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1. General Description

The purpose of this document is to specify a single phase AC input switching power supply with Fix Plug full range AC . The product is AC to DC switch mode power supply that provide single output EA1018D-24V @0.83A max with 20W max DC output with constant voltage source. This Specification defines the input, output, performance characteristics, environment , noise and safety requirement.

2. Input Electrical Specification

2-1. AC Input Voltage

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

2-2. AC Input Frequency

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

2-3. Input Current

a.1.0 A (Max.) @ AC 100Vrms input with full load.
b.0.75A (Max.) @ AC 240Vrms input with full load.

2-4. Efficiency

	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

≧ 81% (avg.) @ Normal input & 25% , 50% , 75% , 100% of max output load.

2-5. Configuration

2-wire AC input (Line ,Neutral)

2-6. Input Fuse

The Line of the AC input shall have a fuse , rated is T2A/250V

2-7. Inrush Current

≦ 30A at 110 Vac
≦ 60A at 240 Vac At cold start, nominal load.

2-8. No Load Power Consumption :

Less than 0.3W @ 230V / 50Hz condition .

2-9. Hold Up Time

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

2-10. Rise Time

≦ 20 mSec. @ min Input voltage , 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 seconds from AC apply to low line voltage start up.

3. Output Electrical Specification

3-1. Output Voltage and Current

Output Voltage	Min Current(A)	Max Current(A)	Peak Current(A)
+24V	0A	0.83A	

3-2. Line / Load Regulation

	Output Voltage (V)	Tolerance (%)	Regulation(V)
Vo	+24V	+5% ~ -5%	22.80 ~ 25.20V

3-3. Dynamic Load Regulation

±5% excursion from 50% to 100% load and back to 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 & noise and measured with a 20MHz bandwidth and output parallel with a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor to ground. Temperature at 25°C and nominal AC input voltage

Output	Ripple/Noise
24V	**250mV max**

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

3-5. Short circuit protection :

The output should shut-down when subjected to a short circuit(R<0.3R). After shut-down the power supply shall return to normal operating conditions after removing the short situation .

3-7. Over Power Protection :

180% of max current

When Over-Power occurred the output should be shut down and the over –current Situation is removed the output shall be auto-recover without any harm .

3-8. Stability

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

3-9.Temperature Rise

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

3-10. 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

4.Reliability Specification

4-1. MTBF (MIL-STD-781C)

The power supply shall be designed and produced to have a mean time between failures (MTBF) of 30000 operating hours minimum conditions: 80% maximum load at 25 ℃, nominal input voltage.

5. Environment Specification

5-1 Temperature

a. Operating: 0 to 40°C

b. Storage: -20 to 60°C

5-2 Humidity

a. Operating: 20 to 85 %

b. Storage: 5 to 95 %

5-3 Altitude

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

6-0. Safety Specification

6-1. Hi-Pot Test

3000VAC 10mA 3 Sec or 4242VDC 5mA 3 Sec. between primary and secondary circuit

6-2. Insulation Test

500Vdc, 3 Sec. between primary and secondary circuit

IR should ≧ 100 MΩ.

6-3. Leakage Current

≦ **250 uA** @ 240VAC 50Hz

6-4. Safety

TUV/GS, CE

6-5. EMI

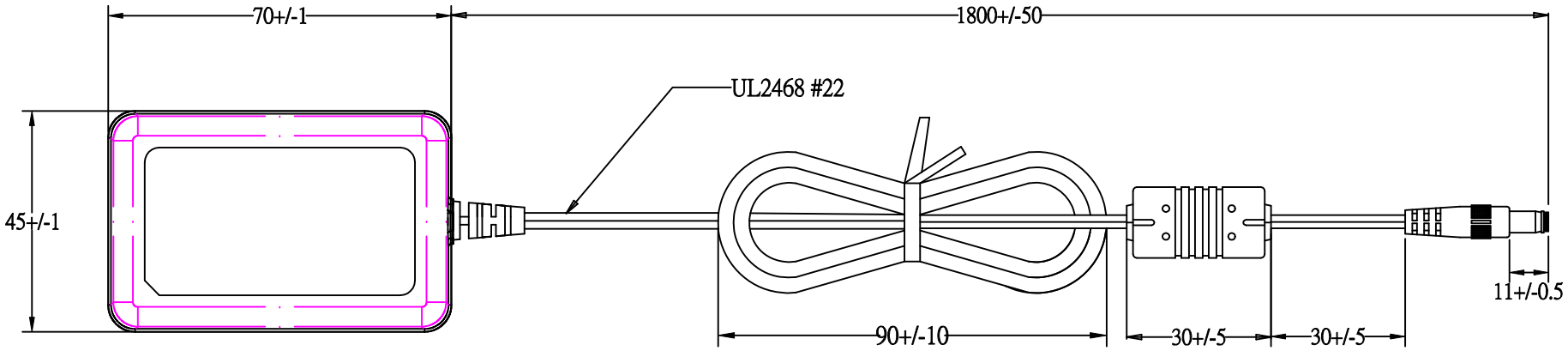
Comply with Standards
CISPR 22, EN 55022 Class B
FCC (PART 15 CLASS B)

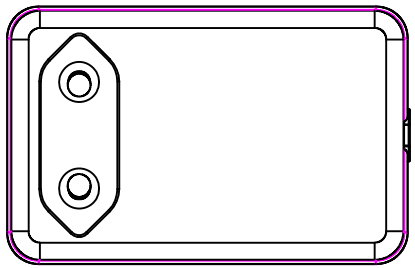
7 . Mechanical Specification

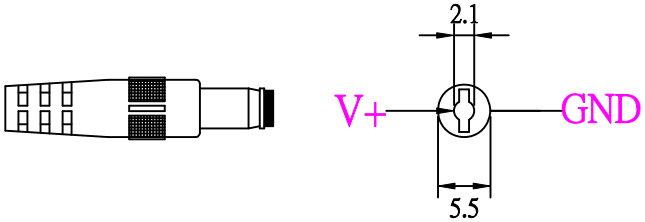
7-1. Physical Size : 80L x 50W x 33H (mm)

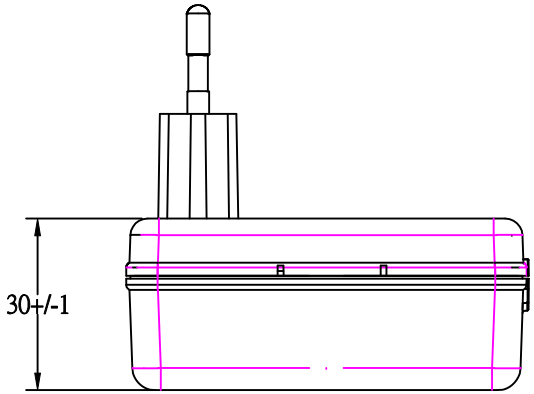
7-2. Enclosure material : 94V-0 minimum

7-3. Net Weight (Reference) : 152g









EDAC POWER ELEC.				APPROVED
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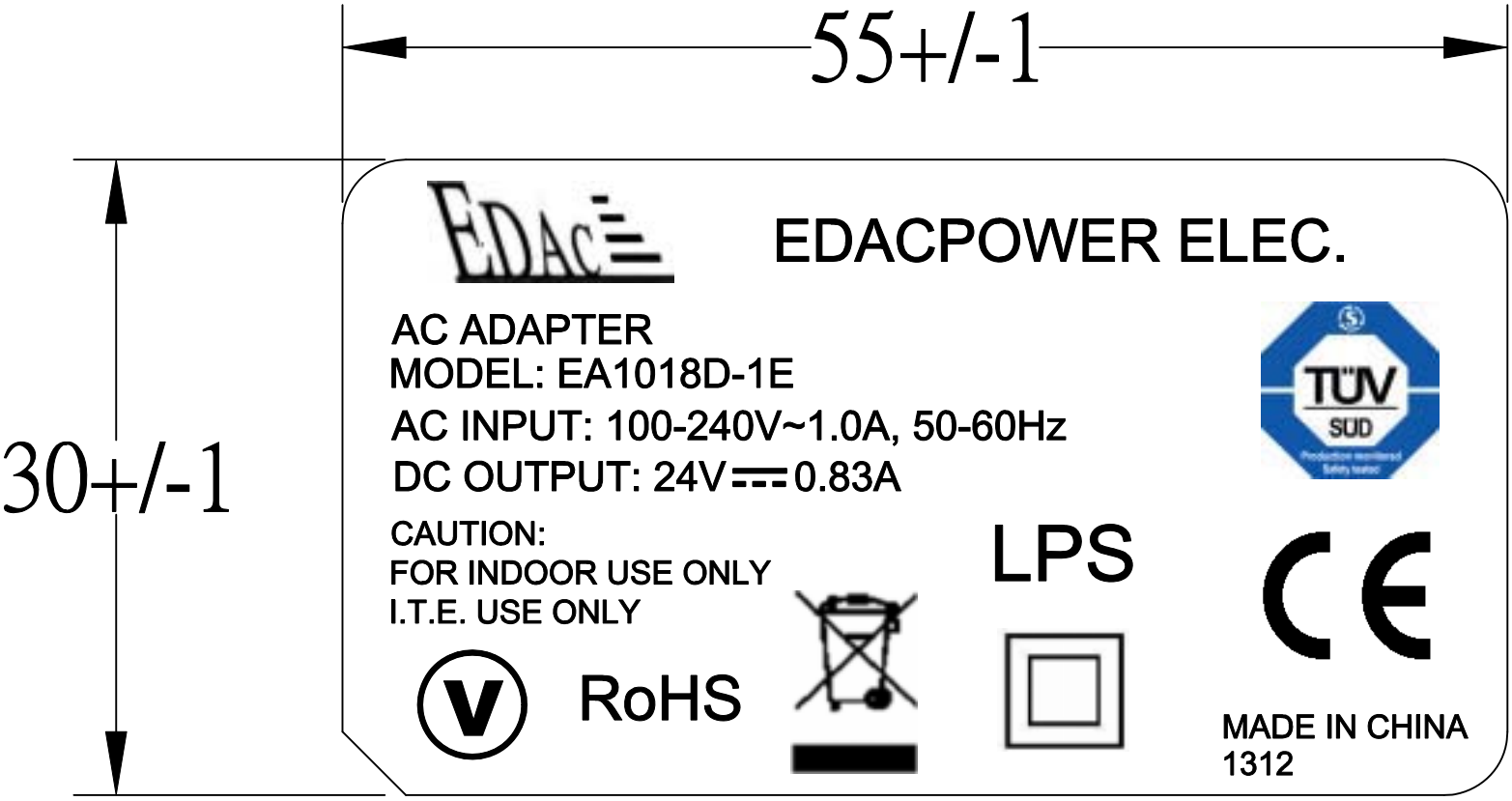
cus.		DATE	2011-02-25	DRAWING L.J.YU



EDAC P/N.: 312
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