Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

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: EA11003A Series

This product is AC to DC switching power transfer device, it can provide for a 12V, 7.5A max & 90W 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 115Vac/60Hz,220Vac/50Hz.

2-2. Input Frequency

47~63 Hz

2-3. Input Current

a. 2.5A (Max.) @ 115Vac input with full load.

b. 1.25A(Max.) @ 230Vac input with full load.

2-4. Efficiency(Out put voltage >6V) (Warm up 30 minutes)

	Nameplate Output Power	Energy Star Spec
□	0 to ≦ 1 Watt	≧ 0.48 * Pno+ 0.14
□	> 1 ≦ 50 Watts	≧〔0.0626 * Ln (Pno)〕+ 0.622
■	> 50 to 250 Watts	≧ 0.87

≧ 87% (avg.) @ Normal input & 25% , 50% , 75% , 100% of max output load.

Meet CEC Level V requirement or Eup Step 2.

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

≦ 50A at 110 Vac

≦ 100A 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

≧ 10 mSec., @ Normal line, with full load.

2-10. Rise Time

≦ 50 mSec., @ 115V 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 ≦ 0.5 Watts., @ 230Vac / 50Hz.

Meet CEC Level V Requirement.

3-0. Output Requirements

3-1. Output Voltage and Current

Output Voltage (Vdc)	Current Min.(A)	Current Max.(A)
+12V	0	7.5A

3-2. Load Regulation

Voltage (Vdc)	Tolerance (%)
+12V	+5/, -5

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 dynamic load variations measured with a 20MHz bandwidth

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

Input condition : for rated voltage , Output condition : for max load
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℃ on top/bottom case at normal AC input & 80% load of DC output at environment temperature 25℃.

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 50,000 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 ℃

Quantity : 45 pcs

Result : without failure after 30 days burn-in

5-0. Environment

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 Meter (operation) and 5,000 Meter (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 ≧ **50 MΩ .**

6-3. Leakage Current

≦ **500 uA**, at 240Vac/50 Hz

6-4. Safety

UL, CUL, TUV/GS, CE, FCC, EK, DOIR+C-TICK, CCC, PSE, BSMI, NOM

6-5. EMS

Items	Specification	Reference
ESD	Contact: ± 4KV	IEC 61000-4-2
	Air: ± 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: ± 1KV (peak)	IEC 61000-4-5
	Line to F.G : ± 2KV (peak)	

6-6. EMI

Comply with Standards
CISPR 22, EN 55022 Class B

7-0. 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

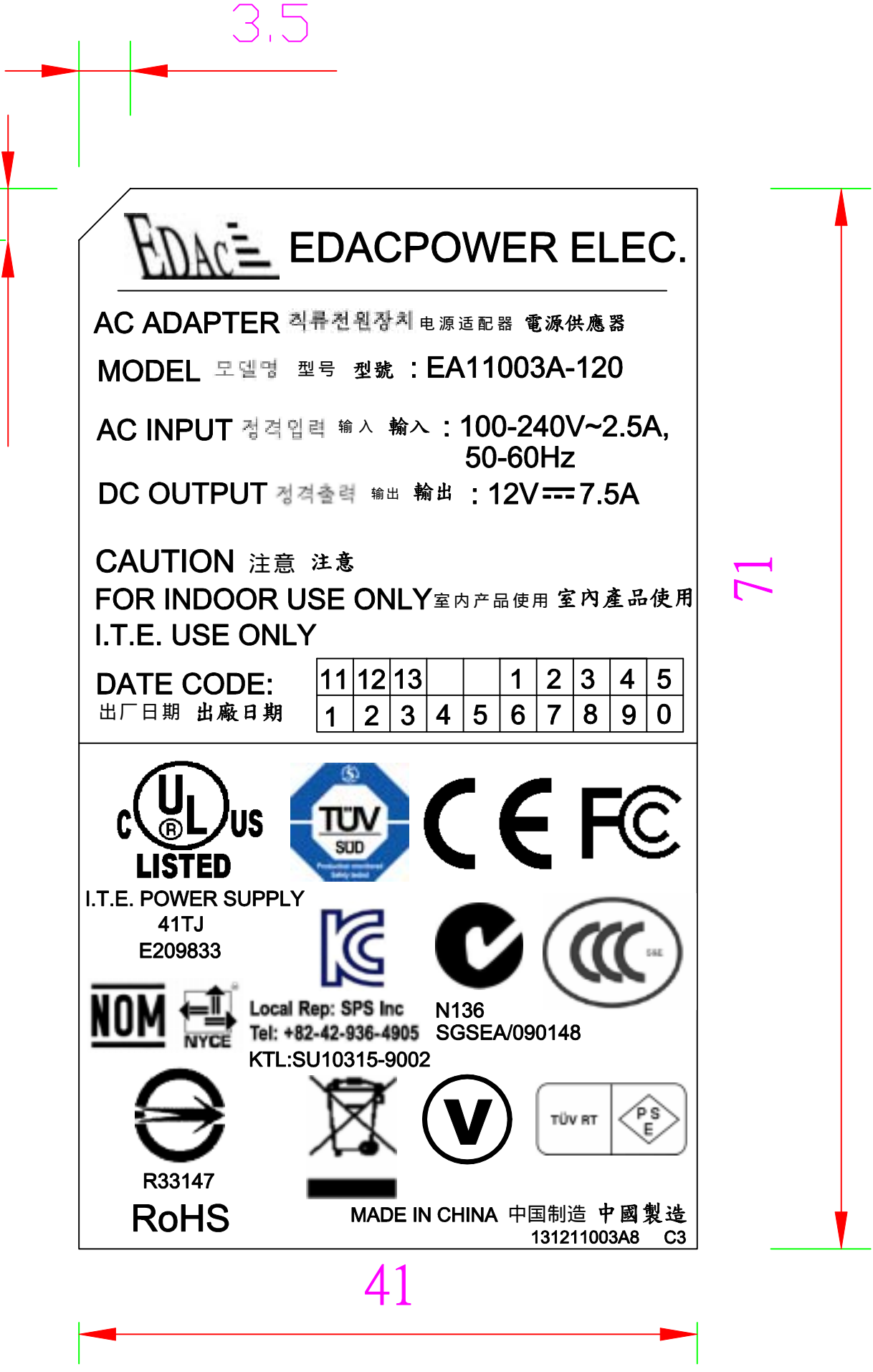
7-4. Vibration Test

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.

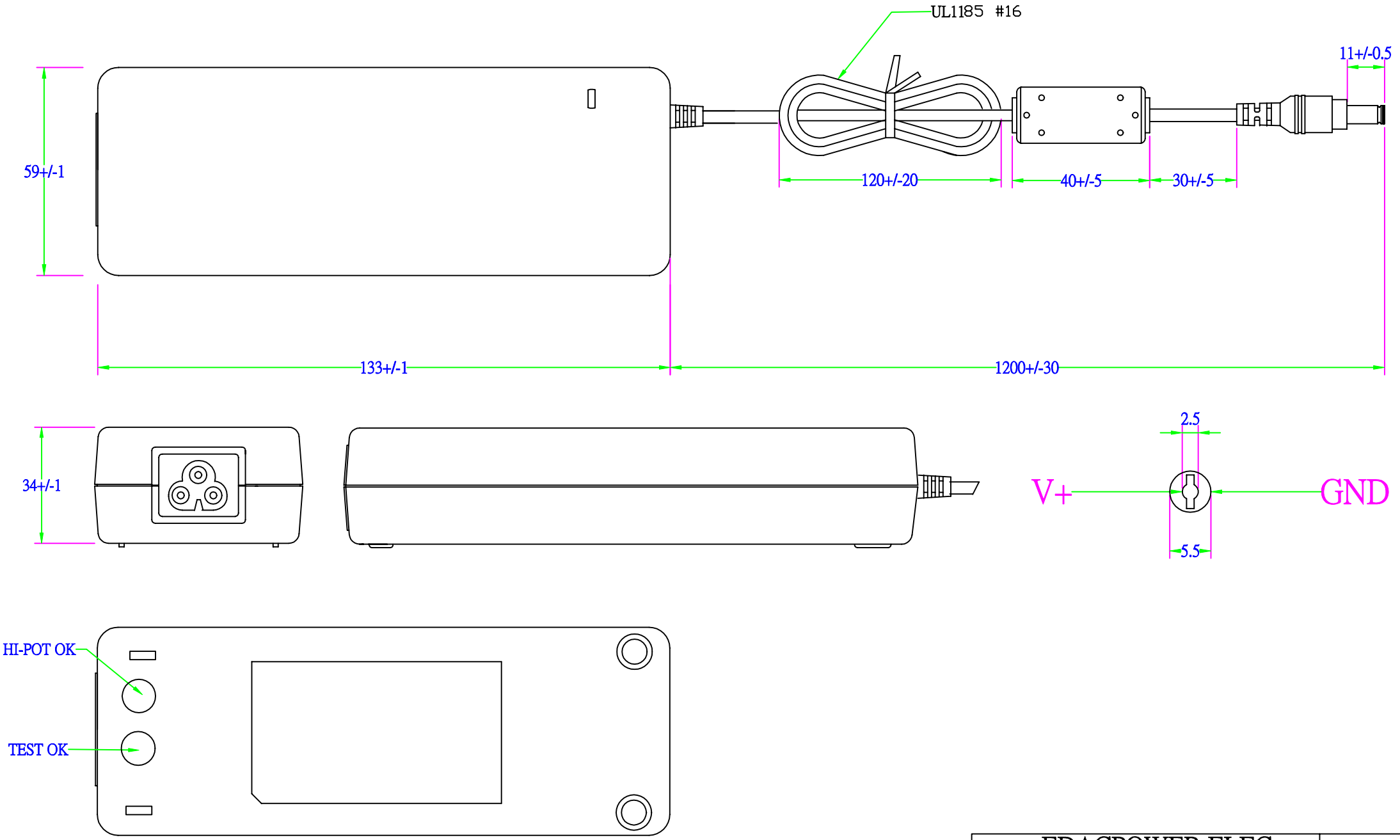
7-5. Drop Test (Referencing to CSA C22.2 No.950/UL1950/UL1310/EN60950)

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) : 450 g



EDAC P/N.: 31211003A8
Background: Black color
Character: Silver color
Unit: mm



EDACPOWER ELEC.				APPROVED
MODEL	EA11003A(24)	UNIT	mm	DESIGNED
color	BLACK	SCALE		CHECK
cus.		DATE	2012-06-06	DRAWING L.J.YU