



Shenzhen Sunlight Electronic Co., Ltd

承認書

SPECIFICATION FOR APPROVAL

DOE VI AC DC Adapter 12V 0.5A Power Supply Switching 500mA 12 Volt Adaptor

CUSTOMER: _____

DESCRIPTION: ADAPTER

SPECS: 12V500MA AC/DC ADAPTER

MODEL NO.: GA120005

DATE: Feb-29-2015

APPROVAL SIGNATURE		
DATE:	DATE:	DATE:

PLEASE RETURN TO US ONE COPY OF “SPECIFICATION FOR APPROVAL” WITH YOUR APPROVED SIGNATURE

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SPECIFICATION FOR APPROVAL

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2. FEATURE :

- INPUT : UNIVERSAL 100-240 Vac/47-63 Hz INPUT, WITHOUT ANY SLIDE SWITCH
- OUTPUT : +12.0V / 0-0.5A
- DIMENSION : 60.0(D)*37.0(W)*25.0(H)
- EFFICIENCY : 80.0% TYPICAL
- SAFETY : CCC/UL/CB/GS/SAA/LVD/BSMI
- EMI : FCC CLASS B / EN55022 CLASS B; CONDUCTED & RADIATED MEETED
- HIGH FREQUENCY DESIGN, LESS POWER CONSUMPTION
- OVER VOLTAGE PROTECTION, SHORT CIRCUITED PROTECTION, OVER POWER PROTECTION
- CAN BE USED AT TELCOMMUNICATION, COMPUTER, INDUSTRIAL CONTORLLER & OA SYSTEM

3. INPUT :

3.1 VOLTAGE	UNIVERSAL 100~240Vac,SINGLE PHASE
3.2 FREQUENCY	47HZ~63HZ
3.3 CURRENT	0.3A Max
3.4 INRUSH CURRENT	5A Max/100Vac;10A Max/240Vac (COLD STABT AT 25°C FULL LOAD)
3.5 EFFICIENCY	80.0% TYPICAL (AT NOMINAL LINE VOLTAGE FULL LOAD)
3.6 INPUT POWER DISSIPATION	UNDER 0.10W < ZERO LOAD 115V/60HZ INPUT
	UNDER 0.10W < ZERO LOAD 230V/50HZ INPUT

4. OUTPUT :

4.1 DC OUTPUT	VOLTAGE	+12.0V
	CURRENT	0.5A Max
	REGULATION	11.40V Min~12.0V Typ.~12.60V Max
	RIPPLE & NOISE	120mV Max
	TOTAL POWER	6.0W Max

NOTE : FOR RIPPLE & NOISE MEASUREMENT, USE A 20MHZ BAND WIDTH FREQUENCY OSCILLOSCOPE, AND ADD A 0.1uF MULTILAYER CAP. AND A LOW ESR ELECTROLYTICCAP. (10uF) AT OUTPUT CONNECTOR TERMINALS. (AT NOMINAL LINE VOLTAGE FULL LOAD)

5. PROTECTION :

5.1 OVER VOLTAGE PROTECTION	13.6V MAX. The power supply shall be hiccupped when output voltage reaches to its over voltage protection trigger point.
5.2 SHORT CIRCUIT PROTECTION	The power supply shall be hiccupped when operating any output in a short circuit condition.

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5.3 OVER POWER PROTECTION	The adapter provide protection at 120%~200% of rated output power, the adapter shall be hiccupped but not damage.
5.4 OVER CURRENT PROTECTION	1.0A MAX. The power supply shall be hiccupped when output current reaches to its over current protection trigger point.

NOTE : WHEN PROTECTION CIRCUIT IS WORKING THE POWER SUPPLY WILL HICUPPED, ONCE THE ABNORMAL CONDITIONS ARE REMOVED. THE POWER SUPPLY WILL RESTART AUTOMATICALLY.

6. SAFETY AND EMI REQUIREMENT :

6.1 SAFETY REQUIREMENT

- a. SAFETY : CCC/UL/CB/GS/SAA/LVD/BSMI
- b. DIELECTRIC STRENGTH :5mA Max. CUT OFF CUREN

(1):PRIMARY TO SECONDARY	3000Vac FOR 1 MINUTE
(2):PRIMARY TO FRAME GROUND	3000Vac FOR 1 MINUTE

c. INSULAION RESISTANCE :

(1):PRIMARY TO SECONDARY	50 M OHMS min FOR 500Vdc
(2):PRIMARY TO FRAME GROUND	50 M OHMS min FOR 500Vdc

d. LEAKAGE CURRENT :

(1) : 100VAC / 60HZ	< 0.25 mA
(2) : 240VAC / 50HZ	< 0.25 mA

6.2 EMI/EMS REQUIREMENT

- a. EMI : FCC CLASS B / EN55022 CLASS B; CONDUCTED & RADIATED MEETED
- b. Electron Static Discharge(ESD) :

Applicable Standard	CONDITION	SPECIFICATION
IEC/EN 61000-4-2	Contact discharge performance is 4KV; Air discharge performance is 8KV	Normal operation shall be continued

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c. Lightning Surge :

Applicable Standard	CONDITION	SPECIFICATION
IEC/EN 61000-4-5	+/- 1KV (Line to Line) +/- 2KV (Line to Ground)	Normal operation shall be continued

d. Electric Fast Transients :

Applicable Standard	CONDITION	SPECIFICATION
IEC/EN 61000-4-4	+/-1KV for Power Supply Line	Normal operation shall be continued

7. OPERATION & ENVIRONMENT PERFORMANCE:

7.1 TEMPERATURE RANGE

OPERATING	0°C ~ +40°C
STORAGE	-40°C ~+70°C

7.2 HUMIDITY RANGE (NON CONDENSING)

OPERATING	10% ~ 90% RH
STORAGE	5% ~ 95% RH

7.3 Product operating/storage test requirement :

TEST ITEM	CONDITION	SPECIFICATION
High Temperature Storage TEST	70 degree C for 72H	There is no malfunction and deformation to be found after TEST.
High Temperature Operation TEST	40 degree C for 16H	There is no malfunction and deformation to be found after TEST.
Low Temperature Storage TEST	-20 degree C for 72H	There is no malfunction and deformation to be found after TEST.
Low Temperature Operation TEST	0 degree C for 16H	There is no malfunction and deformation to be found after TEST.

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Termal Shock Operation TEST	Apply 2 cycle from 0 degree C to +40 degree C as 24 Hours as 1 cycle	There is no malfunction and deformation to be found after TEST.
Termal Shock Storage TEST	Apply 2 cycle from -20 degree C to +70 degree C as 2 Hours as 1 cycle	There is no malfunction and deformation to be found after TEST.

7.4 COOLING : SHOULD OPERATE WITHOUT FAN

7.5 M.T.B.F. : 30000 HOURS Min ; 25°C SEE CONDITION

8. MECHANICAL REQUIREMENT :

8.1 DIMENSION : 60.0(D)*37.0(W)*25.0(H)

8.2 DROP TEST : From a height of 100cm onto concrete or similar material.
No impairment of normal function, breaking away of any parts or change

8.3 VIBRATION TEST : Non-operating but with packing. Shock acceleration 50 G, sin, 100Ms.
Directions of force : X , Y , Z . One time at 6 directions. There is no malfunction and deformation to be found after TEST.

8.4 APPEARANCE : There shall not be any remarkable defects such as clack, distortion, uneven color, dirty nameplate and its peeling

8.5 Tensile Strength of the Cord : A static load of 100N is applied to the cord for 1 minute
The cord should not be deteriorated

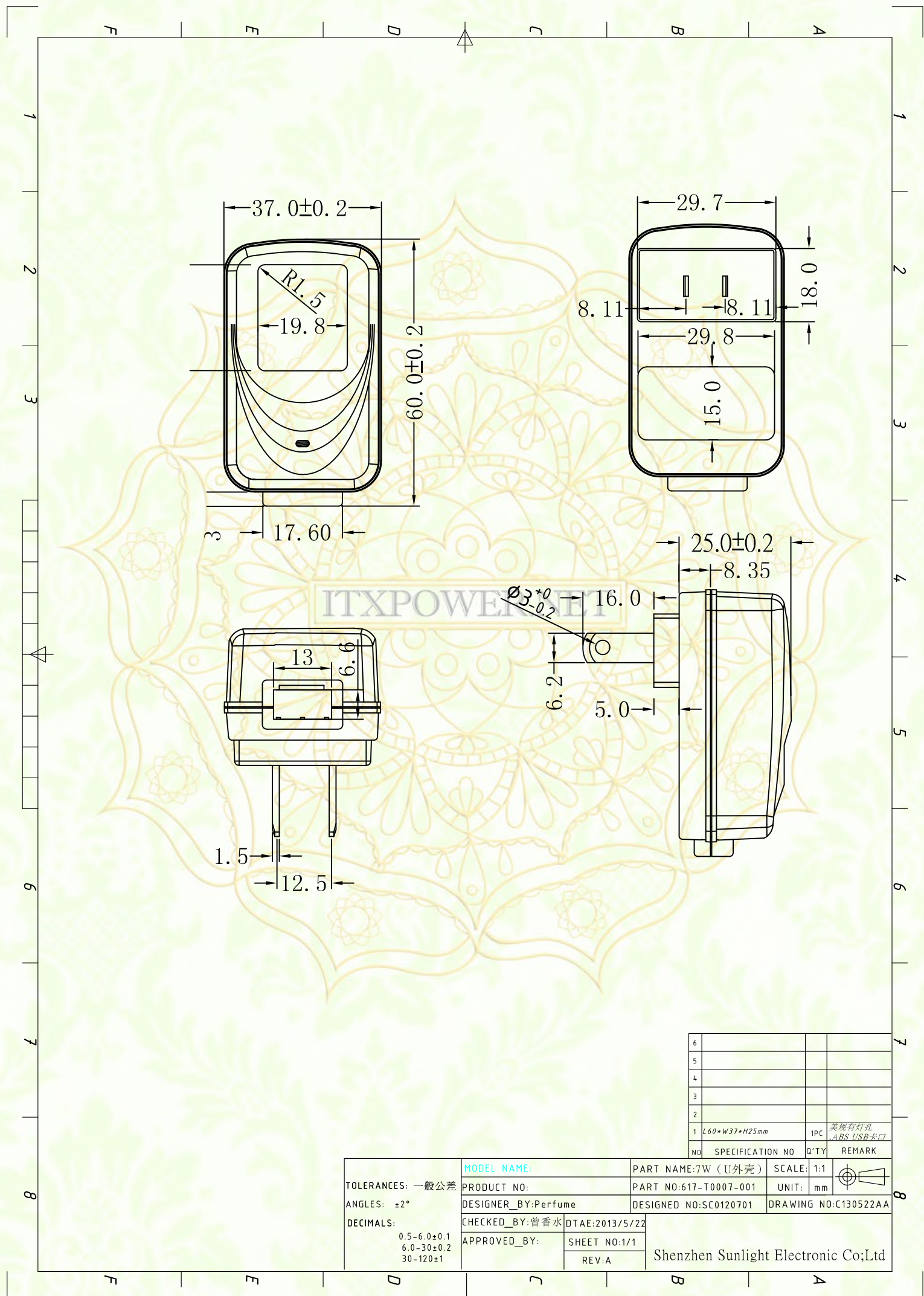
8.6 Cord Bending TEST : Hang the specified weight and swing it to one direction and return to the original position, then swing to the opposite direction and return to the original position
The strain relief shall be subjected to the specified cycles and speed. Weight 200 (g), Angle ± 60 degree, 800 times, Cycles in every minute 30, Distance 300mm.

9. PRODUCT GUARANTEE : AFTER SHIPMENT 12 MONTHS.

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10. PRODUCT OUTLINE DRAWING:



6			
5			
4			
3			
2			
1	L60*W37*H25mm	1PC	美规有灯孔 ABS USB卡口
NO	SPECIFICATION NO	Q'TY	REMARK

TOLERANCES: 一般公差 ANGLES: ±2° DECIMALS: 0.5-6.0±0.1 6.0-30±0.2 30-120±1	MODEL NAME:	PART NAME: 7W (U外壳)	SCALE: 1:1	
	PRODUCT NO:	PART NO: 617-T0007-001	UNIT: mm	
	DESIGNER_BY: Perfume	DESIGNED NO: SC0120701	DRAWING NO: C130522AA	
	CHECKED_BY: 曾香水	DTAE: 2013/5/22		
APPROVED_BY:	SHEET NO: 1/1	Shenzhen Sunlight Electronic Co;Ltd		
	REV: A			

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11. DC OUTPUT CORD DRAWING:



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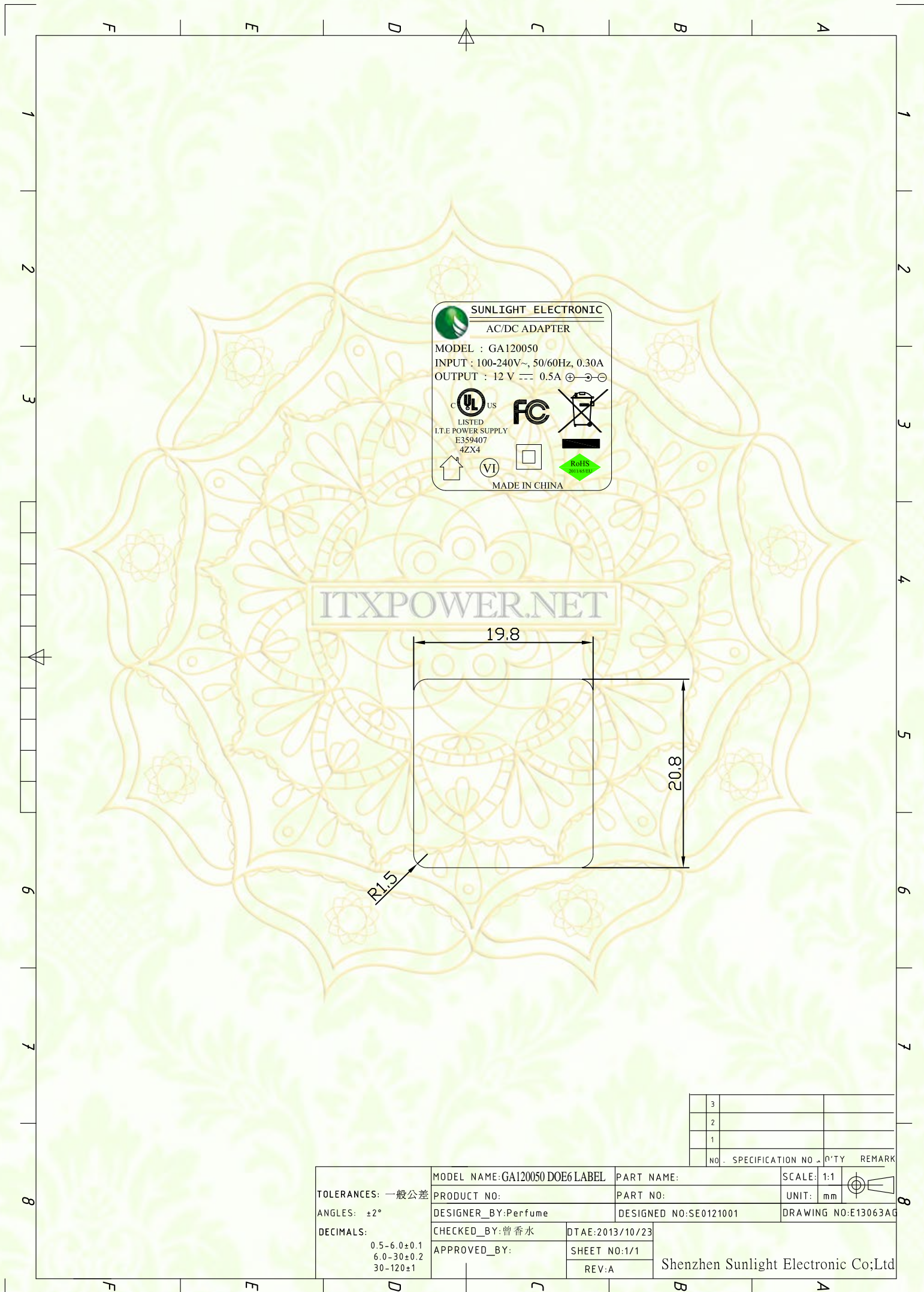
4			
3	线卡尺寸: W13.3*H6.3mm	1PCS	与USB卡口带卡槽配合
2	300V	1PCS	BLACK 黑色
1		1PCS	
NO	SPECIFICATION NO	Q'TY	REMARK

TOLERANCES: 一般公差 ANGLES: ±2° DECIMALS: 0.5-6.0±0.1 6.0-30±0.2 30-120±1	MODEL NAME:	PART NAME:DC线	SCALE: 1:1	
	PRODUCT NO:	PART NO:502-T2418-096	UNIT: mm	
	CHECKED_BY:	DTAE:	DESIGNED NO:SW0160309	DRAWING NO:W160301A
	APPROVED_BY:	SHEET NO:1/1	Shenzhen Sunlight Electronic Co.,Ltd	
	REV:A			

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12 . RATING LABEL DRAWING :



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13.TEST REPORT:

(1). LINE REGULATION TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
90Vac / 50% load	11.40~12.60V	12.02V		
115Vac / 50% load	11.40~12.60V	12.02V		
132Vac / 50% load	11.40~12.60V	12.02V		
180Vac / 50% load	11.40~12.60V	12.01V		
230Vac / 50% load	11.40~12.60V	12.01V		
264Vac / 50% load	11.40~12.60V	12.01V		

(2). EFFICENCY TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	80.0% Typical	80.1%		
230Vac / 100% load	80.0% Typical	81.0%		

(3). LOAD REGULATION TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 0% load	11.40~12.60V	11.91V		
115Vac / 50% load	11.40~12.60V	12.02V		
115Vac / 100% load	11.40~12.60V	12.15V		
230Vac / 0% load	11.40~12.60V	11.91V		
230Vac / 50% load	11.40~12.60V	12.02V		
230Vac / 100% load	11.40~12.60V	12.15V		

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(4).RIPPLE & NOISE TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	120mV Max	95mV		
230Vac / 100% load	120mV Max	80mV		

(5). OVER VOLTAGE PROTECTION

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	Vout*(13.6V MAX)	OK		
230Vac / 100% load	Vout*(13.6V MAX)	OK		

(6). RISE TIME

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	50mS Max	25mS		
230Vac / 100% load	50mS Max	19mS		

(7). OVER CURRENT PROTECTION

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	Iout*(120%~200%)	133%		
230Vac / 100% load	Iout*(120%~200%)	158%		

(8). SHORT CIRCUIT PROTECTION

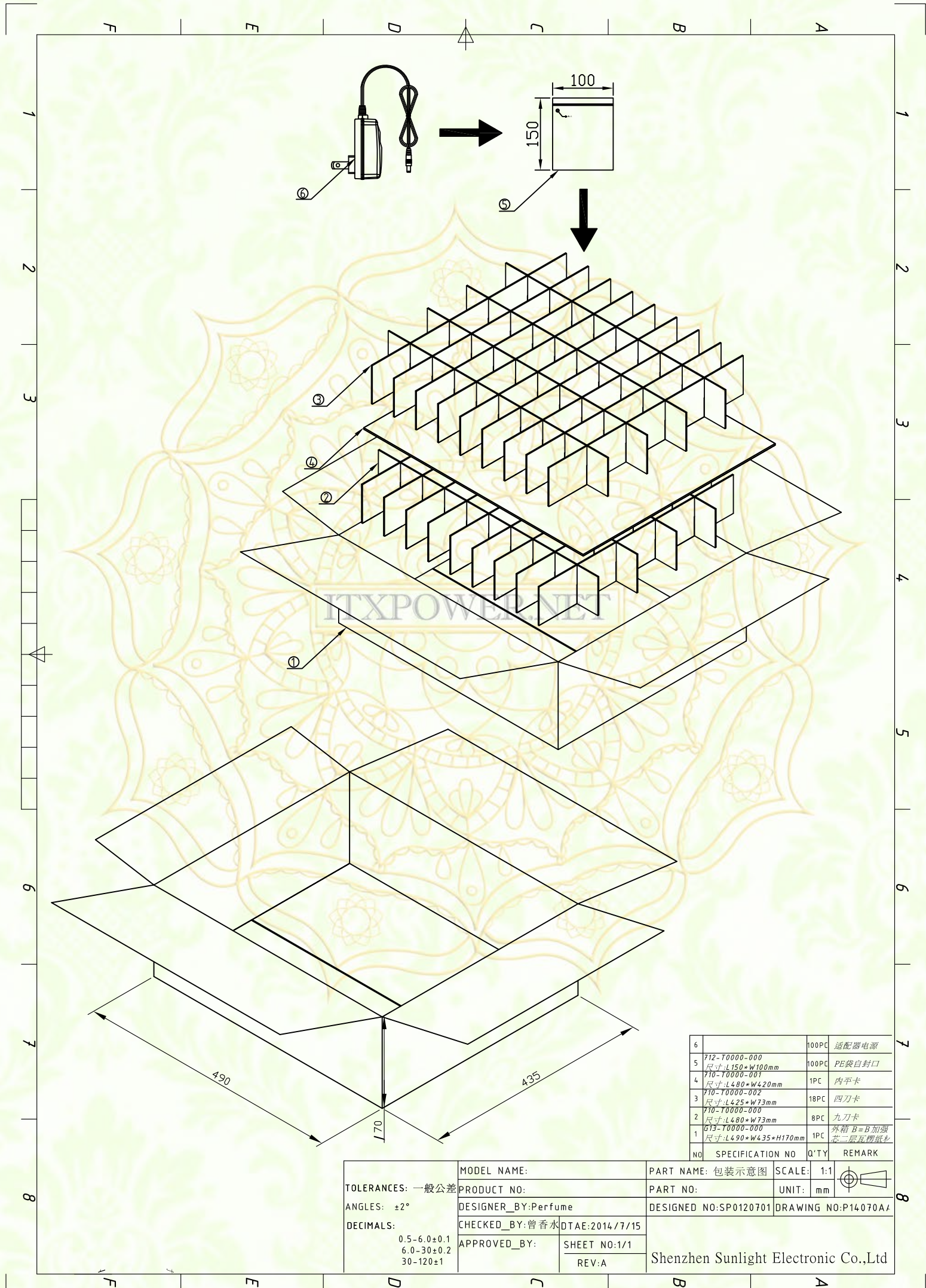
Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	Under 1.0W	OK		
230Vac / 100% load	Under 1.0W	OK		

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14. PACKING DRAWING :



6	712-10000-000	100PC	适配器电源
5	尺寸:L150*W100mm 710-10000-001	100PC	PE袋自封口
4	尺寸:L480*W420mm 710-10000-002	1PC	内平卡
3	尺寸:L425*W73mm 710-10000-000	18PC	四刀卡
2	尺寸:L480*W73mm G13-10000-000	8PC	九刀卡
1	尺寸:L490*W435*H170mm	1PC	外箱 B=B加强 芯=三层瓦楞纸壳
NO	SPECIFICATION NO	Q'TY	REMARK

TOLERANCES: 一般公差 ANGLES: ±2° DECIMALS: 0.5-6.0±0.1 6.0-30±0.2 30-120±1	MODEL NAME:	PART NAME: 包装示意图	SCALE: 1:1
	PRODUCT NO:	PART NO:	UNIT: mm
	DESIGNER_BY: Perfume	DESIGNED NO: SP0120701	DRAWING NO: P14.070A/
	CHECKED_BY: 曾香水 DTAE:2014/7/15	APPROVED_BY:	SHEET NO: 1/1
	REV: A	Shenzhen Sunlight Electronic Co.,Ltd	

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15. SAFETY LICENSE : (UL+FCC)

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