




APPROVAL SHEET

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

| | | | |
|---|---|--|---|
| APPROVED | DESIGN | PREPARE | RoHS |
|  |  |  | |
| 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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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 Ω .

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

41

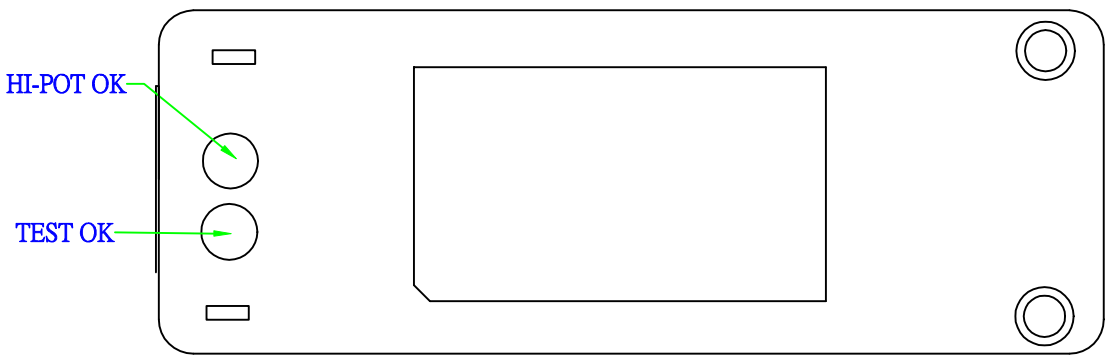
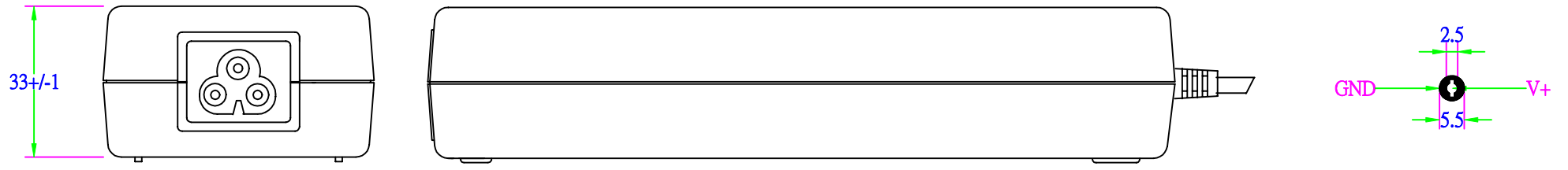
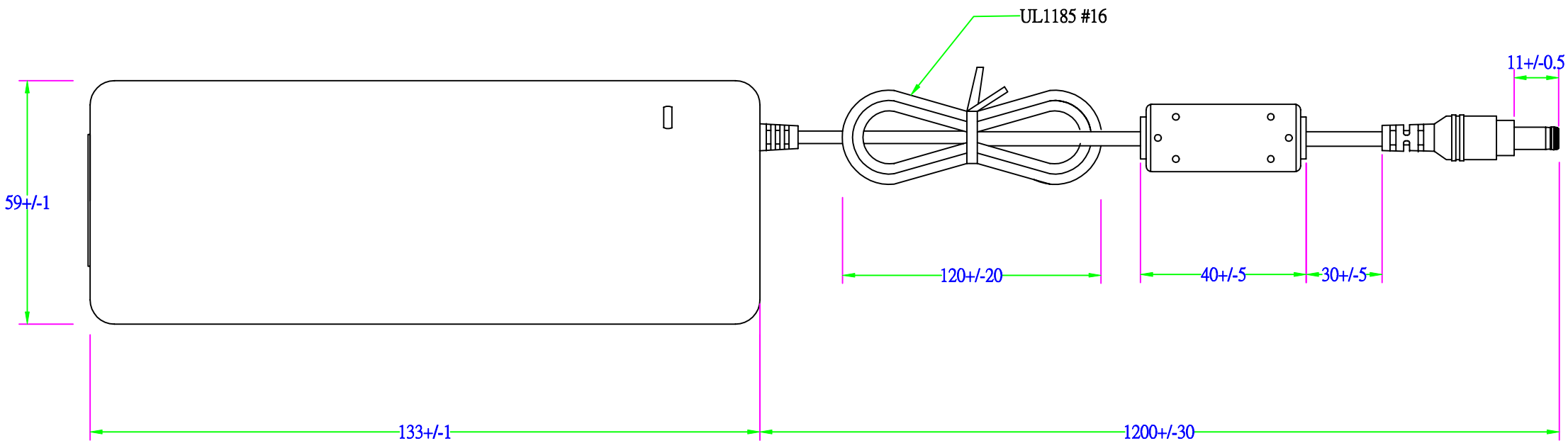
EDAC P/N.: 3121095167

Background: Black color

Character: Siliver color

Unit: mm

71



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