APPROVAL SHEET

CUSTOMER	**Digimax**
CUSTOMER P/N	
DESCRIPTION	**12V/2.5A**
EDAC MPN	**EA10301(M18)**
EDAC MODEL NO FOR SAFETY	**EA10301**
DATE	**2015-12-16**
REVISION	**2**

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

翌勝電子股份有限公司
EDAC POWER ELECTRONICS CO., LTD.
新北市中和區建一路 150 號 11 樓之 2(E 棟)
TEL:886-2-82263289 FAX:886-2-82263327
翌勝電子(蘇州)有限公司
Edac Power Electronics (Suzhou) Co., Ltd.
江蘇省蘇州工業園區勝浦鎮常勝路 59 號
No.59, Chang Sheng Road, Sheng Pu,
Suzhou Industrial Park, Jiangsu, China
Tel: 512-6282-1628 Fax: 512-6282-9608
深圳市成勝源電子有限公司
深圳市龍崗區龍城街道五聯社區同心工業區 8 號廠房
Tel: 0755-89383108 Fax: 0755-89383106

EDACPOWER ELECTRONICS CO., LTD.

EA10301(M18)/ HISTORY

Item	Revision	Description	Date	Remark
1	0	Original	2011-12-26	---
2	1	Add caution for CCC rule on label.	2013-02-21	---
3	2	Australia safety will be invalid on 2016/01/21. Remove the safety logo on rating label.	2015-12-16	---

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: **EA10301 Series**
This product is AC to DC switching power transfer device, it can provide for a **12V/2.5A max & 30W 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 Voltage:115V/60Hz & 230V/50Hz

2-2. Input Frequency

47~63 Hz

2-3. Input Current

a. 1.0A (Max.) @ 115Vac input with full load.
b. 0.5A(Max.) @ 230Vac input with full load.

2-4. Efficiency

83.5% minimum at normal line input and average of 25%, 50%, 75%, 100% of max load.

2-5. Configuration

2-wire AC input (**Line ,Neutral**)

2-6. Input Fuse

The hot line side of the input shall have a fuse, rating (**T2A/250V**)

2-7. Inrush Current

≦ **30A** at 115 Vac
≦ **60A** at 230 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

≧ **8.3mSec**., @ Normal line, with full load.

2-10. Rise Time

≦**50mSec**., @ 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 100Vac from start up.

2-12. No load Power Consumption

Less then ≦ 0.3Watts. at normal line.

3-0. Output Requirements

3-1. Output Voltage and Current

Output Voltage (Vdc)	Current Min.(A)	Current Max.(A)
+12V	**0**	**2.5A**

3-2. Load Regulation

Voltage (Vdc)	Tolerance (%)	Regulation (Vdc)
+12V	**+5/, -5**	**11.40V~12.60V**

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	**150mV**

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

(Output clamped with zener diode, do not test with external DC source.)

3-6. Short-Circuit Protection

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 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 ℃

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 2,000Meter (operation) and 5,000Meter (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

≦ **250uA**,at 240Vac/50 Hz

6-4. Safety

UL, CUL, TUV/GS, CE, FCC, CB, EK, CCC, BSMI, PSE

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

6-6. EMI

Comply with Standards
CISPR 22, EN 55022 Class B

7-0. Mechanical Characteristics

7-1. Physical Size : 98 mm (L) * 45 mm (W) * 31 mm (H)

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

7-3. Output Cable (Reference) : UL1185 #18

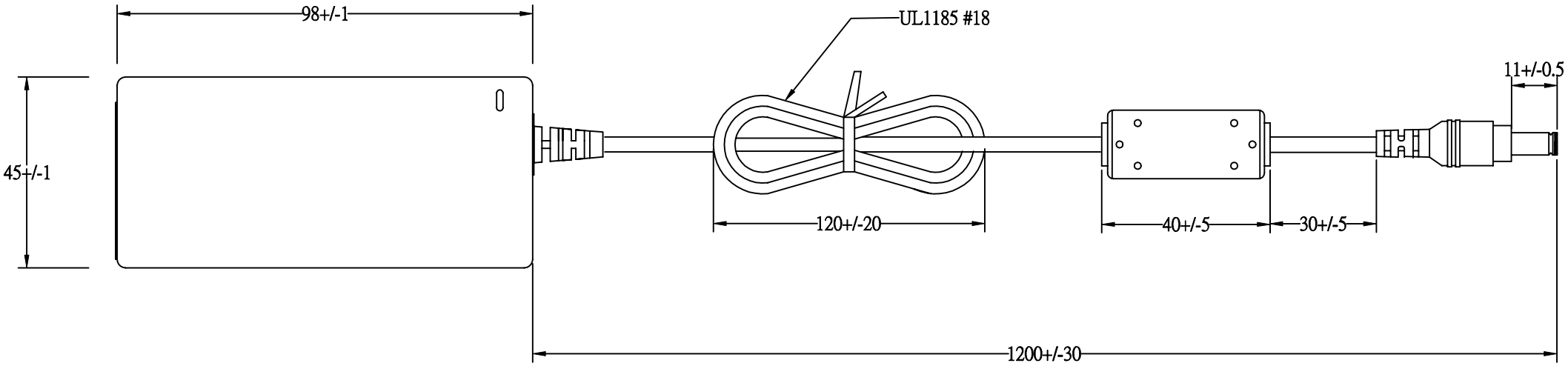
7-4. Vibration Test

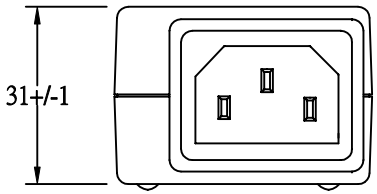
The vibration frequencies are set at 20Hz, with total amplitude of 1.5mm Along the 3 directions namely X-Y-Z. The each direction should be vibrated for 60 minutes, after testing no abnormal electrical or mechanical should occur.

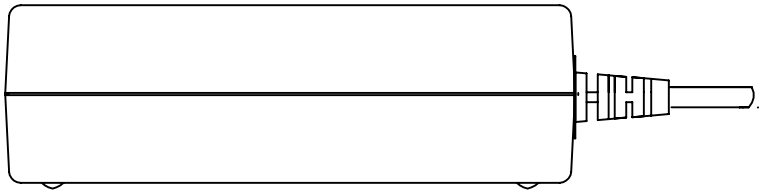
7-5. Drop Test (Referencing to CSA C22.2 No.950/UL1950/UL1310/EN60950)

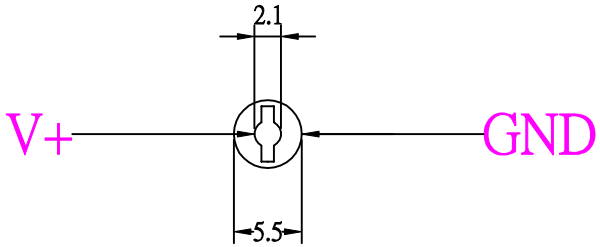
Products shall be dropped from a height of 900 mm onto a horizontal surface consists of hardwood at 13mm thick, mounted on two layers of plywood each 19mm to 20mm thick, all supported on a concrete or equivalent non-resilient floor. Upon conclusion of test, the equipment need not be operational.

7-6. Net Weight (Reference) : 220 g

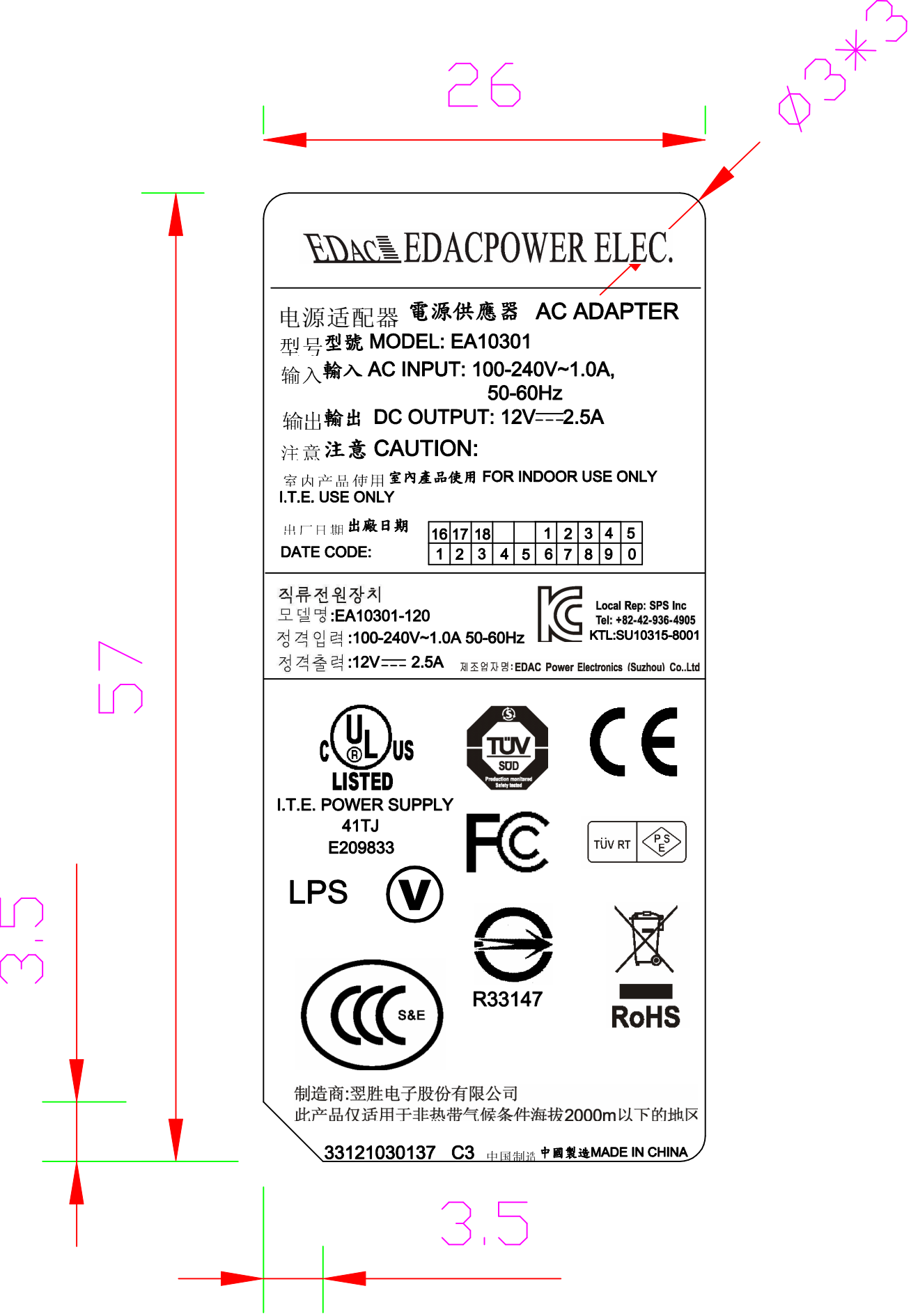








EDACPOWER ELEC.				APPROVED
MODEL	EA10301(M18)	UNIT	mm	DESIGNED
color	BLACK	SCALE		CHECK
cus.		DATE	2011-12-26	DRAWING L.J.YU



EDAC P/N.: 3121030137
Background: Black color
Character: Silver color
Unit: mm