



客 户(CUSTOMER): _____

产 品 承 认 规 格 书

SPECIFICATION FOR APPROVAL

产品名称 (PART NAME): BATTERY CHARGER产品型号 (MODEL NO.): IVP0900-1200WP内部型号 (Internal Model): IVP015-832-A产品规格 (PART SPEC) : 9.0V1.2 A PSE日 期 (DATE): 2018-06-15版本号 (REVISION): V1.0

客户承认印 (签)

Customer`s Approval**Stamp:**

承认日期:

(敬请承认后回返一份 Please return one copies after approval)

生产商/Manufacturer:(签)

制 作	确 认	审 核	批 准
MADE BY	DESIGNED BY	CHECKED BY	APPROVED BY

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1. INTRODUCTION:

This document define a switching power supply electronic process. The switching power supply will provide for technology equipment including electrical business equipment.

2. INPUT REQUIREMENTS:

- 2.1 Operating range: 90-264VAC
- 2.2 Rated Input Voltage :100-240VAC
- 2.3 Input Frequency Range: 50/60Hz +/-3Hz
- 2.4 Input In-rush Current: 30A max
- 2.5 Input Current: 0.5A max

3. OUTPUT REQUIREMENTS:

3.1 Output Voltage and Current

CV MODE:

Output	Output Regulation(A)		No Load
Voltage(V)	Minimum	Maximum	Voltage(V)
CV:8.0V	1.1A	1.4A	8.80-9.30V

3.2 Output Voltage Regulation

The total output voltage regulation shall be +/-5%, including the effects of line voltage variations, load current, ripple and noise, and the AC component of the load current.

3.3 Output Voltage Ripple

The switching power supply shall not exceed the following limits in the indicated voltage for 60Hz or 50Hz ripple, switching frequency ripple and noise measured with 20MHz width.

Ripple and Noise: 50/60Hz Ripple + Switching Ripple and Noise

Output	Ripple
0-1.2A	200mV

Ripple and Noise are measured at the end of output cables which are added a 0.1uF(104) Ceramic capacitor and a 22uF Electrolytic capacitor.

**4. EFFICIENCY:**

When 230VAC line input voltage (100-240 VAC),the efficiency shall be >72% at rating load.

5. DIELECTRIC STRENGTH (Hi-Pot) TEST:

Finished product withstands with AC 3000Vrms/50Hz,5mA max,
primary to secondary, 1 minute for type test,1 second for production test.

6. INSULATION RESISTANCE:

Primary to secondary: 10MΩ min at 500VDC.

7. PROTECTION:**7.1 Short Circuit Protection**

If short circuit occurs,all the output should be protected. After the fault, the adapter automatically recovers.

7.2 Over Shoot

The Output over shoot at turn-on shall not exceed 10% of normal voltage value with or without the load connected.

7.3 Start-up time

The start-up time is less than 2 second.

8.ENVIRONMENTAL CONDITIONS:**8.1 Temperature**

Operating temperature: 0℃ to +40℃

Storage temperature : -20℃ to +60℃

8.2 Humidity

Relative humidity: ≤95%

8.3 Operating Ambient Altitude

Altitude:0-3000m

8.4 Operating at the lower temperature

At -0℃,with the rated voltage 100-240Vac charged to the primary and unloaded and full load on the secondary 8 hours, no abnormality in electric and mechanical characteristic, after 2 hours recovery at the room temperature.

**8.5 Operating at the high temperature**

At +40℃, with the rated voltage 100-240Vac charged to the primary and unloaded and full Load on the secondary 8 hours, no abnormality in electric and mechanical characteristic, after 2 hours recovery at the room temperature.

9. COOLING:

Cooling shall be with natural convection cooling.

10. Burn-in

The burn-in test will be performed at least 4 hours at centigrade degrees under full load Condition.

11. Referenced standard:**11.1 EMI Standards**

Reference EN50082-1, EN55022-B, GB-17625.1-2003, GB-9254-1998

11.2 Safety Standards

The adapter shall be meet certified with the following safety standards.

[UL60950-1](#), [EN60950-1](#), [GB4943-2001](#)

12. MOUNTING CONNECTORS:**12.1 AC Input Connector**

Spec : [2Pin](#) ([PSE](#) [PIN](#)) 半包胶绝缘

12.2 DC Output Cable

Wire : (Optional) [UL2468](#) [24AWG*2C](#) [L=1500mm](#) Color: [Black](#)

Plug : (Optional) [3.5 x 1.35 x 10mm](#)

13. MECHANICAL FEATURES:**13.1 Dimension(Size)**

Length: [39mm](#)

Width: [60mm](#)

Height: [26mm](#)

13.2 Weight

The BATTERY CHARGER unit : 70±10g

13.3 Vibration and shock

No Evidence of any mechanical or functional damage after the vibration and shock testing.

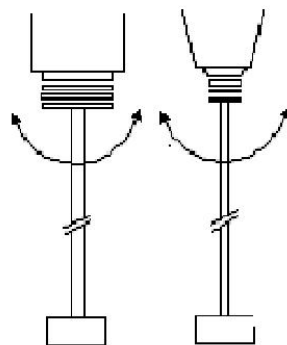
Test conditions		Acceptance Criteria
Frequency	10-55Hz	Nominal functional test should be satisfied after the test
Sweep	For each axis(X,Y,Z)	
Displacement	0.15mm	
Periodicity	10	

13.4 Drop test

After Dropping from a height of 100 cm onto a wooden floor , Dropping at 6 sides totally, NO breakage should be happened in the test piece.

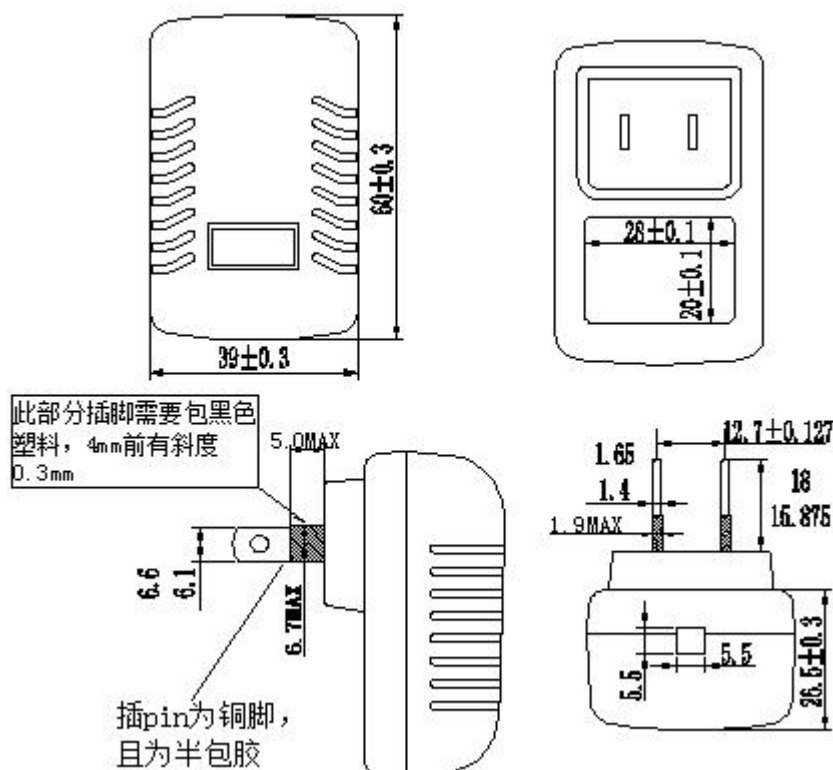
13.5 Bending Test

Fix the power supply and its plug, apply a load of 200g to the other end, turn the cable by +/-60° carry out this process 1000 times, at the rate of 20 times per minutes. No abnormality in mechanical and electrical Characteristic and disconnection within 30% after the test.



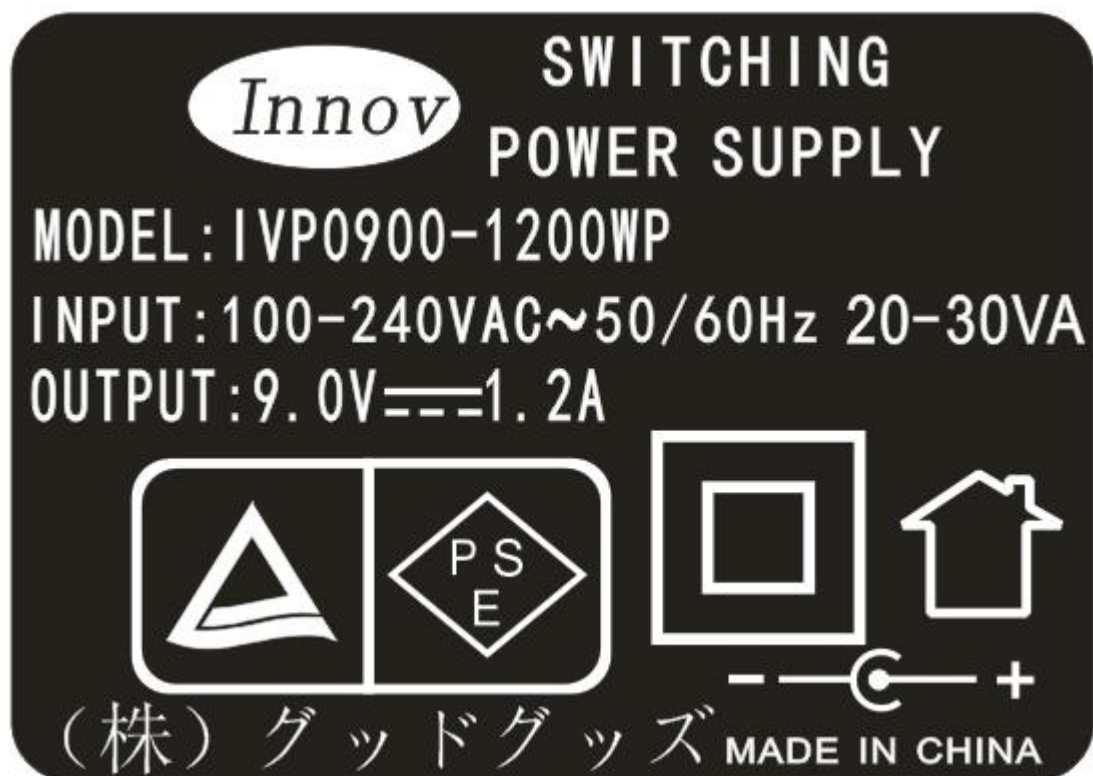
14 . DIAGRAM DATA:(See to attach the diagram)

14.1. APPEARANCE DRAWING:(Unit:mm)

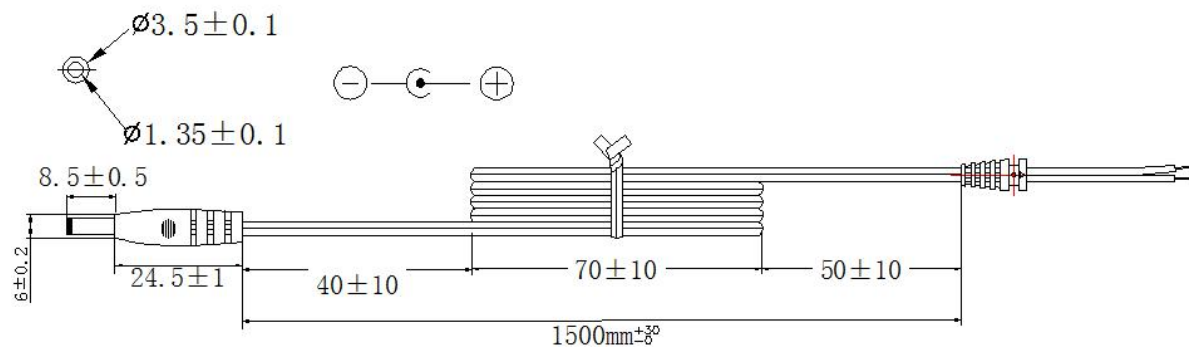


14.2. NAME PLATE: (Unit:mm)

NOTE: MATERIAL:POLYESTER COATING:0.10+/-0.03mm



14.3. DIMENSION OF OUTPUT PLUG & DC CORD:(Unit:mm)



Remarks:

- 1) UL2468 24AWG *2C L=1500mm ,Color:Black.
- 2) PLUG: 3.5x 1.35x 10mm



15.TEST RESULT:

15.1 Parameter (room temperature) Test

Reference Document(参考文档)		Test Operate Direct(测试操作指引)			
Test Conditions 测试条件	Test Location(测试地点)		Laboratory		
	Stabilization(稳定时间)		1Hour/s		
	Temperature(温度)		25 °C		
Test Equipment 测试仪器	Equipment 仪器	Manufac-turer(厂商)	Type 类型	Number 编号	Checkout Date(校验日期)
	AC POWER SOURCE 电源	Parwa	5000	lvp-yf-01	2017.12
	ELECTRONIC MAINFRAM 电子负载	Prodigit	3302C	lvp-yf-02	2017.12
	OSCILLOGRA PH 示波器	Tektronix	TDS 1001B	lvp-yf-05	2017.12
	Multimeter 万用表	Lwdqgs	MY-60	lvp-yf-10	2017.12
	可程式恒温恒湿 试验机	MLH	GDJS-100	lvp-yf-6	2017.12
	电磁兼容测试仪	FORWARD	EMC300A	lvp-yf-8	2017.12
Test Sample 测试样机	Sample Num. 样机编号	1# 2#3#			
	Date Code 生产日期				
Test Results 测试结果	PASS				

测 试	确 认	批 准
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15.2 Test Data 测试数据

	Test Item 测试项目	Test Condition 测试条件	Rating Min. 额定范围	Room Temperature 常温				
				1#	2#	3#	4#	5#
INPUT PARAMETRIC (输入参数)	Full Load Power 满载功率	Vin.100	<15.5W	13.54	13.42	13.64	13.46	13.53
		Vin.240		14.02	14.00	14.13	13.15	14.11
	Inrush Current 冲击电流	Vin.100	<30A	21	23	21	22	22
	Input Current 输入电流	Vin.100	<500mA	217.1	215.5	216.3	209.1	214.5
OUTPUT PARAMETRIC (输出参数)	Output Voltage @Input Voltage 100V	CC MODE 0A	8.8-9.30V	9.15	9.12	9.14	9.06	9.08
		CV MODE 8.0V	1.1-1.4 A	126	1.25	1.27	1.26	1.26
	Output Voltage @Input Voltage 240V	CC MODE 0A	8.8-9.30V	9.15	9.12	9.14	9.06	9.08
		CV MODE 8.0V	1.1-1.4A	1.31	1.29	1.31	1.28	1.29
	Ripple 纹波	CC MODE 0A	<200mV	40	51	45	39	52
		CV MODE 8.0V	<200mV	86	102	94	88	109
	Insulation R.(绝缘电阻)	500Vdc	>10M	OK	OK	OK	OK	OK
	Hi-Pot(高压)	3000Vac	≤5mA	OK	OK	OK	OK	OK
测 试		确 认			批 准			
TESTED BY		DESIGNED BY			APPROVED BY			