



## **SPECIFICATION FOR APPROVAL**

CUSTOMER :            01061            REV.00  
ARTICLE:                SWITCHING MODE POWER SUPPLY  
STANDARD :            ETL /GS/CE/SAA  
MODEL NO. :            152-120150W-K  
OUR PART NO.:        152-120150-14B08F  
YOUR PART NO.:  
INPUT :                 100-240V AC 50/60Hz  
OUTPUT:                12.0V    DC    1.5A

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1. Record of Revision:

REVISION	DESCRIPTIONS OF CHANGE	DATE	ACTOR
REV.00	New document	2014/11/08	Lvdongping

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### 2. Description:

This is a series of general purpose AC/DC adaptcrs which convert 100Vac ~ 240Vac to a stabilized DC voltage of 12.0V with rated output current of 1500mA.

The adaptor meets the requirement of lead free and RoHS.

### 3. Input Feature:

#### 3.1 Input Voltage and Frequency

Rating Voltage	Line Frequency	Minimum Voltage	Maximum Voltage
100-240V AC	50/60Hz	90V AC	264V AC

#### 3.2 Efficiency

The minimum average efficiency shall be 80.41% at 115Vac/230Vac input and output full load after 30 minutes.

#### 3.3 Input Current

The maximum input current shall be less than 0.45A.

#### 3.4 Stand-By Power

No Load Power Consumption 0.3W Max.

#### 3.5 Input In-rush Current

Peak inrush current shall be limited to 50A.

#### 3.6 Input Leakage Current

The leakage current shall not exceed 0.25mA., at 240Vac input.

### 4. Output Feature:

#### 4.1 Output Voltage and Current and Ripple

Output	Output Current Range		Output Voltage Range		Ripple & Noise
	Min.	Max.	Min.	Max.	Max.
+12.0V	0.0A	1.5A	11.4V	12.6V	150mVpp

Ripple & Noise Test: Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.

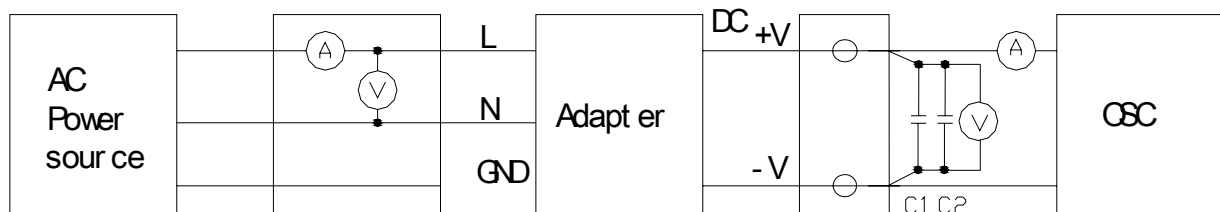
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### 4.2 Dynamic Response

The load current of the output is changed between 20% and 80% of full load at 10ms. The excursion of the output shall not exceed 10% of the nominal output voltage.

### 4.3 Turn- on Delay Time

3 Second Max, at 90Vac input and output Max.Load.

### 4.4 Hold up time

10mS Min. at 90Vac input and output Max.Load.

## 5. Protection Feature:

The power supply will self-protect any output to ground, and auto recovery when abnormal circuit faults remove.

### 5.1 Over-Voltage Protection

Over-voltage protection shall be included in the adaptor circuit. a single component failure must not cause an over voltage

### 5.2 Over-Current Protection

The power supply will be auto recovered when over current faults remove.

### 5.3 Short Output Protection

The power supply will be auto recovered when short output faults remove.

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## 6. Safety Standard:

### 6.1 Safety

The switching power supply has approved by the following safety standards :

Item	Country	Certified	Standard
ETL/ cETL	USA/ Canada	Meet	UL 60065/ CSA-C22.2
GS	Europe	Meet	EN 60950
CB	Europe	Meet	IEC 60950
SAA	Australia	Meet	AS/NZS 60950

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## 6.2 EMC Standards

Item	Country	Certified	Standard
FCC	USA/ Canada	Meet	FCC Part 15
CE	Europe	Meet	EN55013/EN55020 EN61000-3-2/EN61000-3-3 EN 61204-3
C-tick	Australia	Meet	AS/NZS CLSPR 13:2004

### 6.2.1 EMS Standards

The switching power supply has approved by the following EMI standards :

#### 6.2.1.1 IEC61000-4-2 Electrostatic Discharge(ESD)

Static-discharge test by contact or air should be conducted with Static-discharge tester,energy storage capacitance of 150Pf,and discharge resistance or 330Ω .

8KV air discharge,4KV contact discharge,Performance Criterion B.

#### 6.2.1.2 IEC61000-4-3 Radiated Electromagnetic Fields(RS)

Radio-frequency Electromagnetic Field Susceptibility Test,RS,80-1000MHz,3V/m,  
80%AM(1KHz),Performance Criterion A.

#### 6.2.1.3 IEC61000-4-4 Electrical Fast Transient/Burst(EFT)

Power Line to Line:1KV

Performance Criterion B

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## 6.2.1.4 IEC61000-4-5 Lightning Surge Attachment(Surge)

Lightning Surge voltage of differential and common modes shall be applied across AC input lines and across input and frame ground.

Power Line to Line:1KV.

Line to Earth:1KV.

Performance Criterion B.

## 6.2.1.5 IEC61000-4-6 Conducted Radio Frequency Disturbances(CS)

Conducted Radio Frequency Disturbances Test,CS,0.15-80MHz,3V/m,80% AM, 1KHz,Performance Criterion A.

## 6.2.1.6 IEC61000-4-11 Voltage Dips/Short Interruption/Variations

Voltage Dips,30% reduction-10ms,Performance Criterion B,60%

Reduction – 100ms,Performance Criterion C,Voltage Interruptions>95%

Reduction – 5000ms, Performance Criterion C.

## 6.3 Insulation Resistance

Input To Output : DC500V 100M Min

Input To Case : DC500V 100M Min

## 6.4 Dielectric Strength(HI-POT)

Input to Output Terminal: 4242Vdc 60Sec  $\leq$  5mA.

Input to Case: 4242Vdc 60Sec  $\leq$  5mA.

When DC voltage of 4.24KV is applied,and the voltage applied to the insulation under test is Gradually raised from zero to the prescribed voltage in 1s,and held at that value for 60s betweenThe input and output and between the input and housing,the current sensitivity shall be less than5mA,after this test ,the adapter shall exhibit no electrical and mechanical abnormalities.



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### 7. Reliability:

#### 7.1 Burn-in

The burn-in test will be performed at least 3 hours at 25 centigrade degrees under full load condition.

#### 7.2 MTBF

When the operation is complying with this specification, the switching power supply's MTBF will be 30K hours at 25 °C.

### 8. Mechanical Specifications:

Weight: About 149.3g  
Dimensions: Refer Outline on page 11-12  
Output cord: DCD0401, 22AWG UL2468, 1.5M Black  
Output Connector: Lead O/P~OD: 5.5mm, ID: 2.1mm, Length: 12.0mm (H)

### 9. Environmental Conditions:

The power supply shall meet all of the requirements of this specification during any combination of operation ambient conditions and after exposure to any combination of non-operation ambient conditions specified in this section.

#### 9.1 Temperature

Operating Temperature: 0°C~40°C

Storage Temperature: -20°C~80°C

#### 9.2 Humidity

Operating Humidity : 10%~90% (non condensing)

Storage Humidity : 5%~95% (non condensing)

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## 10. Vibration:

Sweep and resonance search

Frequency	Duration	Axis	Amplitude
5-20-500	30 Minutes	x,y,z	1G

## 11. Drop Test:

Take drop test from the height of 1.0M for each surface of case (total 6 surfaces) and then can pass function test.

## 12. Major Measure Equipment:

A. AC Source :	YOKOGAWA JL-1005A-500W
B. Power Meter :	Everfine YF9901
C. Eelctronic Load :	Yokogawa IT8511
D. Oscilloscope :	Matrix Mos-620CH 20MHZ
E. Digital Multimeter :	Victor Vc890D
F. ATE Tester :	Chorma 6000 auto Test System
G. HI-POT Tester :	CHANGSHENG CS2670
H. Insulation Resistance Tester:	TRANST TR7122
I. leakage current Tester :	CHANGSHENG CS2675A
J. Constant temperature Tester:	SUNAN RT-5411
K Burn-in Equipments:	YS0365
L Temperature Tester:	JE JK-8/16

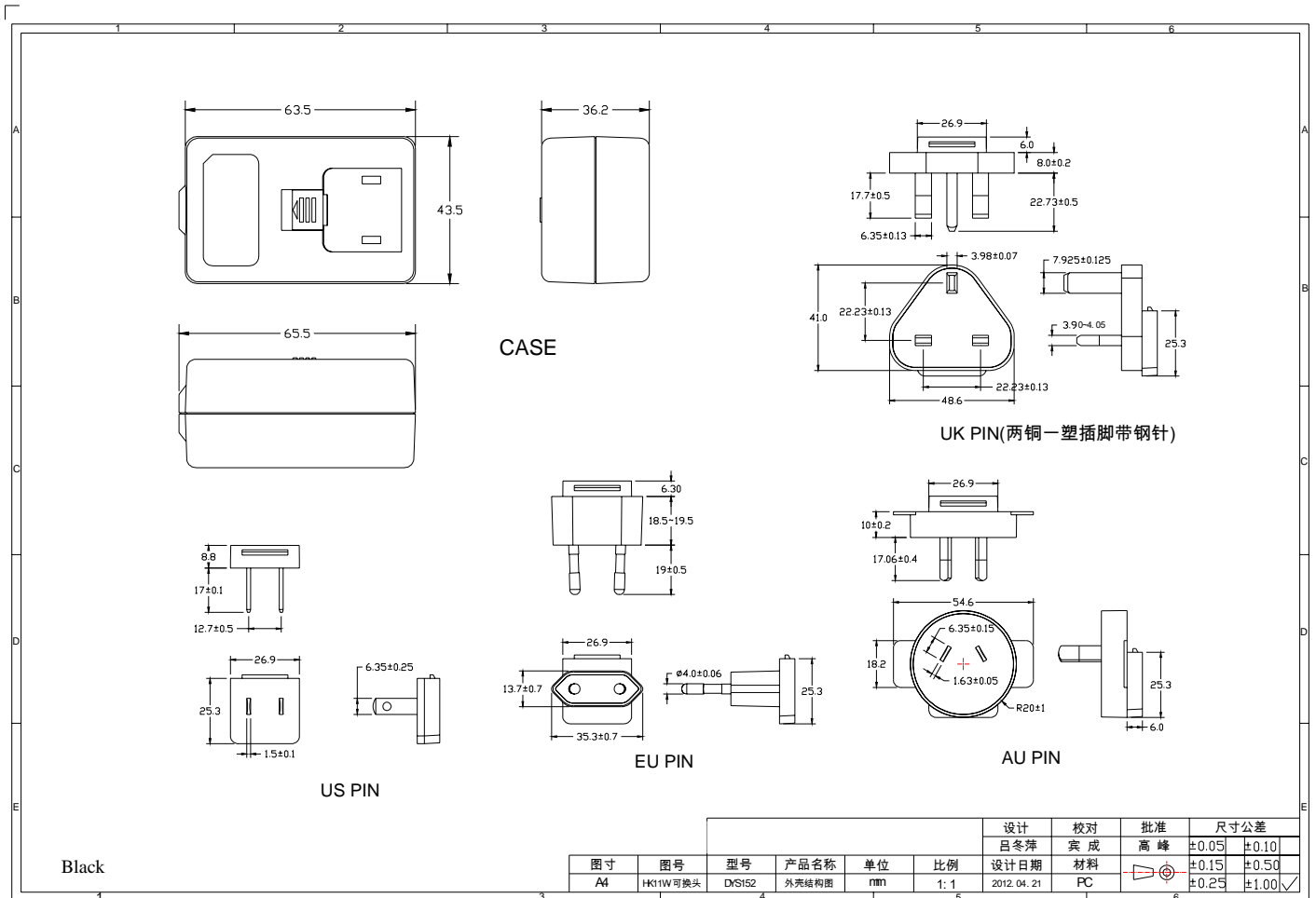
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## 13. Case Drawing:



Black

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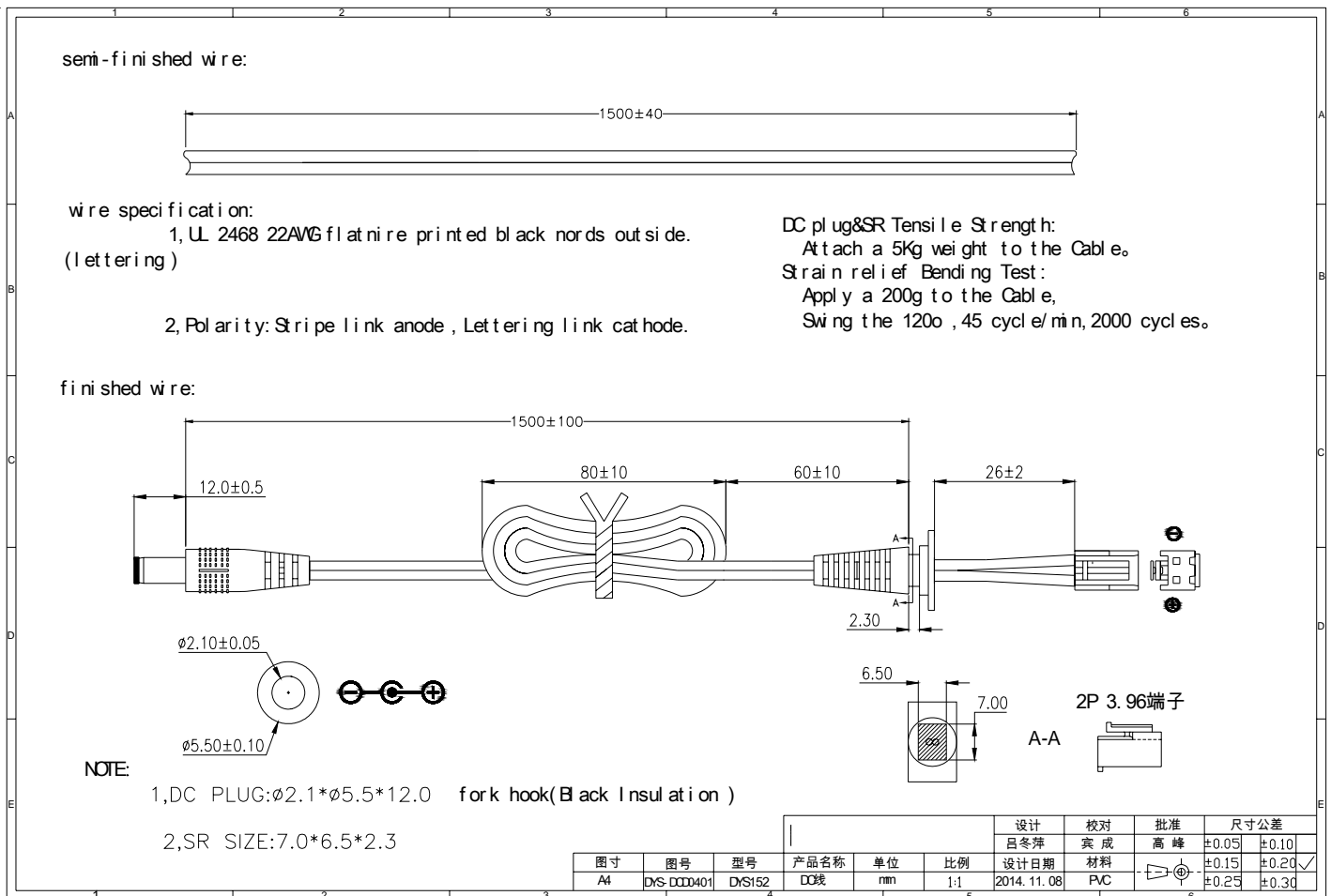
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### 14. DC CORD Drawing:




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## 15. Label Drawing:

	1	2	3	4	5	6
A						A
B						B
C						C
D						C
E	<p>Remark:</p> <p>Layout: Black Word on silver Back ground</p> <p>Material quality: Meta lized polyester</p> <p>Rating of temperature: 85°C</p> <p>Thickness: 0.25 ± 0.01</p> <p>Apply to lead-less Standard</p>					E
	1	2	3	4	5	6

★ 4514 Where 45 represents the number of weeks  
14 represents the number of year  
The date niu change allordng fo production  
date change, if any spial lircum sfanles, wiu  
be nofiled by sales

名称: 铭牌		REV: A	
图号: DYS152-LB14B08F	型号: DYS152-120150W-K	页号: 6	图寸: A4
尺寸公差	比例	绘图	校对
±0.05	±0.10	单位	批准
±0.15	±0.20	日期	2014.11.08
		吕冬萍	宾成 高峰

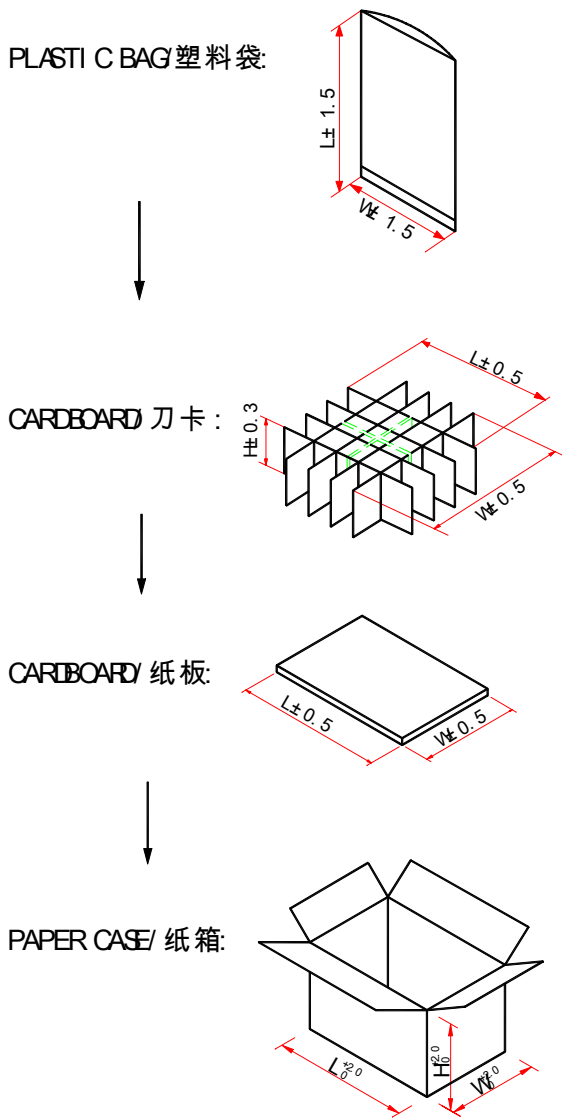
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## 16. Package Drawing:



### MECHANICAL DIMENSION:

	L(mm)	W(mm)	H(mm)
PLASTIC BAG	210	130	
CARDBOARD	440	55	
CARDBOARD	255	55	
CARDBOARD	440	255	
PAPER CASE	450	265	320

### PACKING METHOD :

PACKING METHOD	12PCS/LAYER * 5 LAYERS
QTY	60PCS
N.G	4.6Kg
G.W	5.1Kg

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## 17. Sample Test Report:

Customer:01061		Product Name: Swithing Mode Power Supply				P/N:DYS152-120150-14B08F			
Product Specification: AC100-240V 50/60Hz DC 12.0V/1.5A						Safety : ETL /GS/CE/SAA...			
Item s	Testing Title		Test Result	Sample Number and Test Result					
	Items	Condition		1	2	3	4	5	PAS
Basic Elec- -tri-c al Cha- r-act- -eris- tic	1、 No load voltage	AC90V/50Hz	DC 12.0 V ± 0.6 V	12.16	12.15				PAS
		AC180V/50H	DC 12.0 V ± 0.6 V	12.16	12.15				PAS
		AC264V/50H	DC 12.0 V ± 0.6 V	12.16	12.15				PAS
	2、 Full Load voltage	AC90V/50Hz	DC 12.0 V ± 0.6 V	11.87	11.86				PAS
		AC180V/50H	DC 12.0 V ± 0.6 V	11.87	11.86				PAS
		AC264V/50H	DC 12.0 V ± 0.6 V	11.87	11.86				PAS
	3、 Full Load input	AC90V/50Hz	FULL LOAD (W)	22.3	22.3				PAS
		AC180V/50H	FULL LOAD (W)	21.7	21.8				PAS
		AC264V/50H	FULL LOAD (W)	21.9	21.8				PAS
	4、 Efficiency	AC115V/50H	≥ 80.41 %(Average Of 25/50/75/100%)	82.79	82.69				PAS
		AC230V/50H	≥ 80.41 %(Average Of 25/50/75/100%)	82.10	82.0				PAS
	5、 Ripple & noise	AC90V/50Hz	≤ 150 mV(FULL LOAD)	40	40				PAS
AC180V/50H		≤ 150 mV(FULL LOAD)	40	40				PAS	
AC264V/50H		≤ 150 mV(FULL LOAD)	40	40				PAS	
6、 Standby power		< 0.3 W	0.2	0.2				PAS	
7、 Short-circuit test		No output when short circuit happens work normally after recovery (240Vac)	1.2	1.1				PAS S	
8、over-current protection		1.95– 4.0 A (240Vac)	3.3	3.3				PAS	
9、 Noise test		40db MAX	OK	OK				PAS	
10、 Hi-pot test		DC4242V 60S < 5mA	OK	OK				PAS	
11、 Temperature rise		At normal temperature 25°C, case surface temperature rise ≤ 55°C	OK	OK				PAS S	
12、 DC Cable size		Customer Request : 2.1* 5.5 * 12.0 L= 1.5M H	2.1* 5.5 * 12.0 L= 1.5M H					PAS	
Test stat- us	1、 High temperature	□ 60°C ■ 80°C ■ 48H □ 96H	OK	OK				PAS	
	2、 Low temperature	■ -20°C □ -40°C ■ 48H □ 96H	OK	OK				PAS	
	3、 Constant humidity	■ 40°C 95%RH ■ 48H □ 96H	OK	OK				PAS	
	4、 Plugfest(male to female)	3000 times Min	OK	OK				PAS	
	5、 Burn-in test	≥ 8hours AC100/240V each 4H full load	OK	OK				PAS	

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