



Shenzhen Sunlight Electronic CO., LTD

承認書

SPECIFICATION FOR APPROVAL

CCC AC DC Adapter 6V 0.5A Power Supply Switching 500mA 6 Volt Adaptor

CUSTOMER: _____

DESCRIPTION: ADAPTER

SPECS: 6V0.5A AC/DC ADAPTER

MODEL NO.: ITXPOWER.NET GA060005

DATE: June-23-2014

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

1. FEATURE :

- INPUT : UNIVERSAL 100-240 Vac/47-63 Hz INPUT, WITHOUT ANY SLIDE SWITCH
- OUTPUT : +6.0V / 0-500mA
- DIMENSION : 56.5(D)*37.2(W)*24.5(H)
- EFFICIENCY : 68% TYPICAL
- SAFETY : UL/CB/TUV/SAA/PSE/BSMI/LVD
- 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

2. INPUT :

2.1 VOLTAGE	UNIVERSAL 100~240Vac,SINGLE PHASE
2.2 FREQUENCY	47HZ~63HZ
2.3 CURRENT	0.18A Max
2.4 INRUSH CURRENT	5A Max/100Vac;10A Max/240Vac (COLD STABT AT 25°C FULL LOAD)
2.5 EFFICIENCY	68% TYPICAL (AT NOMINAL LINE VOLTAGE FULL LOAD)
2.6 INPUT POWER DISSIPATION	UNDER 0.3W < ZERO LOAD 115V/60HZ INPUT
	UNDER 0.3W < ZERO LOAD 230V/50HZ INPUT

3. OUTPUT :

3.1 DC OUTPUT	VOLTAGE	+6.0V
	CURRENT	500mA Max
	REGULATION	5.70V Min~6.0V Typ.~6.30V Max
	RIPPLE & NOISE	80mV Max
	TOTAL POWER	3.0W Max

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

4. PROTECTION :

4.1 OVER VOLTAGE PROTECTION	8.2V MAX. The power supply shall be hiccupped when output voltage reaches to its over voltage protection trigger point.
4.2 SHORT CIRCUIT PROTECTION	The power supply shall be hiccupped when operating any output in a short circuit condition.

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4.3 OVER POWER PROTECTION	The adapter provide protection at 120%~200% of rated output power, the adapter shall be hiccupped but not damage.
4.4 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.

5. SAFETY AND EMI REQUIREMENT :

5.1 SAFETY REQUIREMENT

a. SAFETY : UL/CB/TUV/SAA/PSE/BSMI/LVD

b. DIELECTRIC STRENGTH :3mA Max. CUT OFF CURREN

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

c. INSULAION RESISTANCE :

(1):PRIMARY TO SECONDARY	10 M OHMS min FOR 500Vdc
(2):PRIMARY TO FRAME GROUND	10 M OHMS min FOR 500Vdc

d. LEAKAGE CURRENT :

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

5.2 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

6. OPERATION & ENVIRONMENT PERFORMANCE:

6.1 TEMPERATURE RANGE

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

6.2 HUMIDITY RANGE (NON CONDENSING)

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

6.3 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.
LowTemperature 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.

6.4 COOLING : SHOULD OPERATE WITHOUT FAN

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

7. MECHANICAL REQUIREMENT :

7.1 DIMENSION : 56.5(D)*37.2(W)*24.5(H)

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

7.3 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.

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

8. PRODUCT GUARANTEE : AFTER SHIPMENT 12 MONTHS.

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(I). LINE REGULATION TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
90Vac / 50% load	5.70~6.30V	6.02V		
115Vac / 50% load	5.70~6.30V	6.02V		
132Vac / 50% load	5.70~6.30V	6.02V		
180Vac / 50% load	5.70~6.30V	6.02V		
230Vac / 50% load	5.70~6.30V	6.02V		
264Vac / 50% load	5.70~6.30V	6.02V		

(II). EFFICENCY TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	68% Typical	68.2%		
230Vac / 100% load	68% Typical	70.1%		

(III). LOAD REGULATION TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 0% load	5.70~6.30V	5.90V		
115Vac / 50% load	5.70~6.30V	6.02V		
115Vac / 100% load	5.70~6.30V	6.06V		
230Vac / 0% load	5.70~6.30V	5.90V		
230Vac / 50% load	5.70~6.30V	6.02V		
230Vac / 100% load	5.70~6.30V	6.06V		

(IV). RIPPLE & NOISE TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	80mV Max	73mV		
230Vac / 100% load	80mV Max	75mV		

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(VI). OVER VOLTAGE PROTECTION

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	8.2V max	OK		
230Vac / 100% load	8.2V max	OK		

(VII). RISE TIME

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	50mS Max	31mS		
230Vac / 100% load	50mS Max	18mS		

(VIII). OVER CURRENT PROTECTION

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	$I_{out}*(150\% \sim 200\%)$	165%		
230Vac / 100% load	$I_{out}*(150\% \sim 200\%)$	181%		

(IX). SHORT CIRCUIT PROTECTION

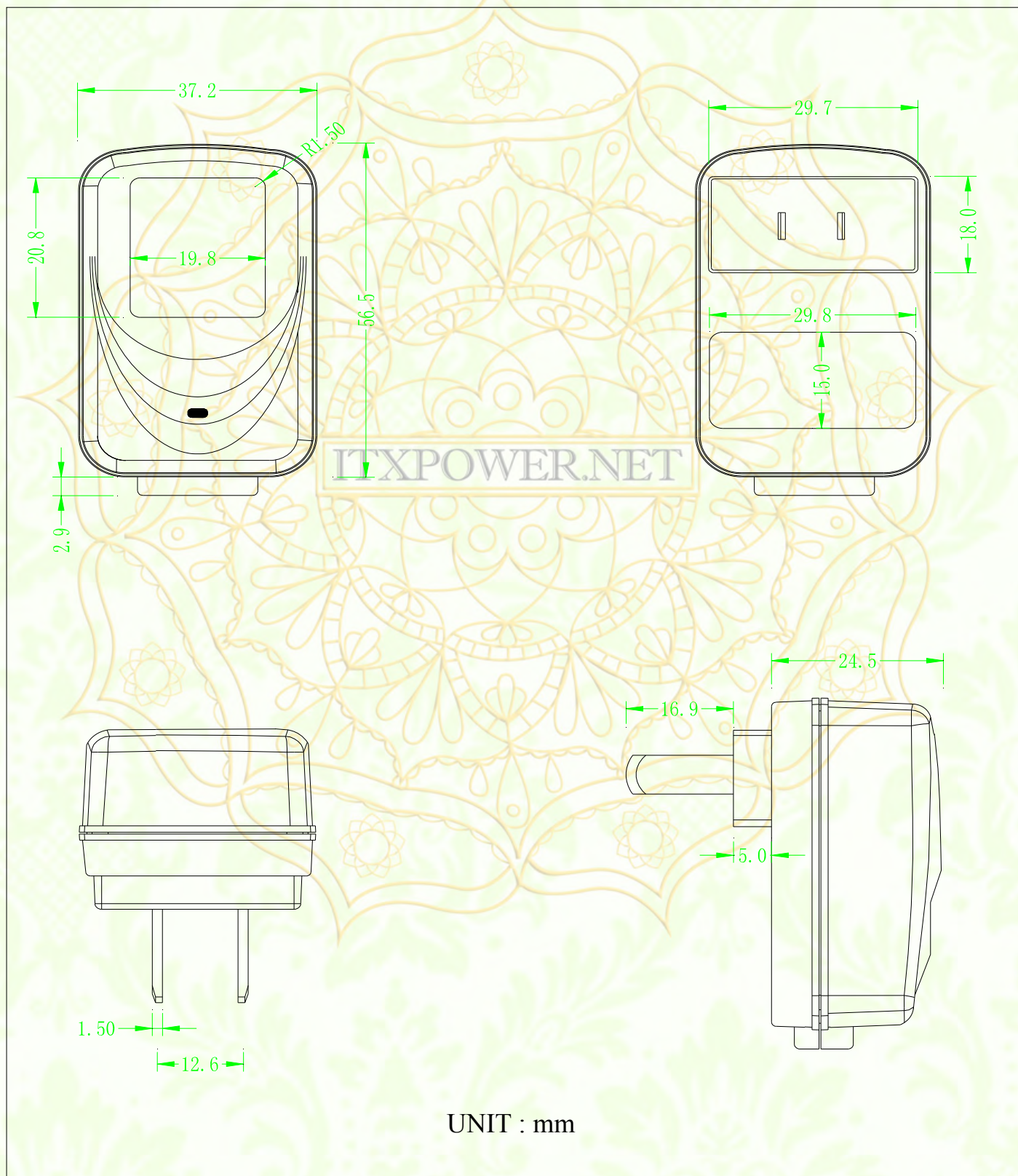
Test result:

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

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Appearance and size(unit : mm) : The housing is in black color. The appearance should be even, clear, no scar, no burr And Mechanical damages. There is no rust with the outer metal. The connector and Connector Plugs pin should be connect with the wire firmly. There is no looseness and fall. The housing should be fastness with ultrasonically welding.



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Output Wire and Connector:

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3C LABEL : (UNIT : mm)

