

## Specification For 84 Watts Switching Mode Power Supply

<b>Product No./产品编号:</b> P23-90129000R	<b>Model No./产品型号:</b> HKA0901207-7A
<b>Customer/客户:</b>	<b>File No./文件编号:</b> 试产文件
<b>Revision/版本:</b> 7	<b>Date/日期:</b> 2010-6-23

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# 客户承认书

## SPECIFICATION FOR APPROVAL

CUSTOMER/ 客户 : \_\_\_\_\_

CUSTOMER P.N./客户物料号 : \_\_\_\_\_

MODEL NO./ 产品型号 : HKA0901207-7A

APPROVAL NO./ 承认编号 : WI-F-20100505

PREPARED DATE/拟定日期 : 2010-6-23

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。

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### 1. SCOPE/概述

The document detail the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 84 W continuous output power.

资料详细描述了一款 84W(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.

**Description/描述:**

- 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	Normal/额定值	Maximum/最大
Input Voltage/输入电压	90Vac	100Vac~240Vac	264Vac
Input Frequency/输入频率	47Hz	60Hz/50Hz	63Hz

### 2.2. Input AC Current/AC 输入电流

1.5Amax. @ 115Vac input & Full load/在 115Vac 输入和满载条件下最大 1.5A

1.5Amax. @ 230Vac input & Full load/在 230Vac 输入和满载条件下最大 1.5A

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

Power supply inrush current shall be less than the ratings of its critical components (including bulk rectifiers, fuses, and surge limiting device) under all conditions of line voltage of Section 2.1.

浪涌电流:在 2.1 中所有输入条件下, 浪涌应小于关键器件的额定值(包括保险丝、桥整等浪涌限制元件).

### 2.4. Minimum Efficiency 电源效率

85%(min.) at 230Vac/50Hz and 115/60HZ

最小 85% ( 输入 230V/50HZ 和 115/60HZ)

### 2.5. No-Load Input Power Dissipation 输入空载功率损耗

Input 115Vac or 230Vac ,output no load, the input power loss is less than 0.75W.

输入 115/230V 交流, 在输出空载条件, 输入功耗小于 0.75W.

## 3. Output Characteristics/输出特性

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

Output Rail	Rated Load/额定负载		Peak Load	Output Range 输出电压范围	R+N 纹波与噪声	Remark 备注
	Min. Load	Max. Load				
+12V	0.1A	7.0A	0	11.4V ~ 12.6V	200mVp-p	

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor (at input Rated voltage 100 ~ 240Vac under)

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 (在额定输入电压 100~240Vac 条件下).

**3.2. Line/ Load Regulation/线性/负载调整率**

Output Rail	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			
+12.0V	0.1A	7A	±2%	±5%	

**3.3. Turn - on Delay Time/开机延迟时间**

2S max. @ 115Vac to 230 Vac input & Full load/满载条件下最大 2S

**3.4. Hold-up Time/关机维持时间**

5mS min. @ Full load & 115Vac/60Hz input turn off at worst case

在 115Vac/60Hz 输入,满载同时最差情况下关机, 最小 5mS

5mS min. @ Full load & 230Vac/50Hz input turn off at worst case

在 230Vac/50Hz 输入,满载同时最差情况下关机, 最小 5mS

**3.5. Rise Time/上升时间**

20mS max. @ 70% load/70%负载条件下最大 20mS

**3.6. Fall Time/下降时间**

20mS max. @ Full load/满载条件下最大 20mS

**3.7. Output Overshoot / Undershoot/输出过冲/欠冲**

10% max. When the power on or off/当电源开/关机时最大为 10%

**3.8. Output Load Transient Response/输出负载瞬态响应**

output voltage within 11.4~12.6V for load step from 20% to 80%, R/S: 0.5A/uS, frequency: 100Hz duration and 8mS at 80%.

输出电压在 11.4~12.6V 之间,负载变化: 从 20%到 80%,斜率: 0.5A/uS,频率: 100Hz, 80%负载持续时间为 8mS.

**3.9. Capacitance Load/容性负载**

While input 100~240Vac and capacitance load is 7000uF, the adapter can turn on normally and the output is in the rated range.

在输入 100~240Vac, 7000uF 容性负载条件下, 适配器能正常开机。并且输出电压范围在额定范围下

**4. Protection Requirements/保护要求**

**4.1. Over Current Protection/过流保护**

OCP Point Limited: 110%~160% Max. Load/保护点限制: 最大负载的 110%~160%

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 shall protection when the output over voltage, the power supply shall no damage, OVP voltage range: 13~16VDC

当输出过压时, 产品保护且不会损伤, 过电压范围为 13V~16Vdc

## 5. Environment Requirements/环境要求

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

0℃ to +40℃

20%RH to 80%RH

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

-30℃ to +70℃

10%RH to 90%RH non-condensing @ Sea level shall be low 10,000 feet/低于 10,000 英尺

### 5.3. 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

### 5.4. Drop in/跌落

1 Corner, 3 Edges, 6 Surfaces, Height: 75cm, On the cement plane

1 角, 3 棱, 6 面, 跌落高度: 75 厘米, 跌落到水泥面上

## 6. Reliability Requirements/可靠性要求

### 6.1. Burn-in/煲机

The power supply shall under go a minimum of 4 Hours burn-in test at 40℃ ± 5℃ under full load condition

产品至少要在 40℃ ± 5℃ 的环境及满载条件下煲机 4 小时

### 6.2. MTBF Qualification/平均间隔故障时间估算

The MTBF shall be at least 50,000hours at 25℃, Full load and nominal input condition

平均间隔故障时间: 至少 50,000 小时, 25℃ 环境及额定输入与满载条件下

## 7. EMI/EMS Standards/EMI/EMS 标准

### 7.1. EMI Standards/EMI 标准

EN 55022:1998, +A1:2000 +A2:2003, Class B

CISPR 22:2003, Class B

AS/NZS CISPR 22: 2004, Class B

### 7.2. EMS Standards/EMS 标准

EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EN 61000-4-2	Electrostatic Discharge(ESD): 8kV air discharge, 6kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient/Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 1kV, line to earth 2kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test

EN 61000-4-11 Voltage Dips

## 8. Safety Standards/安规标准

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

Primary to Secondary: 1500Vac / 3.5mA / 60second(3second for production)

初级对次级: 1500Vac / 3.5mA / 60 秒 (生产时高压测试时间: 3 秒)

### 8.2. Leakage Current/漏电流

0.5mAmax. at 250Vac / 50Hz/在输入 250Vac/50Hz 的条件下最大 0.5mA

### 8.3. Insulation Resistance/绝缘阻抗

20MΩ min. at primary to secondary add 500Vdc test voltage

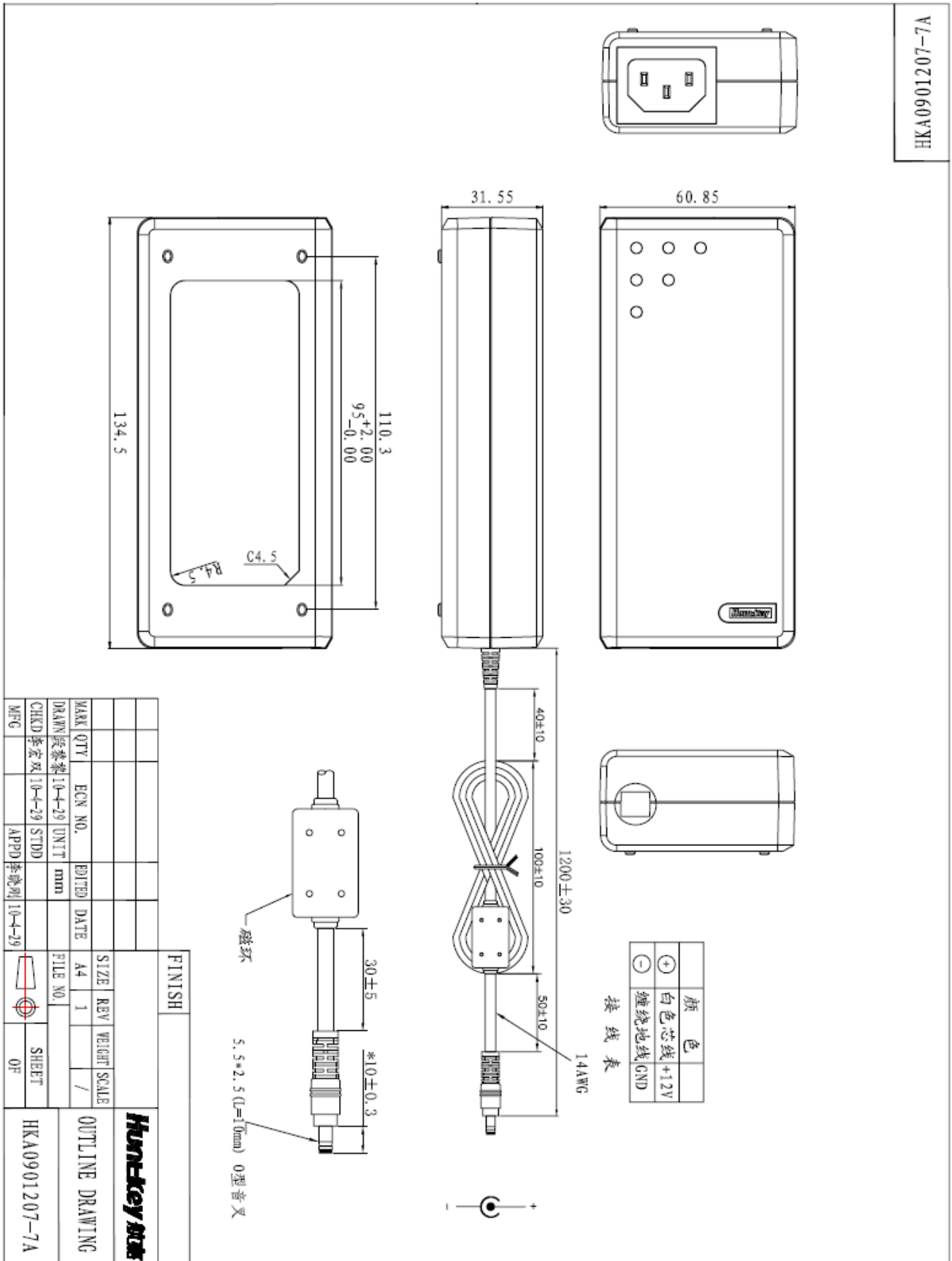
在初级与次级间加 500Vdc 进行测试, 绝缘阻抗最小 20MΩ。

### 8.4. Regulatory Standards/安规标准

Type	Country	Standard	Type	Country	Standard
<input type="checkbox"/> UL/CUL	USA	UL60950-1	<input type="checkbox"/> PSB	Singapore	IEC60950-1
<input type="checkbox"/> TUV	Europe	EN60950-1	<input type="checkbox"/> PSE	Japan	J60950
<input checked="" type="checkbox"/> CCC	China	GB4943	<input type="checkbox"/> NOM	Mexico	NOM-001
<input checked="" type="checkbox"/> CE	Europe	EN60950-1	<input type="checkbox"/> GOST	Russia	MEK60950



## 9. Mach. Outline Drawing/外观图



HKA0901207-7A

## 10. Rating Label Drawing/标贴图

技术要求:

- 1、材质: 50#银色特多龙, 表面过耐汽油擦拭PET哑膜, 底格网纹。
- 2、黑底银字, 字迹清晰。
- 3、单面背胶, 粘性好。
- 4、耐高温100度。
- 5、切边挺直, 无毛刺, 颜色字体以封样为准。
- 6、LOGO颜色为蓝色: PANTONE 293C
- 7、编码规则: CODE-128, 字体为Arial Unicode Ms.

A90AP08C000001

1. 尺寸  
2. 高/宽  
3. 材料  
4. 产地/型号  
5. 规格/数量  
6. 备注

1. 规格/数量: A90AP08C000001  
2. 产地/型号: A90AP08C000001  
3. 规格/数量: A90AP08C000001  
4. 备注: 航嘉驰源电气股份有限公司

变更日期	备注	处理	变更描述
2008.12.10	▲	5	首次设计, 增加“航嘉驰源电气股份有限公司”字样, 增加“CE”、“CCC”、“V”、“W”标志, 增加“WEEE”标志。
2010.08.18	▲		增加“WEEE”标志。

SHEET	1 OF 1	MATERIAL No.	350-5-090127E	FILE NAME	KAY0901207-7A (0808_李雪飞)	
UNIT	MM	SCALE	DATE	2008.12.10	REV	3
DESIGNED	CHECKED	APPROVED	FILE No.			
金锦	肖民利	秦文刚	李晓明	试产		

