



Editech Co., Ltd.

PRODUCT TYPE : AC/DC ADAPTER

MODEL NAME : TYPE2542

SPECIFICATION FOR APPROVAL

CUSTOMER APPROVAL

CONTENT :

SIGNATURE :

DATE :

CUSTOMER : _____ ALT _____

PART NO. : _____ REV : _____ 1.7A

Please sign and return one copy.

All production units will be built according to this specification, the component specifications remain as same, its brand can be changed.

Manufacturer

Prepared

Checked

Approved

신 등 민

Model No. : TYPE2542

Unit Color : Black

Input : 100 ~ 250V AC. 50/60Hz

Output : 5V DC 2.0A

Product Category : AC/DC ADAPTER

Description : ROHS

Editech Co., Ltd.

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1. Revision History

No.	Revision Date	Revision History	Revision	Page															
1	2019.02.26	First release	1.0A	–															
2	2019.05.10	To add PL, CKD	1.1A	8,9,10															
3	2019.07.03	Packing drawing change	1.2A	18															
4	2019.07.05	Delete the Package Drawing Page 18	1.3A	–															
5	2019.07.31	Add General tolerance table	1.4A	14~18															
6	2019.09.03	Changing cable length dimensions and drawings	1.5A	13															
7	2020.05.15	Change of component values to improve output voltage characteristics and secure margins for electromagnetic characteristics. <table><tr><td>ITEM</td><td>AS IS</td><td>TO BE</td></tr><tr><td>R16</td><td>4.87kΩ</td><td>11kΩ</td></tr><tr><td>R18</td><td>5.25kΩ</td><td>12kΩ</td></tr><tr><td>R12</td><td>NC</td><td>20pF</td></tr><tr><td>C5</td><td>1.0nF</td><td>2.2nF±1.2nF</td></tr></table>	ITEM	AS IS	TO BE	R16	4.87kΩ	11kΩ	R18	5.25kΩ	12kΩ	R12	NC	20pF	C5	1.0nF	2.2nF±1.2nF	1.6A	9,10
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Secondary vendor of electrolytic and Polymer capacitors added. <table><tr><td>ITEM</td><td>1'st Vender</td><td>2'nd Vender</td></tr><tr><td>Elec. Cap</td><td>Samyoung</td><td>Samhwa</td></tr><tr><td>Poly. Cap</td><td>Soosan</td><td>Shengyang</td></tr></table>	ITEM	1'st Vender	2'nd Vender	Elec. Cap	Samyoung	Samhwa	Poly. Cap	Soosan	Shengyang	10									
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Elec. Cap	Samyoung	Samhwa																	
Poly. Cap	Soosan	Shengyang																	
Changing nameplate and carton box label due to additional manufacturer. <table><tr><td>No.</td><td>AS IS</td><td>TO BE</td></tr><tr><td>1</td><td>Fastbon(CN)</td><td>Fastbon(CN)</td></tr><tr><td>2</td><td></td><td>Gangheng(CN)</td></tr><tr><td>3</td><td>–</td><td>HAEM VINA(VN)</td></tr></table> – Application date: May 2020~	No.	AS IS	TO BE	1	Fastbon(CN)	Fastbon(CN)	2		Gangheng(CN)	3	–	HAEM VINA(VN)	17,19,20						
No.	AS IS	TO BE																	
1	Fastbon(CN)	Fastbon(CN)																	
2		Gangheng(CN)																	
3	–	HAEM VINA(VN)																	

[illegible]

2. Electrical performance

2.1 Input Characteristics :

2.1.1	Rated input voltage	100–250 Vac
2.1.2	Operating range	90–265 Vac
2.1.3	Rated input frequency	50/60 Hz
2.1.4	Rated input current	0.5 A (Max.)
2.1.5	Power consumption (No load)	0.5 W (Max.) (Input voltage 220Vac/60Hz)
2.1.6	Primary overcurrent protection	Ceramic fuse, Time-lag type, 3.15A max
2.1.7	Surge	±4kV (60s period, 10 times)
2.1.8	Inrush Current	30A max (Input voltage 220Vac/60Hz)

2.2 Output Characteristics :

2.2.1	Nominal DC output voltage	5 V
2.2.2	Rating load current	2.0 A
2.2.3	Rating output power	10 W
2.2.4	Line regulation	The line regulation is less than $\pm 3\%$ while measuring at rated load and $\pm 10\%$ of input voltage changing.
2.2.5	Load regulation	The load regulation for output is less than $\pm 3\%$, at measured output load from 0% to 100% rated load .
2.2.6	No load voltage range	4.75–5.25 V
2.2.7	Rating Load	4.85–5.15 V
2.2.8	Ripple and noise	50 mV (p-p) Full load ripple and noise 50 mV (p-p) Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1 μ F ceramic capacitor and a 10 μ F electrolytic capacitor.(test under the Condition of rated input and rated output)
2.2.9	Average efficiency	Accord with energy level V. Average efficiency 75% minimum
2.2.10	Shell surface temperature	At 25°C ambient, 80%. Load, 50°C max.
2.2.11	Turn on delay time	500 msec At nominal input AC voltage and full load

2.2.12	Rise time	The Supply shall have a start-up rise time of less than 100 mS to rise to within regulation limits for all DC outputs.
2.2.13	Hold up time	5 mS minimum At nominal input AC voltage and full load
2.2.14	Output over-shoot	Less than 10% of nominal voltage value
2.2.15	Protection function	
	Over current protection	At rated AC input, output current in the range of 2.4–3.5 A, the power supply will protect

2.3 Dielectric Withstand Voltage (HI-POT) :

This Adapter shall be applied 3,000Vac for 60s between AC input terminal to DC output terminal and enclosure. The cutoff current is specified as 10 mA

2.4 Insulation Resistance :

DC 500V, 100 MΩ min between input to output and enclosure.

2.5 Leakage Current :

Line↔DGND & Neutral ↔ DGND, 0.25mA max.

2.6 Overload Test :

In an ambient temperature of 25°C applies a power source of rated input with the output load adjusted to 10% of rated output and rated continuously for 4 Hours after turning off for 60 minutes in normal temperature.

2.7 Humidity Test :

Temperature 40±2°C, 90~95% RH for 4 Hours after taken out from oven.

2.8 Dampproofing Test :

200mm distance, 10 sec, ±60° spray

3. Mechanical Characteristics

3.1 Strain Relief Test :

Plug and cord, at their normal position applied a weight OF 18 lbs. to input plug, 10 lbs. to output cord, for 60 seconds each, there shall be no broken of lead or other damage result.

3.2 Cord Bending Test

3.3 Drop Test :

Product shall be dropped from a height of 90cm, onto 3mm thickness tile surface 10 times from 3 different surface.

4. Environmental :

4.1 Operating Temperature and Humidity Range :

Operate over the temperature range of -5°C to 50°C , 20% to 85% relative humidity no condensation.

4.2 Storage Temperature and Humidity Range :

The operation specified herein will not be adversely affected if stored or transported within the temperature limits of -5°C to $+60^{\circ}\text{C}$ with relative humidity up to 90% no condensation.

5. Surface Structure :

5.1 Appearance : Rift, dirty etc. are not permitted.

5.2 Outline : Dimensions and express as drawing

5.3 Net Weight : 125g Max.

6. Safety & EMC :

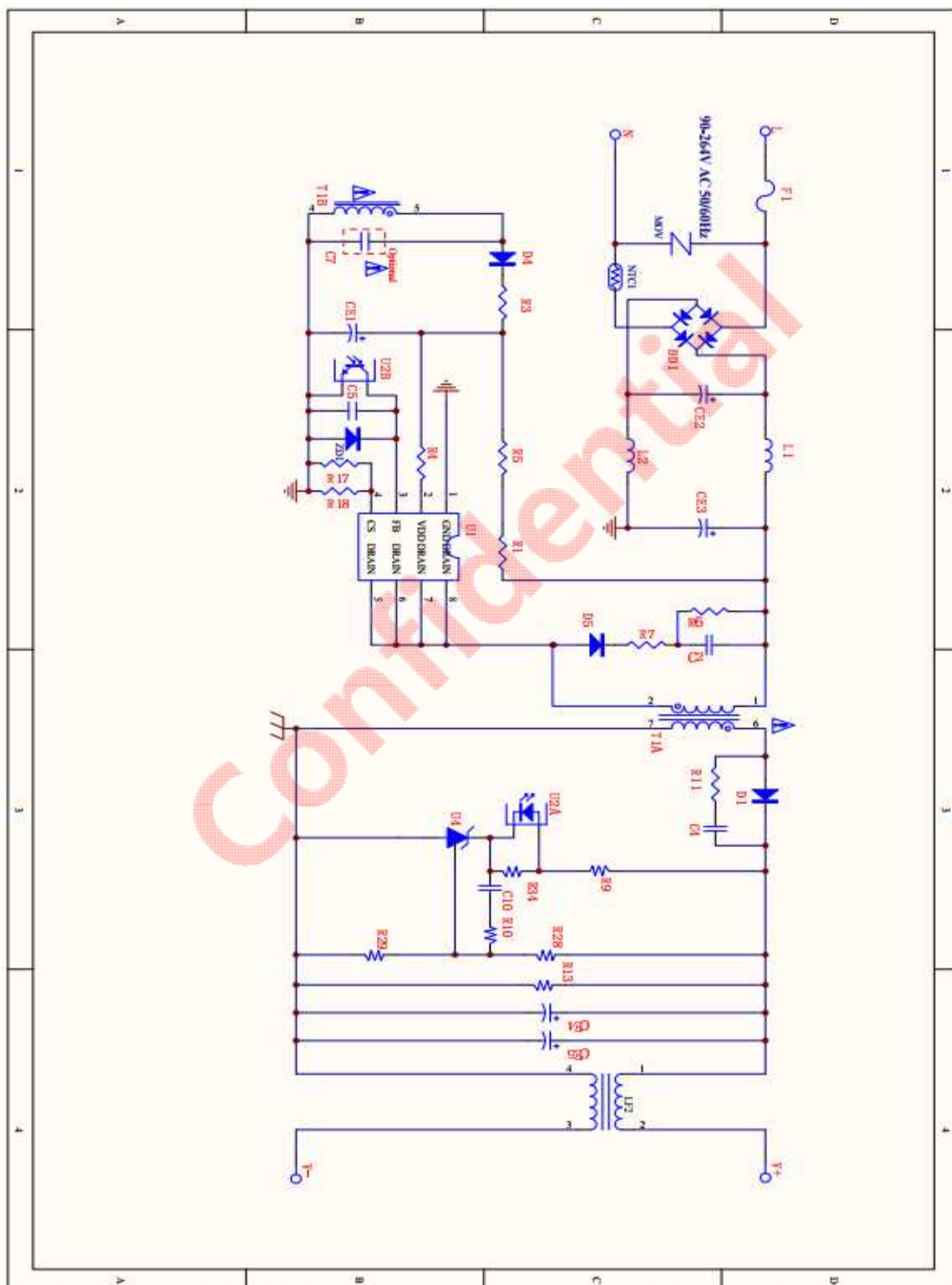
6.1 Safety Standard : K 60950-1

6.2 EMC Standard : CISPR(EN55023) Class B Limit

7. MTBF :

The design and construction of this power supply has been tested a minimum mean time between failure of 70,000 hours full rated load operation at 40°C .

8. Circuit Diagram



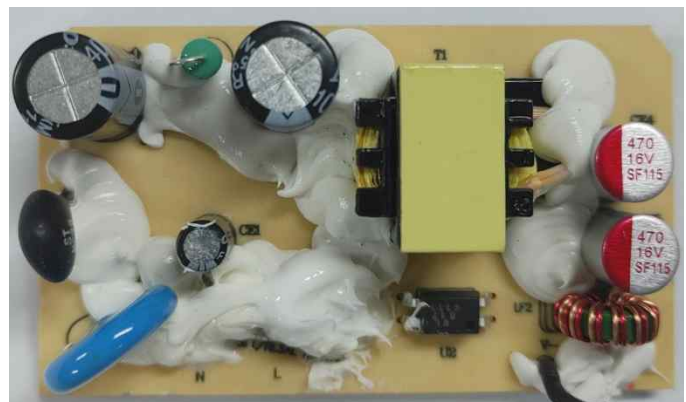
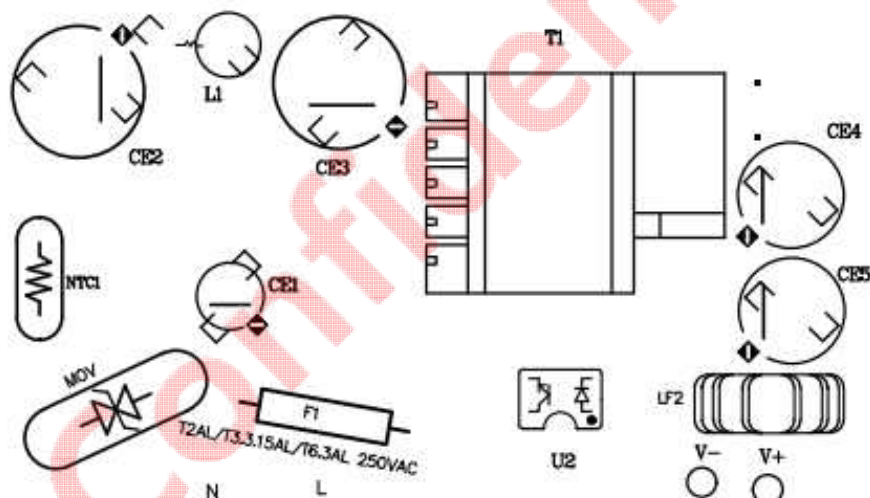
9. 부품 LIST (PL1)

NO.	Description	Specifications	Location	Q'ty
1	PCB	70*40*1.2t CEM-1 single panel, 10Z, V:1.0	STA12-A	1
2	Rectifier bridge	ABS10 or ABS210, SOP-4	DB1	1
3	Diode	1N4007, 1A/1KV, SOD-123	D5	1
4	Power diode	FR107, 1A/1KV, SOD-123	D4	1
5	Shunt regulator	TL431, Vref=2.5V, SOT-23	U2	1
6	chip resistor	3.9, 1206, 1%, SMD	R17, R18	2
7	chip resistor	330K, 1206, 5%, SMD	R6	1
8	chip resistor	51, 1206, 5%, SMD	R11	1
9	chip resistor	100, 1206, 5%, SMD	R7	1
10	chip resistor	2M, 1206, 5%, SMD	R1, R5	2
11	chip resistor	10, 0805, 5%, SMD	R3, R4	1
12	chip resistor	2M, 0805, 5%, SMD	R11	1
13	chip resistor	1K, 0805, 5%, SMD	R1, R5	2
14	chip resistor	470, 0805, 5%, SMD	R9	1
15	chip resistor	1K, 0805, 5%, SMD	R10	1
16	chip resistor	5.1K, 0805, 5%, SMD	R34	1
17	chip resistor	12K±1K, 0805, 1%, SMD	R28	1

9. 부품 LIST (PL2)

NO.	Description	Specifications	Location	Q'ty
18	chip resistor	11K±1K, 0805 1%, SMD	R29	1
19	Ceramic capacitor	100nF, 50V, 10%, 0805,SMD, X7R	C10	1
20	Ceramic capacitor	2.2nF±1.2nF, 50V, 10%, 0805,SMD, X7R	C4, C5	1
21	Ceramic capacitor	1nF, 50V, 10%, 0805, SMD, X7R	C5	1
22	Ceramic capacitor	2.2nF±1.2nF, 1KV, 10%, 1206, SMD, X7R	C2	1
23	Electrolytic capacitor	4.7uF/50V, 5*11, 10000H, 2.5MM	CE1	2
24	Electrolytic capacitor	10uF/400V, 10*16, 10000H, 5MM	CE2, CE3	2
25	Solid polymer capacitor	16V/470uF, 8*11.5, 5000H, 5MM	CE4, CE5	2
26	Inductor	0.47mH, 0510, 10%, 5MM	L1	1
27	Inductor(SMD)	4.7uH 3216 10%	L2	1
28	Common Mode Inductor	T9*5*3C 0.60mm*8.5Ts 220uH Min	LF1	1
29	NTC thermistor	10D-9, 10Ω±20%, 1.9A,125℃	RT1	1
30	PWM IC	SF6645HF, 67KHZ, VDS 650V SOP8	U1	1
31	Schottky diode	DK5V45R20S, 30A/45V, LOW VF SM7	D1	1
32	Photol coupler	EL817B, CTR: 130-260%, DIP4	U3	1
33	Varistor	14D561K, 125℃	MOV1	1
34	Fuse	3.15A/250V, 3.6*10mm, slow-breaking ceramic fuse	F1	1
35	Transformer	EE16, Extended 5+2 Vertical	T1	1

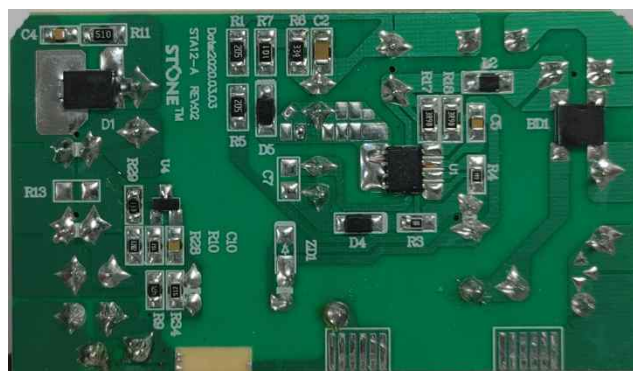
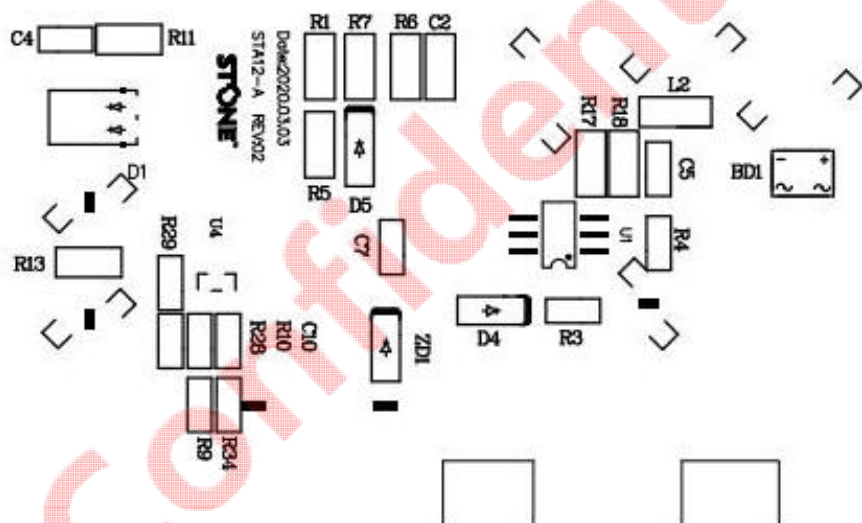
10. PCB Drawing (1)



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Doc	TYPE2542 GERBER (1)
Rev	00
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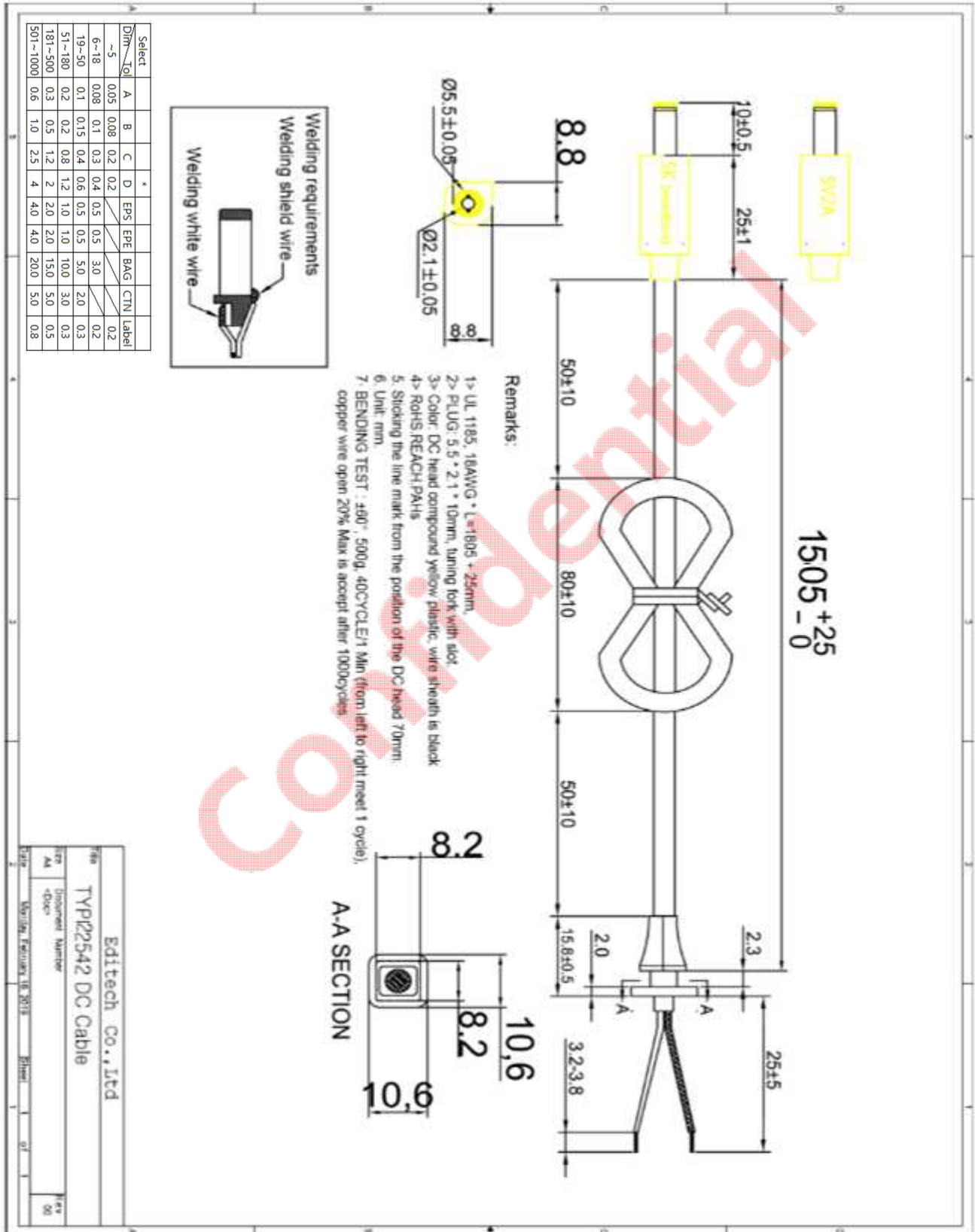
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Date	Monday, February 18, 2019
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Rev	00

10. PCB Drawing (3)

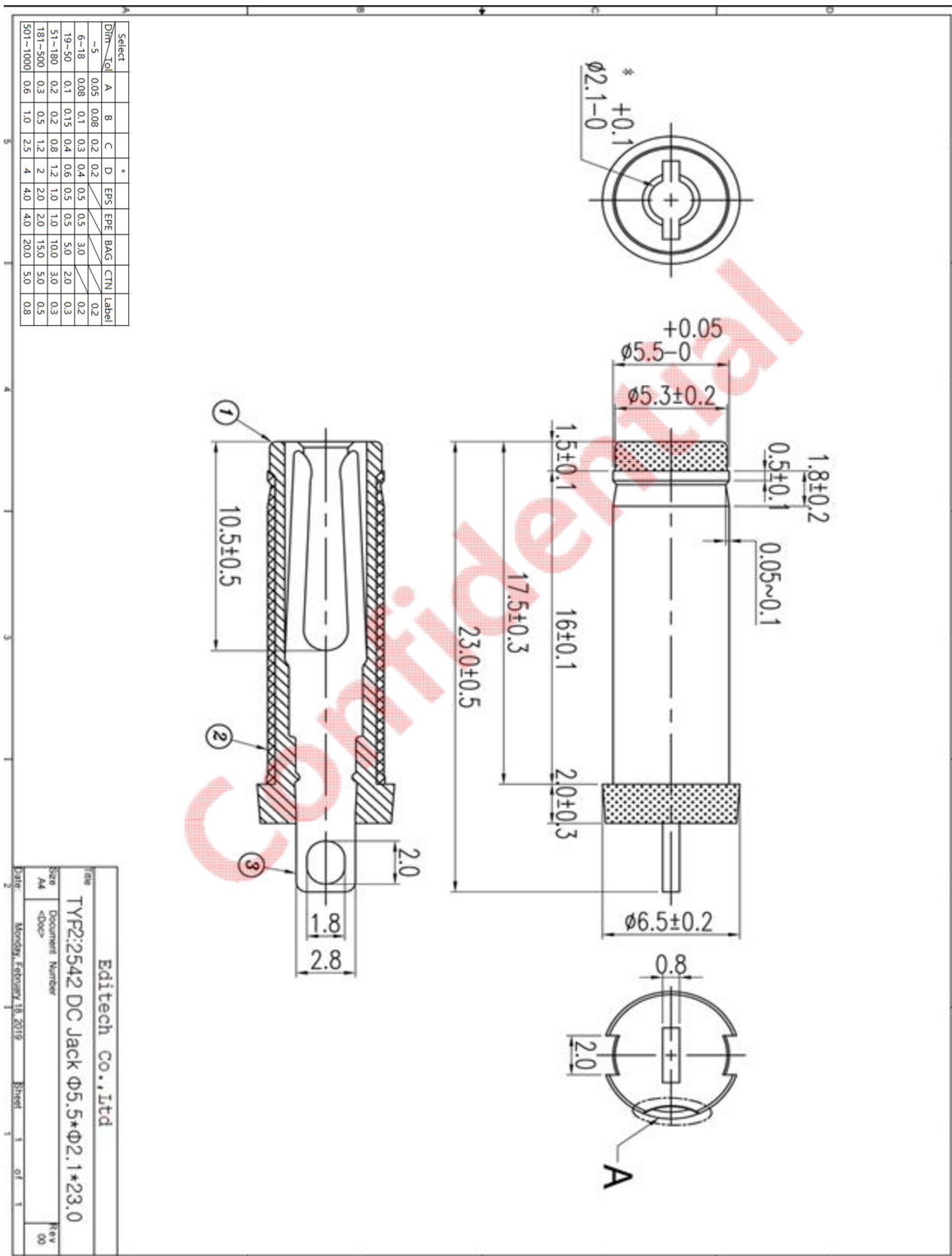


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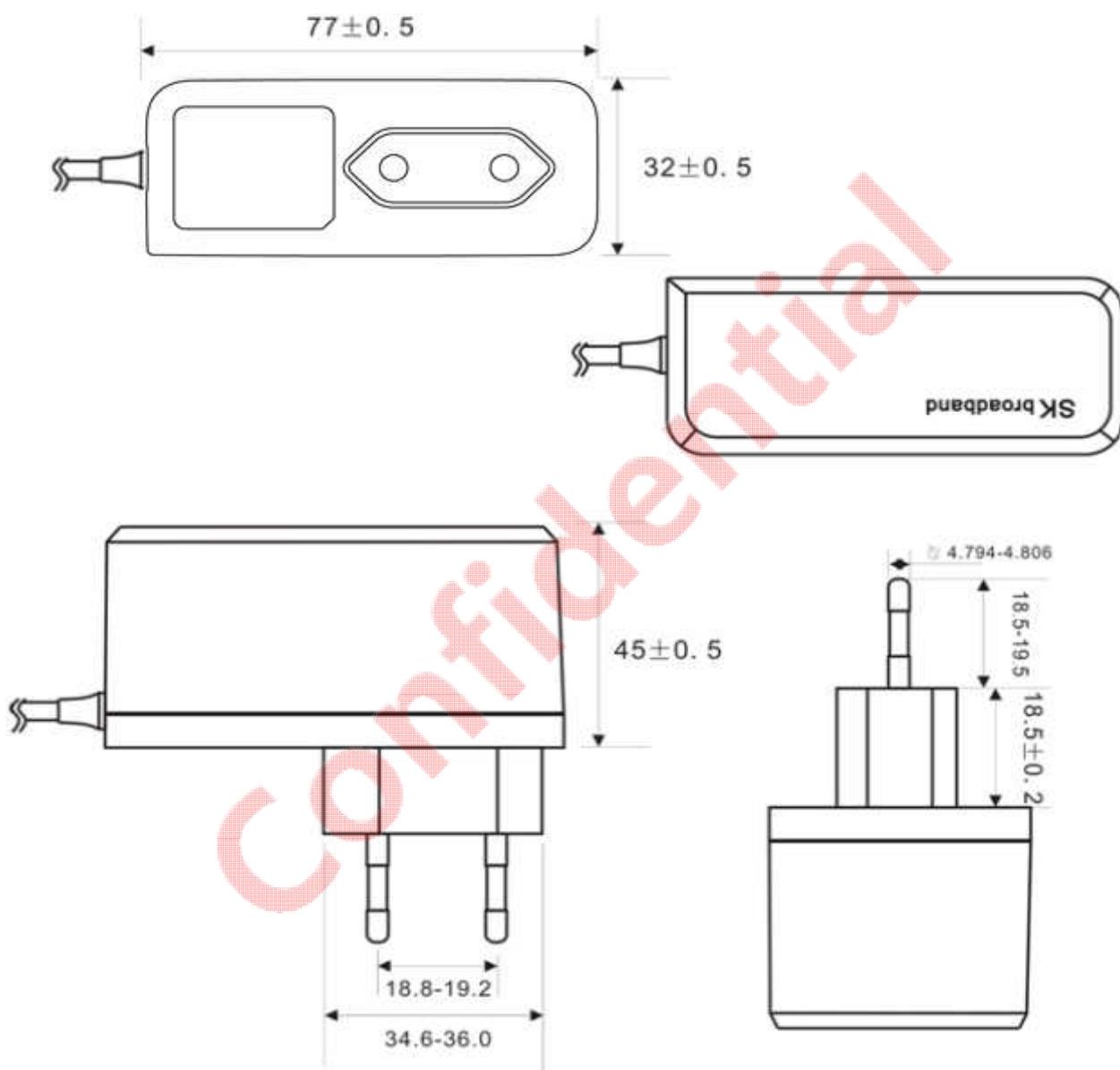
11. DC Cable



12. DC Jack



13. Appearance Drawing (Unit:mm)



SIZE:L77*W32*H45mm

Select				*					
Dim	Tol	A	B	C	D	EPS	EPE	BAG	CTN
~5	0.05	0.08	0.2	0.2	0.5	0.5	3.0	2.0	0.2
6~18	0.08	0.1	0.3	0.4	0.5	0.5	3.0	2.0	0.2
19~50	0.1	0.15	0.4	0.6	0.5	0.5	5.0	2.0	0.3
51~100	0.2	0.2	0.8	1.2	1.0	1.0	10.0	3.0	0.3
101~500	0.3	0.5	1.2	2	2.0	2.0	15.0	5.0	0.5
501~1000	0.6	1.0	2.5	4	4.0	4.0	20.0	5.0	0.8

14. Name Plate (Unit:mm)



Select				*					
Dim	Tol	A	B	C	D	EPS	EPE	BAG	CTN
~5		0.05	0.08	0.2	0.2				0.2
6~18		0.08	0.1	0.3	0.4	0.5	0.5	3.0	0.2
19~50		0.1	0.15	0.4	0.6	0.5	0.5	5.0	0.3
51~180		0.2	0.2	0.8	1.2	1.0	1.0	10.0	0.3
181~500		0.3	0.5	1.2	2	2.0	2.0	15.0	0.5
501~1000		0.6	1.0	2.5	4	4.0	4.0	20.0	0.8

15. Packing Dimensions (1) AIR BAG (Unit:mm)

Select				*					
Dim	Tol	A	B	C	D	EPS	EPE	BAG	CTN
~5	0.05	0.08	0.2	0.2	0.5	0.5	3.0	2.0	0.2
6~18	0.08	0.1	0.3	0.4	0.5	0.5	5.0	3.0	0.3
19~50	0.1	0.15	0.4	0.6	0.5	1.0	10.0	5.0	0.5
51~180	0.2	0.2	0.8	1.2	1.0	2.0	15.0	5.0	0.8
181~500	0.3	0.5	1.2	2	2.0	2.0	20.0	5.0	0.8
501~1000	0.6	1.0	2.5	4	4.0	4.0	20.0	5.0	0.8



AIR BAG SIZE : 180x130

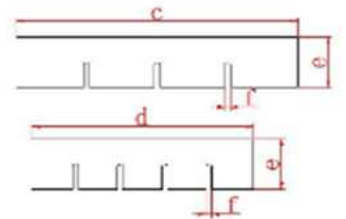
AIR BAG No. : 1DEIA501-01

TOLERANCE : ± 3



DIMENSION : K4K 6 PCS

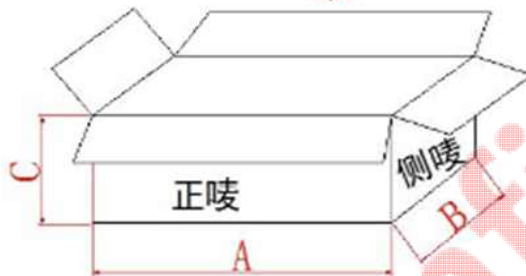
L x W x H : 455 x 365 x 3



FLAT:B=B 35 PCS HNIVES CARDBOARD:

1.THREE CARD : LxWxH(455x65x5) 20 PCS

2. FOUR CARD : LxWxH(365x65x5) 15 PCS



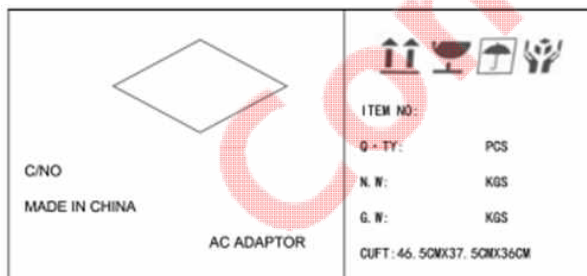
OUT CARTON DIMENSION :

L x W x H : 470 x 240 x 470

TOLERANCE : ± 5

1 OUT CARTON

=100 PCS



	A	B	C	a	b
mm	470	240	470	455	365
	c	d	e	f	
mm	455	365	65	5	

NOTE : A box of 100 pcs a total of 5 layers of 20 pcs.

- 1) Clapboard material: K4K, knife material: B=B
- 2) Outer Carton Material : A=B
- 3) Anti static: No requirement.
- 4) Environmental protection requirement: 94/62/EC.
- 5) We will select cardboard packing if customer don't specify packing type.
- 6) The sample package for temporary packaging, the big goods packaging as shown above packaging.

16. Appendix(1) : Name Plate

No.	AS IS	TO BE
1	 OR 	
2	 OR 	
3	 OR 	

16. Appendix(2) : Carton Box Label

No.	AS IS	TO BE
1	Order No	000000-O
	Model	TYPE2541
	Manufacture	Fastbon Electronics
	FXN P/N	000.00000.00000
	Quantity / box	100PCS
	Manufacture Date	0000-00-00
	Remark	5V2A
2	Order No	000000-O
	Model	TYPE2541
	Manufacture	Gangheng Electronics
	FXN P/N	000.00000.00000
	Quantity / box	100PCS
	Manufacture Date	0000-00-00
	Remark	5V2A
3	Order No	000000-O
	Model	TYPE2541
	Manufacture	HAEM VINA
	FXN P/N	000.00000.00000
	Quantity / box	100PCS
	Manufacture Date	0000-00-00
	Remark	5V2A