

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 : HKA15019577-6AAPPROVAL NO./ 承认编号 : WI-F-20100464PREPARED DATE/拟定日期 : 2010-9-21

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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E. C. LIST/变更履历表

Rev. 版本	Description of Change/变更内容描述		Changed Date/日期	ECN No.
	Before/变更前	After/变更后		
1	Original Release	---	2010-9-21	---

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1. SCOPE/概述

The document details the electrical, mechanical and environmental specifications of a SMPS, the power supply provides 150 W continuous output power.

资料详细描述了一款 150 W(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** requirements.

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 /输入电压

The range of input voltage is from 90Vac to 265Vac with a single phase.

输入电压范围: 从 90Vac 到 265Vac, 单相输入.

	Minimum/最小	Rating/额定值	Maximum/最大
Input Voltage/输入电压	90Vac	100Vac~240Vac	265Vac
Input Frequency/输入频率	47Hz	60Hz/50Hz	63Hz

2.2. Input AC Current/输入交流电流

2Amax. @ 90Vac input & Full load/在 90Vac 输入和满载条件下最大 2A

2.3. AC Receptacle/交流输入插座

The inlet receptacle shall comply with IEC 320 standard sheet C6(3 pin inlet) be certified, Recognized or approved by CSA, UL, VDE.

输入交流插座符合 IEC 320 规范 C6 要求(3 pin 梅花座), 满足 CSA、UL、VDE 安规认证要求.

2.4. 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 rectifiers, fuses, and other surge limiting device) under all conditions of line voltage of Section 2.1.

在 2.1 中所有输入条件下, 浪涌电流应小于关键器件的额定值(包括整流桥、保险丝和其他浪涌限制元件).

2.5. Average Efficiency /平均效率

While input 115Vac and 230Vac, the average efficiency is more than 89%. The test point is at 25%, 50%, 75% and 100% of max load respectively.

在输入 115Vac 和 230Vac 条件下, 平均效率不小于 89%。测试点分别是最大载的 25%, 50%, 75% 和 100%。

2.6. No-Load Input Power Dissipation/输入空载功率损耗

The internal power loss at no load operation shall be less than below values

空载时内部损耗要小于以下值:

Vin (Vac)	Input Power with No load condition (W)
231Vac to 265Vac	0.50 W
230Vac	0.50 W
90Vac to 120Vac	0.45 W

3. Output Characteristics/输出特性

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

Output Rating	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				
+19.5V	0 A	7.7A	/	18.5V ~ 20 V	250mVp-p	

Ripple & Noise: Tested by a oscilloscope using 20MHz bandwidth and the output is paralleled a 0.01uF ceramic capacitor and a 10uF electrolysis capacitor. (Under the input Voltage 100~240Vac)

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 0.01uF 的陶瓷电容和一颗 10uF 的电解电容(输入电压 100~240Vac)

3.2. Line/ Load Regulation/线性/负载调整率

Output Rating	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			
+19.5V	0 A	7.7A	±1%	±5%	

3.3. Turn - on Delay Time/开机延迟时间

2S max. @ 90Vac input & Full load/在 90Vac 输入和满载条件下最大 2S

3.4. Hold-up Time/关机维持时间

10mS min. @ Full load & 100Vac/60Hz input turn off at worst case

在 100Vac 输入, 满载同时最差情况下关机, 最小 10mS

3.5. Rise Time/上升时间

30mS max. @ Full load/在满载条件下最大 30mS

3.6. Fall Time/下降时间

20mS max. @ Full load/在满载条件下最大 20mS

3.7. Overshoot / 过冲

Any overshoot at turn on or turn off of AC input shall be within spec value.

电源开关机任何过冲必须满足 18.5V ~ 20 V

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

Output voltage is within 18.5-20 V while the load step is from 20% to 80% of max load, R/S: 1A/uS, frequency: 1000Hz, and 500uS duration at 80% of max load.

输出电压在 18.5-20V 之间,负载变化: 从最大载的 20%到 80%,斜率: 1A/uS,频率: 1000Hz, 80%负

载持续时间为 500uS.

3.9. Capacitance Load/容性负载

While input 90Vac and capacitance load is 4000uF, the adapter can turn on normally and the output is in the rated range.

在输入 90Vac, 4000uF 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内

4. Protection Requirements/保护要求

4.1. Over Current Protection/过流保护

OCP Point Limited: < 12A of Max. Load/保护点限制: 小于 12A

The adapter will latch off that means no output when the over current applied to the output.

当过电流时, 输出将进入自锁模式, 当过流情况解除后, 交流断电再上电, 产品将会恢复正常

4.2. Short Circuit Protection/短路保护

The adapter will latch off that means no output while the output is short to GND, the power supply shall not damage.

当输出对地短路时, 产品输出将进入自锁模式, 当短路情况解除后, 交流断电再上电, 产品将会恢复正常

4.3. Over Voltage Protection/过压保护

The adapter will latch off that means no output while over voltage happened at output terminal that caused by internal fault, the output trip voltage will be excess than 25V.

当输出过压超过 25V 时, 输出将进入自锁模式, 交流断电再上电, 产品将会恢复正常

4.4. Brown-out Protection / 输入欠压保护

The adaptor move into a protection mode when input voltage is less than 68V±10% with full load, and it will auto-recovery when the the fault is removed

在输入低于 68V±10% 带满载时, 电源自动保护, 当故障解除后, 产品将自动恢复.

5. Environment Requirements/环境要求

5.1. Operating Temperature and Relative Humidity/操作温度和湿度要求

0□ to +40□

8%RH to 80%RH

5.2. Storage Temperature and Relative Humidity/存储温度和湿度要求

-31□ to +60□

8%RH to 80%RH (non-condensing) @ Sea level shall below 10,000 feet

在海拔低于 10,000 英尺的条件下, 低温存储下限为 -31□ (无结冰环境); 高温存储上限为 +60□, 相对湿度为 8%RH to 80%RH。

5.3. Temperature Rise of Adapter's Case Surface /外壳表面温升

the temperature rise must be less than 50 deg C with any input voltages and loadings at any points, and must be less than 45 deg C 220Vac

在任何输入情况下小于 50□, 在 220V 输入条件下小于 45□

5.4. Operational Life/工作寿命

The Operational Life shall be at least 30,000 Hours at 35 degC closed ambient at sea level, 220Vac

工作寿命时间: 至少 30,000 小时,35℃,一个标准大气压环境,及额定输入 220v 条件下

5.5. 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

5.6. Weight /重量

excluding the AC power cord, shall not exceed 650 +/- 10 grams.

除去 AC 线的重量不能超过 650+/-10g

6. Reliability Requirements/可靠性要求

6.1. Burn-in/煲机

The failure rate must be defined at 35 degrees centigrade ambient temperature, sea level, 220 Vac, and 100 percent of output load The failure rate must be less than 0.50% per 1000 hours.

在 220V 满载输出,35℃环境下煲机 1000 小时.失效必须小于 0.5%

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

The products are 3dB below the limit using the non-central T distribution for EMI and the noise measurement is defined as Q-peak hold mode

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, 4kV 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 1.2kV,line to earth 2.3kV
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:2500Vdc / 300uA / 60 seconds(3 seconds for production)

初级对次级: 2500Vdc / 300uA / 60 秒(生产时高压测试时间: 3 秒)

8.2. Leakage Current/漏电流

200uAmax. at 240Vac / 50Hz input/在输入 240Vac/50Hz 的条件下最大 200uA

200uAmax. at 127Vac / 60Hz input/在输入 127Vac/60Hz 的条件下最大 200uA

8.3. 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 type="checkbox"/> CE	Europe	EN60950-1	<input type="checkbox"/> GOST	Russia	MEK60950

9. Mach. Outline Drawing/外观图

