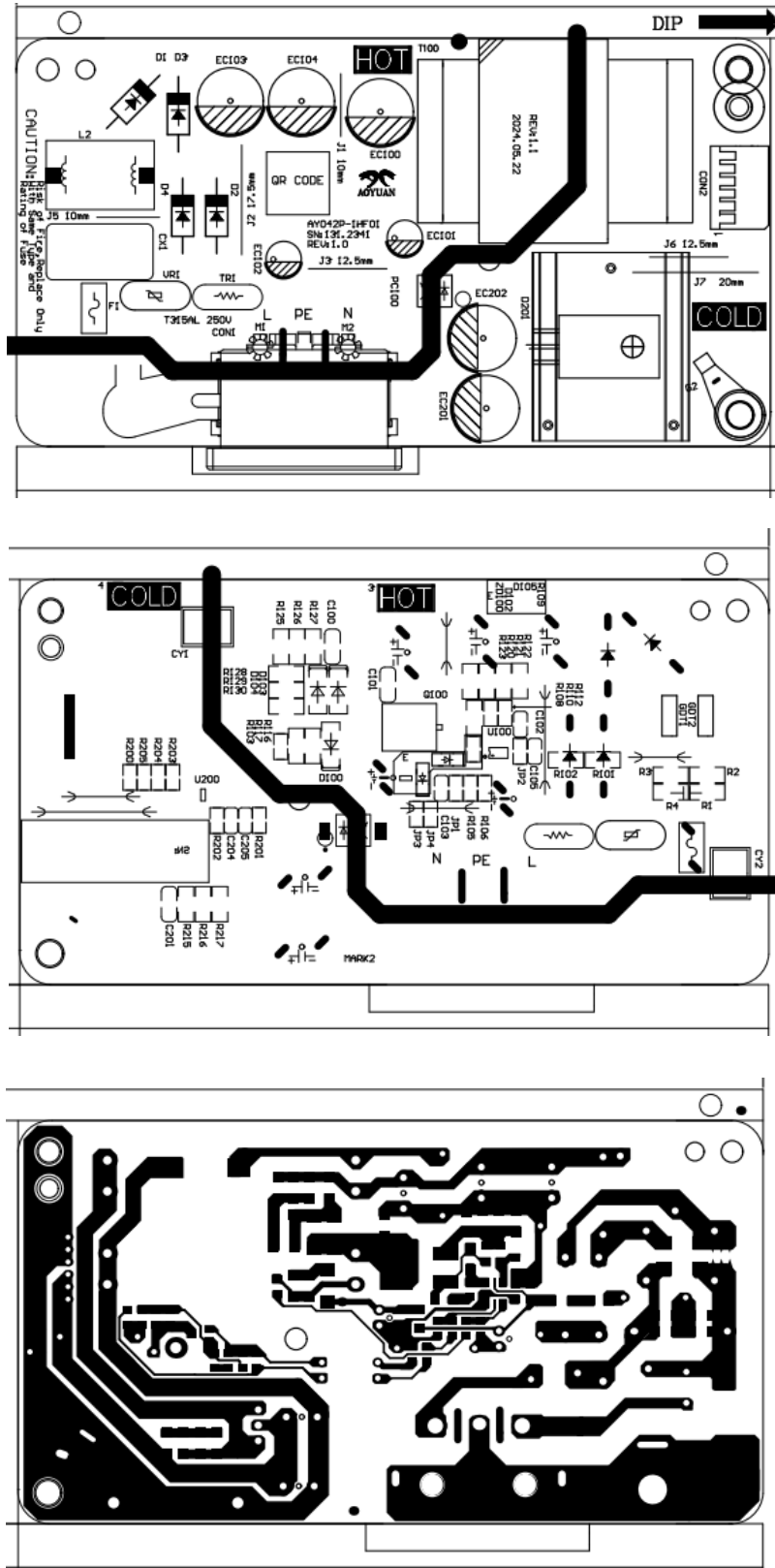
包装方式一：使用蜂巢式包材，每箱装 50 台。



8.8 Circuit Drawing/原理图



8.9 PCB Drawing/PCB 绘图



8.10 Bill of materials/材料清单

	组成 用量	插件位置	元件品号	元件品名	报备规格描述	报备品 牌
主	1	U200	118. 1001. 21	基准稳压 器	0. 4%, 40V, REG, SMD, SOT-23, AZ431AN -ATRE1	BCD
主	1	U100	111. 1195. 14	反激 IC	OB2710MP, SMD, SOT23-6	OB
主	2	D102, D105	112. 1001. K1	低压二极 管	0. 15A, 100V, SWITCH DIODE, SMD, SOD-123, 1N4148W	Galaxy
替	2	D102, D105	112. 1001. 28	低压二极 管	0. 15A, 100V, SWITCH DIODE, SMD, SOD-123, L1N4148WT1G-X	LRC
主	2	D103, D104	112. 1014. 67	高压二极 管	3A, 1000V, SWITCH DIODE, SMD, SMB, GPP, GS3MBF	PingWei
替	2	D103, D104	112. 1014. 11	高压二极 管	3A, 1000V, SWITCH DIODE, SMD, SMB, GPP, GN3MB	GOOD-AR K
主	1	D100	112. 1012. 67	快速二极 管	1A, 600V, FAST DIODE, SMD, SMA, GPP, ES1JGR	PingWei
替	1	D100	112. 1012. 11	快速二极 管	1A, 600V, FAST DIODE, SMD, SMA, GPP, ES1J	GOOD-AR K
主	1	Q100	115. 2038. 05	COOL-NMOS	7. 3A, 650V, N-COOL MOSFET, SMD, TO-252, MMD65R600Q	, MagnaC hip
替	1	Q100	115. 2038. 52	COOL-NMOS	8A, 650V, N-COOL MOSFET, SMD, TO-252, OSG65R580DEF,	ORIENTA L
主	2	CY1, CY2	124. 2022. 58	贴片 Y1 电 容	102, 400VAC, M, Y5U, Y1-CAP, SMD	TRX
主	1	EC102	124. 3414. 08	普通电解	2. 2uF, 50V, 2000Hrs, E-CAP, 5*11	CAPXON
主	1	EC101	124. 3040. 08	普通电解	47uF, 50V, 4000Hrs, E-CAP, 6. 3*11	CAPXON
替	1	EC101	124. 3040. 32	普通电解	47uF, 50V, 5000Hrs, E-CAP, 6. 3*11	ChengX
备	1	EC101	124. 3040. 14	普通电解	47uF, 50V, 5000Hrs, E-CAP, 6. 3*11	HuaWei
主	2	EC201, EC202	124. 3132. 08	普通电解	470uF, 25V, 5000Hrs, E-CAP, 10*12. 5	CAPXON
替	2	EC201, EC202	124. 3132. 14	普通电解	470uF, 25V, 4000Hrs, E-CAP, 10*12. 5	HuaWei
备	2	EC201, EC202	124. 3132. 32	普通电解	470uF, 25V, 5000Hrs, E-CAP, 10*13	ChengX
主	1	BD1	116. 2006. 67	桥式整流 管	4A, 800V, BRIDGE, 扁脚, 有螺丝 孔, P3. 8, D4KB8	PingWei

替	1	BD1	116. 2006. 09	桥式整流管	4A, 800V, BRIDGE, 扁脚, 有螺丝孔, P3. 8, GBP408	LITE-ON
主	3	EC103, EC104, EC100	124. 3383. 32	普通电解	22uF, 450V, 2000Hrs, E-CAP, 10*16	ChengX
替	3	EC103, EC104, EC100	124. 3383. 14	普通电解	22uF, 450V, 2000Hrs, E-CAP, 10. 2*16	HuaWei
主	1	F1	134. 1002. 03	保险丝	T3. 15A, 250V, 2010, Fuse	Bettel
替	1	F1	134. 1002. 02	保险丝	T3. 15A, 250V, 2010, Fuse	Walter
备	1	F1	134. 1002. 52	保险丝	T3. 15A, 250V, 5TE, Fuse	XC
主	1	CX1	124. 1010. 65	X 电容	334, 275VAC, PH15	WEIQING
替	1	CX1	124. 1010. 02	X 电容	334, 275VAC, PH15	UTX
主	1	PC100	117. 2001. 02	光耦	OPTO COUPLE, DIP-4, EL817B	Everlight
替	1	PC100	117. 2001. 09	光耦	OPTO COUPLE, DIP-4, LTV-817B	LITE-ON
主	1	TR1	123. 1033. 33	热敏电阻	3Ω, 5A, NTC, TR, HNP3D11	ZhiMin
替	1	TR1	123. 1033. 44	热敏电阻	3Ω, 5A, NTC, TR, 3D11	Shiheng
主	1	D201	114. 2032. 03	肖特基二极管	20A, 200V, SCHOTTKY, TO-220F, HBR20200S	JiLin Sino
替	1	D201	114. 2032. A8	肖特基二极管	20A, 200V, SCHOTTKY, TO-220F, MBR20200FCT	MCC
备	1	D201	114. 2032. 67	肖特基二极管	20A, 200V, SCHOTTKY, TO-220F, HBR20200FCT	PingWei
主	1	T100	181. 1449. 11	自动变压器	EQ3213, L=500uH	AOYAUN
主	1	L2	182. 2006. 10	方形电感	SQ1412, L=40mH Min	AOYUAN
主	1	L1	182. 3011. 13	环形电感	T10*6*5, L=1. 8mH	AOYUAN
主	1	CON1	132. 1100. 80	交流插座	3PIN, D 字型, AC-CN, 卧式插件 DIP-(H),	Hongchang
主	1	CON2	132. 2032. 77	DC 插座	6PIN, 2mm, DC-CN, DIP-90	AMA