




# APPROVAL SHEET

<b>CUSTOMER</b>	<b>iTuner</b>
<b>CUSTOMER P/N</b>	
<b>DESCRIPTION</b>	<b>12V/6.6A</b> <b>SERIES NO. (E17)</b>
<b>EDAC MODEL</b>	<b>EA10953A</b>
<b>DATE</b>	<b>2010-06-22</b>
<b>REVISION</b>	<b>0</b>

<b>APPROVED</b>	<b>DESIGN</b>	<b>PREPARE</b>	<b>RoHS</b>
			
<b>CONCLUSION</b> 判定結果	<b>APPROVED</b> 承認	<b>CONDITON</b> <b>APP'D</b> 有條件承認	<b>CUSTOMER'S</b> <b>SIGNATURE:</b> 客戶簽章:



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## **SUBJECT: SCOPE OF DOCUMENT**

### **CONTAINS :**

**1-0 General Description**

**2-0. Input Requirements**

**3-0. Output Requirements**

**4-0. Reliability**

**5-0. Environment**

**6-0. Safety**

**7-0. Mechanical Characteristics**

## 1-0. General Description

The purpose of the document is to specify a Single phase AC input, single output switching power supply. This specification is suitable for: EA10953A Series

This product is AC to DC switching power transfer device, it can provide for a 12V, 6.6A max & 80W max DC output with constant voltage source.

This Specification defines the input, output, performance characteristics, environment, noise and safety requirement for a power supply.

## 2-0. Input Requirements

### 2-1. Input Voltage

Rated Voltage 100-240 Vac +/- 10% full range. Normal line input 110Vac/220Vac.

### 2-2. Input Frequency

47~63 Hz

### 2-3. Input Current

a. 2.5A (Max.) @ Rated AC input with full load.

b. 1.25A (Max.) @ Rated AC input with full load.

### 2-4. Efficiency

82% typical at normal line input and full load output

Meet CEC Level IV Requirement.

### 2-5. Configuration

3-wire AC input (Line, Neutral, FG)

### 2-6. Input Fuse

The hot line side of the input shall have a fuse, rating (3.15A/250V)

### 2-7. Inrush Current

≅ 45A at 110 Vac

≅ 90A at 220 Vac At cold start, maximum load.

### 2-8. Line Regulation

This line regulation is less than ± 1%, of rated output voltage @ full load .

### 2-9. Hold Up Time

≅ 16 mSec., @ Normal line, with full load.

### 2-10. Rise Time

$\leq$  50 mSec., @ Rated AC input, with full load.

From 10% to 90% of output voltage.

### 2-11. Turn-ON Time

The output voltage should rise to 90% of rated output voltage

in less than 3 SEC. from AC apply to 110Vac start up.

### 2-12. Harmonic Standard and Power Factor

The adapter complied with IEC 61000-3-2 class D harmonic standard while input power over than 75W. The P.F. shall  $>0.95$  @100Vac input and  $>0.9$  @240Vac input.

### 2-13. No Load Power Consumption.

Less than  $\leq$  0.5 Watts., @ 230Vac / 50Hz.

## 3-0. Output Requirements

### 3-1. Output Voltage and Current

Output Voltage (Vdc)	Current Min.(A)	Current Max.(A)
<u>+12V</u>	<u>0</u>	<u>6.6A</u>

### 3-2. Load Regulation

Voltage (Vdc)	Tolerance (%)	Regulation (Vdc)
<u>+12V</u>	<u>+5/, -5</u>	<u>11.4~12.6V</u>

### 3-3. Dynamic Load Regulation

$\pm 5\%$  excursion for 50% - 100% or 100% - 50% load change of DC output at any frequency up to 1KHz(duty 50%)

### 3-4. Ripple & Noise

The power supply shall not exceed the following limits on the indicated voltage for 60Hz or 50Hz ripple, Switching frequency ripple and noise and dynamic load variations measured with a 20MHz bandwidth

Output	Ripple/Noise
<u>+12V</u>	<u>2.0% max. of rated output voltage</u>

Ripple / Noise: 60Hz ripple + switching ripple and noise

Ripple & Noise are measured at the end of output cable which are added a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor

### 3-5. Over Voltage Protection

150% Max. of rated voltage.

The output voltage shall be shutdown and latched when OVP occurred.

### 3-6. Over Current Protection

110~150% of rated output current.

The adapter can withstand continuous short at DC output and no damage.

It will enter into normal condition if the fault condition is removed.

### 3-7. Stability

2% Max. at constant load with constant input (after 30 minutes of operation).

### 3-8. Temperature Rise

Less than 45°C on top/bottom case at normal AC input & 80% load of DC output at environment temperature 25°C.

### 3-9. Drop-out (Power Line Disturbance)

Output voltage shall remain within the specified regulation range, through the absence of a line input during 1/2 cycle, at full load and normal AC line input

### 3-10. Voltage Isolation

The DC ground will be isolated from the AC neutral and AC line.

#### **4-0. Reliability**

##### **4-1. MTBF ( MIL-HDBK-217F)**

The power supply shall be designed and produced to have a mean time between failures (MTBF) of 30,000 operating hours at 90% confidence-level while operating under the following conditions.

Test condition : Input: 220Vac 45 minutes on , 15 minutes off

Output: 80% of rated load

Temperature : 40 +/- 5 °C

Quantity : 45 pcs

Result : without failure after 30 days burn-in

#### **5-0. Environment**

##### **5-1 Temperature**

a. Operating : 0 to 40 °C

b. Storage : -20 to 85 °C

##### **5-2 Humidity**

a. Operating : 10 to 90 %

b. Storage: 5 to 90 %

##### **5-3 Altitude**

From sea level to 10,000Ft ( operation ) and 40,000Ft ( non operation )

#### **6-0. Safety**

##### **6-1. Hi-Pot Test**

4242 Vdc 5mA 3 Sec. between primary and secondary circuit

##### **6-2. Insulation Test**

500Vdc, 3 Sec. between primary and secondary circuit

IR should  $\geq$  50 M $\Omega$ .

##### **6-3. Leakage Current**

$\leq$  750 uA, at 240Vac/50 Hz

##### **6-4. Safety**

UL, CUL, TUV, FCC, CE, BSMI, DOIR+C-TICK, CCC

**6-5. EMS**

Items	Specification	Reference
ESD	Contact: $\pm$ 4KV	IEC 61000-4-2
	Air: $\pm$ 8KV	
RS	Frequency: 1KHz Field Strength: 3V/M	IEC 61000-4-3
EFT	1.0 KV on input AC power ports.	IEC 61000-4-4
SURGE	Line to Line: $\pm$ 1KV (peak)	IEC 61000-4-5
	Line to F.G : $\pm$ 2KV (peak)	

**6-6. EMI**

Comply with Standards
CISPR 22, EN 55022 Class B

**7-0. Mechanical Characteristics**

**7-1. Physical Size :** 133 mm (L) \* 59 mm (W) \* 34 mm (H)

**7-2. Enclosure material :** 94V-1 minimum

**7-3. Output Cable (Reference) :** [UL1185 #16](#)

**7-4. Vibration Test**

The vibration frequencies are set at 20Hz, with total amplitude of 1.5mm  
 Along the 3 directions namely X-Y-Z. The each direction should be vibrated  
 for 60 minutes, after testing no abnormal electrical or mechanical should occur.

**7-5. Drop Test (Referencing to CSA C22.2 No.950/UL1950/UL1310/EN60950)**

Products shall be dropped from a height of 900 mm onto a horizontal surface  
 consists of hardwood at 13mm thick, mounted on two layers of plywood each  
 19mm to 20mm thick, all supported on a concrete or equivalent non-resilient  
 floor. Upon conclusion of test, the equipment need not be operational.

**7-6. Net Weight (Reference) :** [420 g](#)

3.5



EDACPOWER ELEC.

电源适配器 / 電源供應器 AC ADAPTER

型号 / 型號 MODEL: EA10953A

输入 / 輸入 AC INPUT: 100-240V~2.5A,  
50-60Hz

输出 / 輸出 DC OUTPUT: 12-17V 6.6A MAX.  
& 80W MAX.

TYPICAL OUTPUT VOLTAGE

12V	13V	14V	15V	16V	17V

注意 / 注意 CAUTION:

室内产品使用 / 室內產品使用 FOR INDOOR USE ONLY

I.T.E. USE ONLY

出厂日期 / 出廠日期

DATE CODE:

09	10	11			1	2	3	4	5
1	2	3	4	5	6	7	8	9	0



I.T.E. POWER SUPPLY  
41TJ  
E209833



R33147

N136  
NSW22331



RoHS



13121095167 C3 中国制造 / 中國製造 MADE IN CHINA

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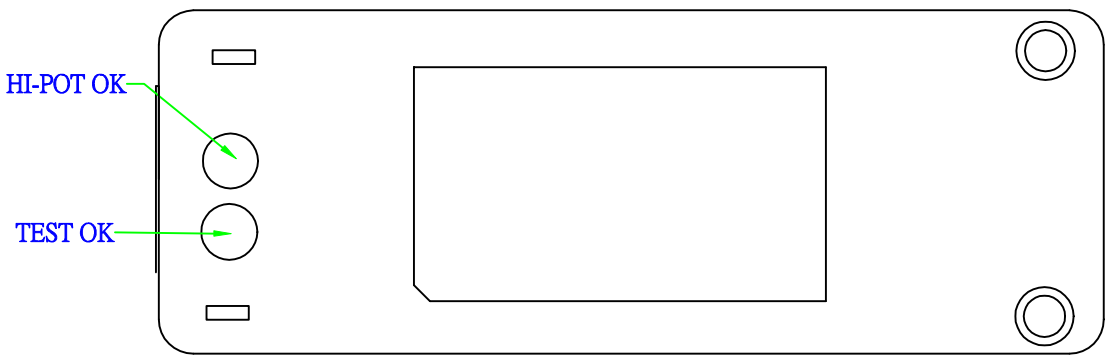
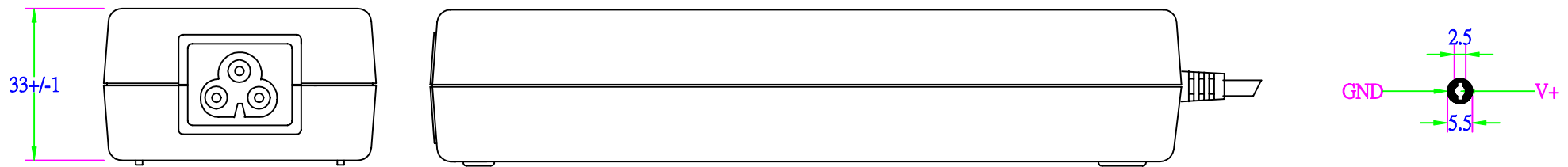
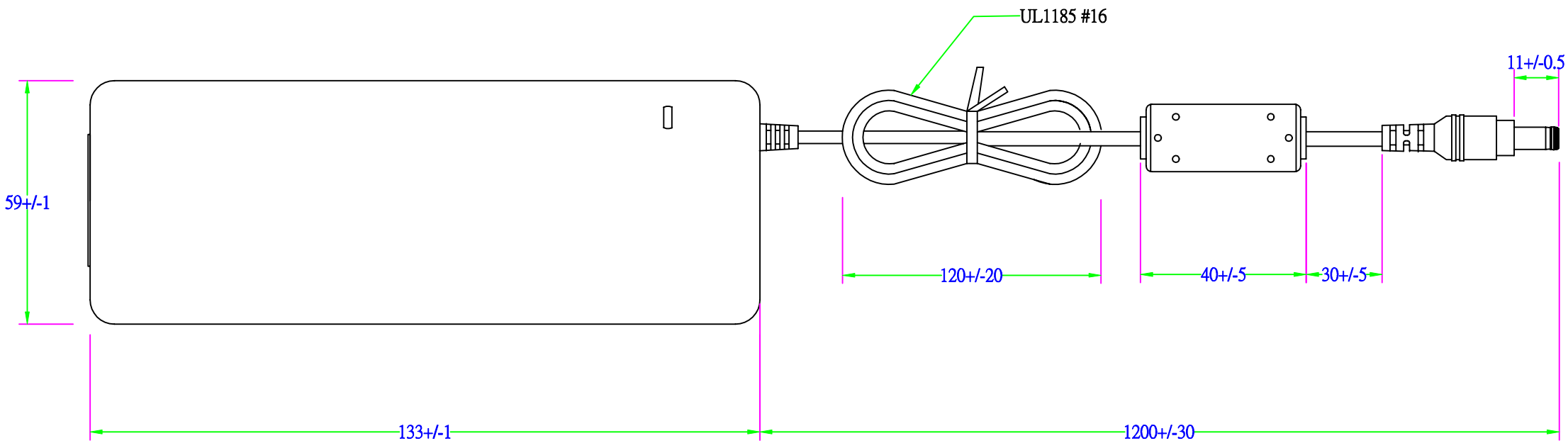
EDAC P/N.: 3121095167

Background: Black color

Character: Siliver color

Unit: mm

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<b>EDAC POWER ELECTRONICS CO., LTD.</b>				APPROVED
MODEL	EA10953A(E17)	UNIT	mm	DESIGNED
color	BLACK	SCALE		CHECK
cus.		DATE	2010-06-22	DRAWING L.J.YU