

# APPROVAL SHEET

CUSTOMER	l tuner
CUSTOMER P/N	
DESCRIPTION	12V/7A
EDAC MPN	EA10953C(N01)
EDAC MODEL NO FOR SAFETY	EA10953C-120
DATE	2015-08-24
REVISION	0

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



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## **1. 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: EA10953C\_12V

This product is AC to DC switching power transfer device, it can provide for 12V, 7 A max & 84W 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. Input Electrical Specification**

### **2-1. Input Voltage**

Maximum Voltage:	264Vac
Normal Voltage:	100~240Vac
Minimum Voltage:	90Vac

### **2-2. Input Frequency**

Maximum Frequency:	63Hz
Normal Frequency:	50~60Hz
Minimum Frequency:	47Hz

### **2-3. Input Current**

- A. 1.5A Max. @ 115Vac input with full load.
- B. 0.75A Max. @ 230Vac input with full load.

### **2-4. Energy Saving Standard:**

- A. Average Efficiency 88% under normal line input.
- B. No load power consumption: 0.21W at normal line input.

### **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 T3.15A/250V.

### **2-7. Inrush Current**

- 60A at 110 Vac At cold start, maximum load.
- 120A at 220 Vac At cold start, maximum load.

### **2-8. Line Regulation**

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

### 2-9. Hold Up Time

10 mSec., @ normal line, with full load.

### 2-10. Rise Time

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 voltage apply.

### 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 PF shall > 0.95@100Vac input and >0.9@240Vac input with full load.

## 3. Output Electrical Specification

### 3-1. Output Voltage and Current

Output Voltage (V)	Current Min.(A)	Current Max.(A)
+12	0	7.0

### 3-2. Load Regulation

Voltage (V)	Output Voltage Range
+12	11.4V – 12.6V

### 3-3. Dynamic Load Regulation

±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 measured with a 20MHz bandwidth

Output	Ripple/Noise
+12V	180mV(PK)

Input condition : for rated voltage , Output condition : for max load

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

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

### 3-5. Over Voltage Protection

150% Max. of the rated output voltage.

The adapter shall have over-voltage protection with auto-recovery mode when output voltage reaches the trigger point of OVP or during the feedback open loop condition.

### 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. 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

### 3-9. Voltage Isolation

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

## 4. Reliability Specification

### 4-1. MTBF ( MIL-STD-781D)

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 testing conditions.

## 5. Environment Specification

### 5-1 Temperature

- a. Operating : 0 to 40
- b. Storage : -20 to 85

### 5-2 Humidity

- a. Operating : 10 to 90 %
- b. Storage: 5 to 90 %

### 5-3 Altitude

From sea level to 2,000 Meters (operation) and 5,000 Meters (non operation)

## 6. Safety Specification

### 6-1. Hi-Pot Test

1800Vac, 3mA, 2 seconds between primary and secondary circuit.

### 6-2. Insulation Test

500Vdc, 3 Sec. between primary and secondary circuit  
IR should 50 MΩ.

### 6-3. Leakage Current

250uA, at 240Vac/50 Hz

### 6-4. Safety

UL/CUL, TUV, CB, CE, FCC, CCC, PSE

### 6-5. EMS

Items	Specification	Reference
ESD	Contact: ± 4KV	IEC 61000-4-2
	Air: ± 8KV	
RS	Frequency: 80~1000MHz Field Strength: 3V/M , 80% AM(1KHz)	IEC 61000-4-3
EFT	1.0 KV on input AC power ports.	IEC 61000-4-4
SURGE	Line to Line: ± 1KV (peak)	IEC 61000-4-5
	Line to F.G : ± 2KV (peak)	

## **6-6. EMI**

Comply with Standards
CISPR 22, EN 55022 Class B

## **7. Mechanical Specification**

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

**7-2. Enclosure material :** 94V-0 minimum

**7-3. Output Cable (Reference):** UL1866 #14

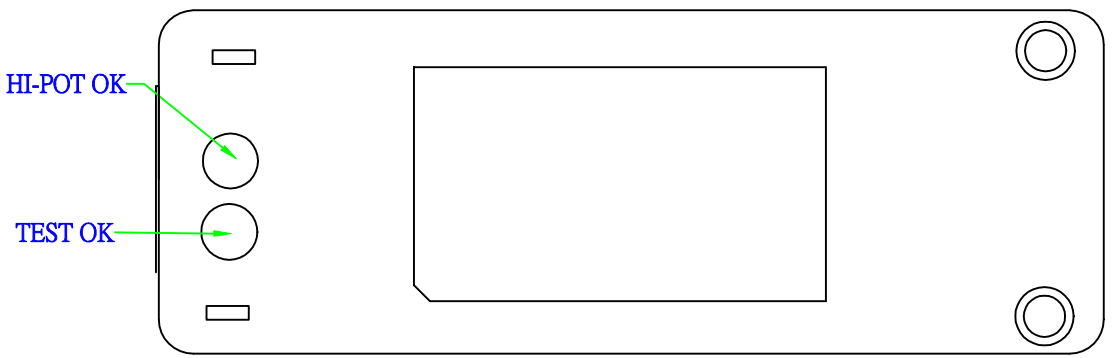
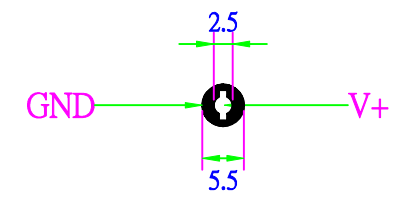
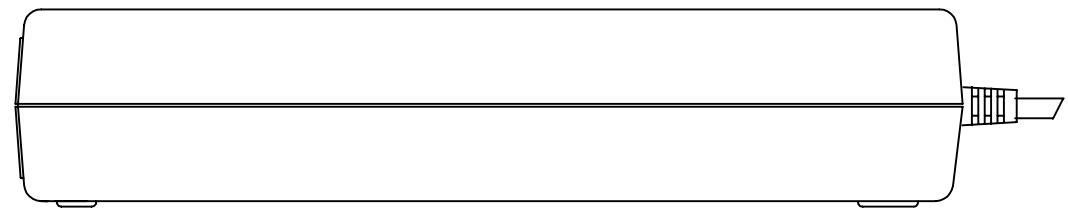
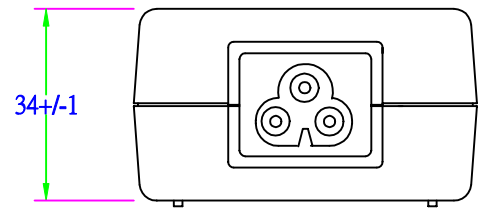
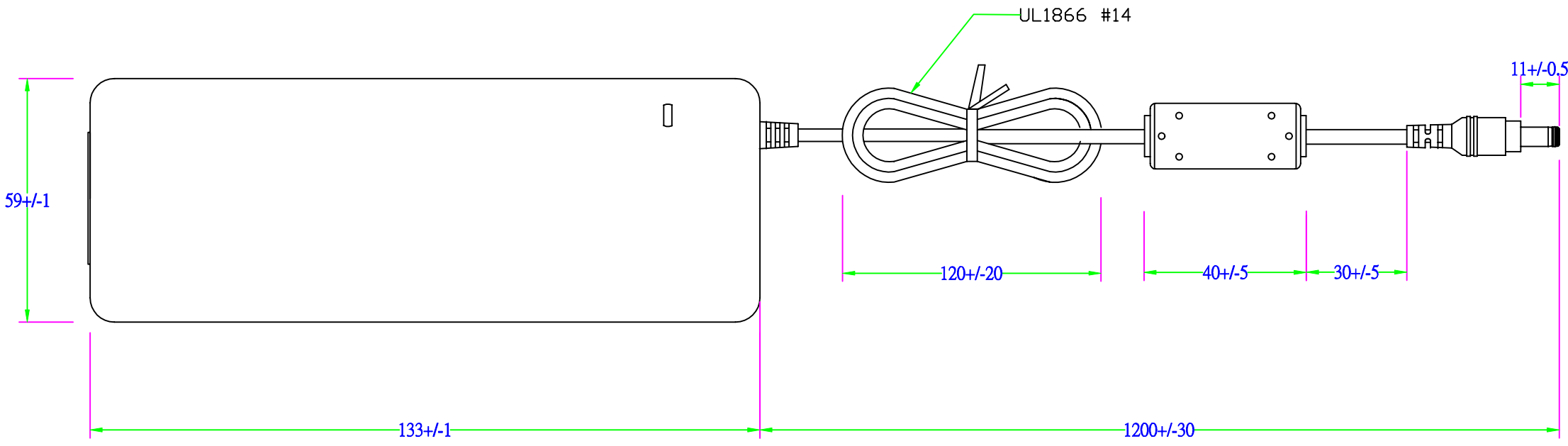
### **7-4. Vibration Test**

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) :** 450 g



<b>EDAC POWER ELECTRONICS CO., LTD.</b>				APPROVED
MODEL	EA10953C(N01)	UNIT	mm	DESIGNED
color	BLACK	SCALE		CHECK
cus.		DATE	2015-08-24	DRAWING L.J.YU



3.5

**EDAC** EDACPOWER ELEC.

AC ADAPTER 电源适配器

MODEL 型号: EA10953C-120

AC INPUT 输入: 100-240V~2.5A, 50-60Hz

DC OUTPUT 输出: 12V=7A

CAUTION 注意

FOR INDOOR USE ONLY 室内产品使用

I.T.E. USE ONLY

DATE CODE:

出厂日期

15	16	17			1	2	3	4	5
1	2	3	4	5	6	7	8	9	0



I.T.E. POWER SUPPLY

41TJ

E209833



LPS



RoHS



制造商: 翌胜电子股份有限公司 MADE IN CHINA 中国制造

1312

C3

71

41

EDAC P/N.: 312

Background: Black color

Character: Silver color

Unit: mm