

# 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:  HKA03612030-7B APPROVAL NO./产品编号:  WI-F-20081002 PREPARED DATE/拟定日期:  2008-12-1 

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

The document detail the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 36 W continuous output power.

资料详细描述了一款 36W(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	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

1.0Amax. @ 115Vac input & Full load/满载

1.0Amax. @ 230Vac input & Full load/满载

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

70Amax. @ 132Vac input

70Amax. @ 264Vac input

### 2.4. Efficiency (Normal)/效率(额定输入)

80% min. @ Normal input & Full load/额定输入 & 满载

### 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 0.30W.

输入 115/230V 交流, 在输出空载条件, 输入功耗小于 0.30W

## 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	0.0A	3.0A	A	11.4V ~ 12.6V	120mVp-p	

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor.

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.

### 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			
+12V	0.0A	3.0A	± 3%	± 5%	

### 3.3. Turn - on Delay Time/开机延迟时间

3S max. @ 90 Vac to 264 Vac input & Full load/满载

### 3.4. Hold-up Time/关机维持时间

10mS min. @ Full load & 115Vac/60Hz input turn off at worst case/在最差情况关机

20mS min. @ Full load & 230Vac/50Hz input turn off at worst case/在最差情况关机

### 3.5. Rise Time/上升时间

50mS max. @ Rated load/额定负载

### 3.6. Fall Time/下降时间

20mS max. @ Full load/满载

### 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

### 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.

## 4. Protection Requirements/保护要求

### 4.1. Over Current Protection/过流保护

OCP Point Limited: 200% Max. Load/保护点限制: 最大负载的 200%

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 a zener diode to protection the output over-voltage OVP voltage 14 ~19VDC.

电源输出有一个稳压管保护输出过压, 过电压范围为: 14 ~19VDC。

## 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

## 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

0.75mAmax. at 250Vac / 50Hz

### 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 checked="" 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

