

SPECIFICATION FOR APPROVAL

CUSTOMER APPROVAL

CONTENT :

SIGNATURE :

DATE :

CUSTOMER : _____

PART NO. : _____ REV : _____ 1.6A

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

Approved	Checked	Prepared	QA	Sales

Model No. : TYPE2541

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

Revision Date	Revision History	Revision	Page															
2019.02.26	First release	1.0A	–															
2019.05.10	To add PL, CKD	1.1A	7,8,9															
2019.07.03	Packing drawing change	1.2A	17															
2019.07.05	Delete the Package Drawing Page 18	1.3A	18															
2019.07.31	Add General tolerance table	1.4A	13~17															
2019.09.03	Changing cable length dimensions and drawings	1.5A	13															
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	8,9
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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	9								
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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)	16,18,19					
No.	AS IS	TO BE																
1	Fastbon(CN)	Fastbon(CN)																
2		Gangheng(CN)																
3	–	HAEM VINA(VN)																

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 :

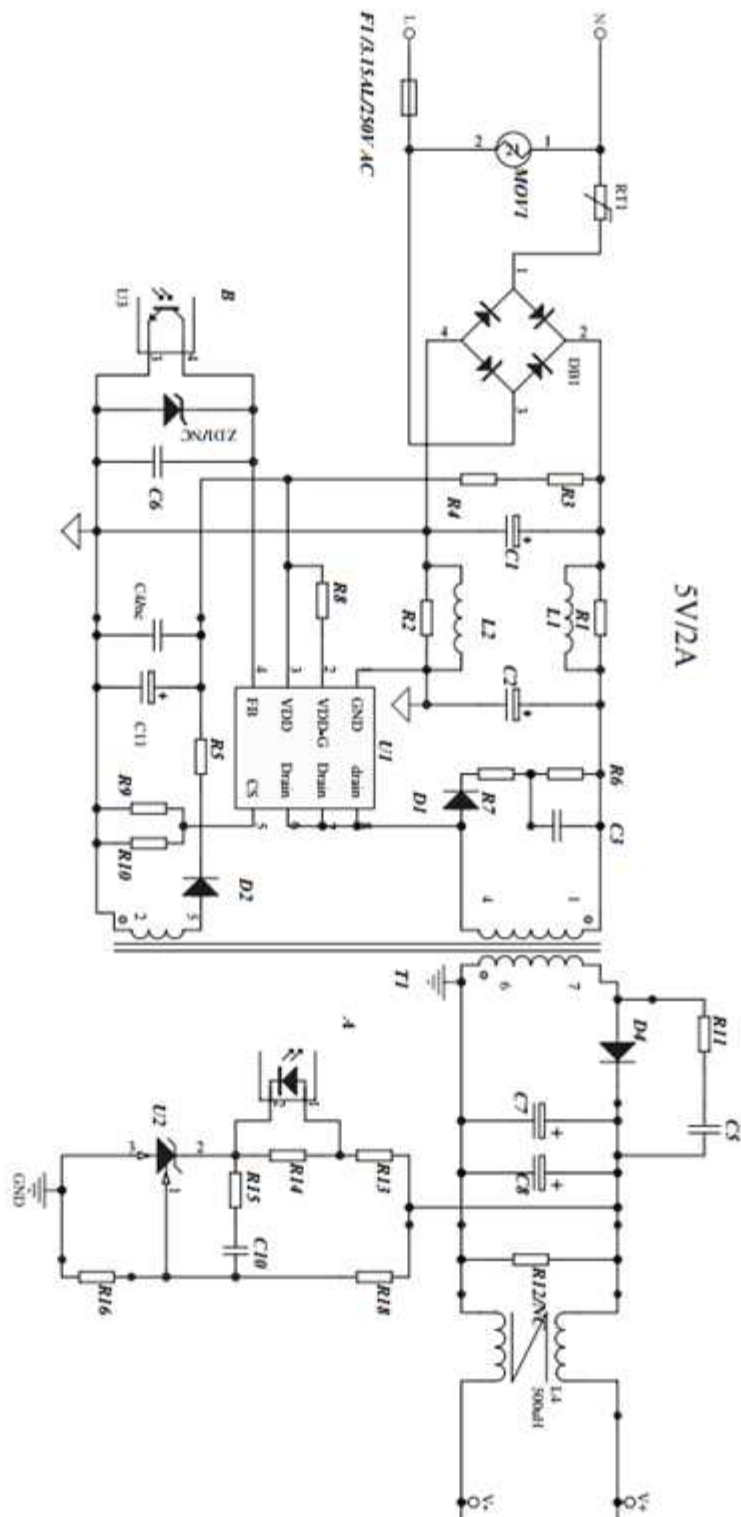
6.1 Safety Standard : K 60950-1

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 55,000 hours full rated load operation at 40°C .

8. Circuit Diagram



Editech Co., Ltd	
TYPE25A1 (5V/2A)	
Document Number	
Rev	20
DATE	2013
DESIGN	1
TEST	1

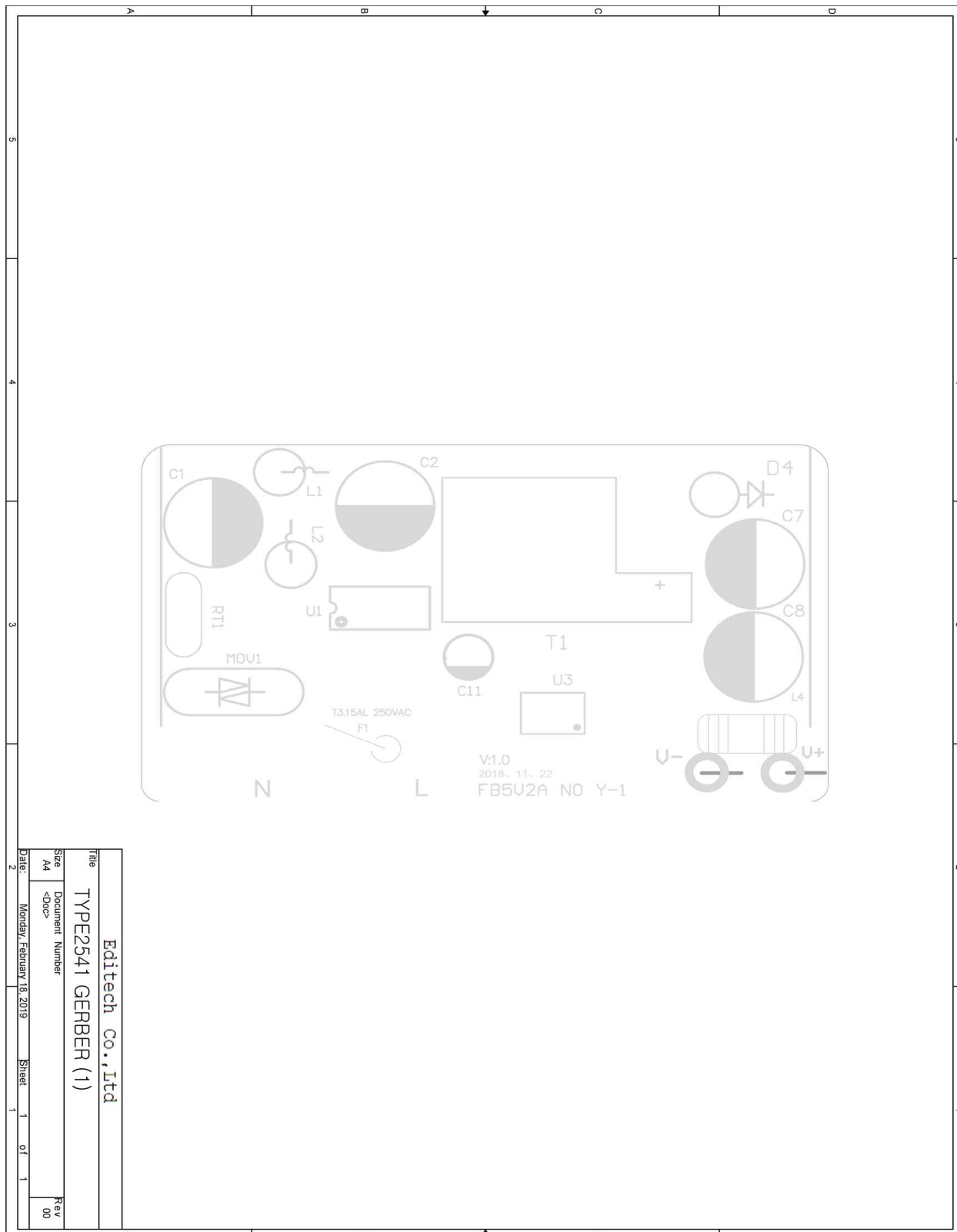
9. 부품 LIST (PL1)

Process	Description	Specifications	Location	Q'ty
-	PCB board	70*40*1.2MM CEM-1 single panel, green and white characters, 1OZ, V:1.0	FB5V2AN0Y-1	1
SMT	Rectifier bridge	MB10F 1A/1000V SOP-4	DB1	1
SMT	diode	1N40071A/1KV SOD-123	D1	1
SMT	Fast diode	FR107 1A/1KV SOD-123	D2	1
SMT	Triode	TL431 Vref=2.5V 0.4%SOT-23	U2	1
SMT	chip resistor	2M, 1206, 5%, SMD, disk mounting	R3, R4	2
SMT	chip resistor	200K, 1206, 5%, SMD, disk mounting	R6	1
SMT	chip resistor	3.6R, 1206, 1%, SMD, disk mounting	R9, R10	1
SMT	chip resistor	2R, 0805, 5%, SMD, disk mounting	R5	1
SMT	chip resistor	100R, 1206, 5%, SMD, disk mounting	R7	1
SMT	chip resistor	100R, 0805, 5%, SMD, disk mounting	R13	1
SMT	chip resistor	33R, 0805, 5%, SMD, packing	R11	1
SMT	chip resistor	1K, 0805, 5%, SMD, disk mounting	R8, R15	2
SMT	chip resistor	1.5K, 0603, 5%, SMD, disk mounting	R14	1
SMT	chip resistor	4.7K, 0805, 5%, SMD, disk mounting	R1, R2	2
SMT	chip resistor	12K, 0603, 1%, SMD, disk mounting	R18	1
SMT	chip resistor	11K, 0603, 1%, SMD, disk mounting	R16	1
SMT	chip resistor	NC or 20pF, 50V, 10%, 0805, SMD, X7R, disk mounting	R12	1
SMT	Stacking capacitance	4.7nF, 50V, 10%, 0805, SMD, X7R, disk mounting	C6	1
SMT	Stacking capacitance	100nF, 50V, 10%, 0805, SMD, X7R, disk mounting	C10	1

9. 부품 LIST (PL2)

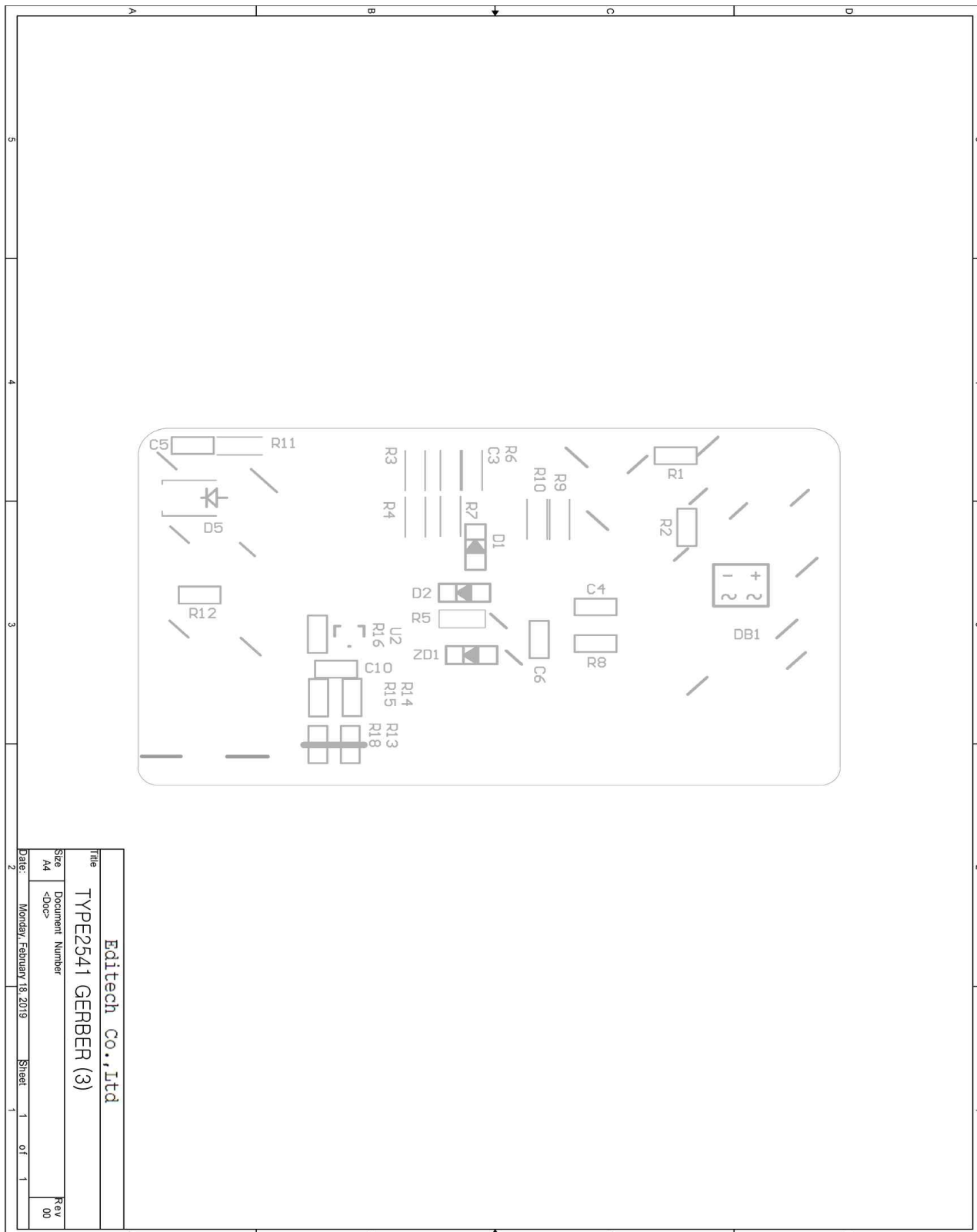
Process	Description	Specifications	Location	Q'ty
SMT	Stacking capacitance	2.2nF±1.2nF, 50V, 10%, 0805, SMD, X7R, disk mounting	C5	1
SMT	Stacking capacitance	1nF, 1KV, 10%, 1206, SMD, X7R, disk mounting	C3	1
AI	Electrolytic capacitor	4.7uF/50V, 20%, 5*11 NXH or NLC series, foot-length 2.5MM	C11	1
		4.7uF/50V, 20%, 5*11 ML series, foot-length 2.5MM		
AI	Electrolytic capacitor	10uF/400V 10*16 NFA Series, Footpad 5MM Tape	C1, C2	2
		10uF/400V 10*16 BL Series, Footpad 5MM Tape		
AI	Electrolytic capacitor	1000uF/16V 10*16 NXH Series, Foot Distance 5MM	C8	1
		1000uF/16V 10*16 ML Series, Foot Distance 5MM		
AI	Solid state capacitance	1000uF/10V RHV 10*11.5 Series, 5MM Tape	C7	1
		1000uF/10V SF 10*11.5 Series, 5MM Tape		
AI	Coloring inductor	1MH 0510 dozen K feet, braid, 5MM foot distance	L1, L2	2
AI	Thermistor	10D-9 10 +20% 1.9A black sleeve, black sleeve, K-foot at 125 C, 5MM ribbon at foot pitch	RT1	1
DIP	Power chip (IC)	LY9526, 67KHZ, VDS 650V RDS 4.4_DIP8	U1	1
DIP	Schottky diode	SB1045L (SR1045L) 10A/45V LOW VF DO-201AD	D4	1
DIP	Optical coupler	EL817B CTR: 130-260% DIP4	U3	1
DIP	High energy varistor	14E561K (14D561K NDF) black sleeve 125 C, D = 14mm foot length 4MM	MOV1	1
DIP	Fuse	Silk printing 3.15A 250V is actually 5A/250V 3.6*10MM slow-breaking circular ceramic fuse sleeve black sleeve 125 C	F1	1
DIP	Transformer	EI17 Extended 5+1+2 Vertical Primary 83TS, Secondary 6TS, VCC:18TS	T1	1
DIP	Toroidal inductor	Plug-in ring inductor/T9x5x3 L>500uH_0.55MM C=3.2+0.3MM	L4	1

10. PCB Drawing (1)



Editech co.,Ltd			
Title			
TYPE2541 GERBER (2)			
Size	Document	Number	Rev
A4	<Doc>		00
Date	Monday, February 18, 2019	Sheet	1 of 1
2			

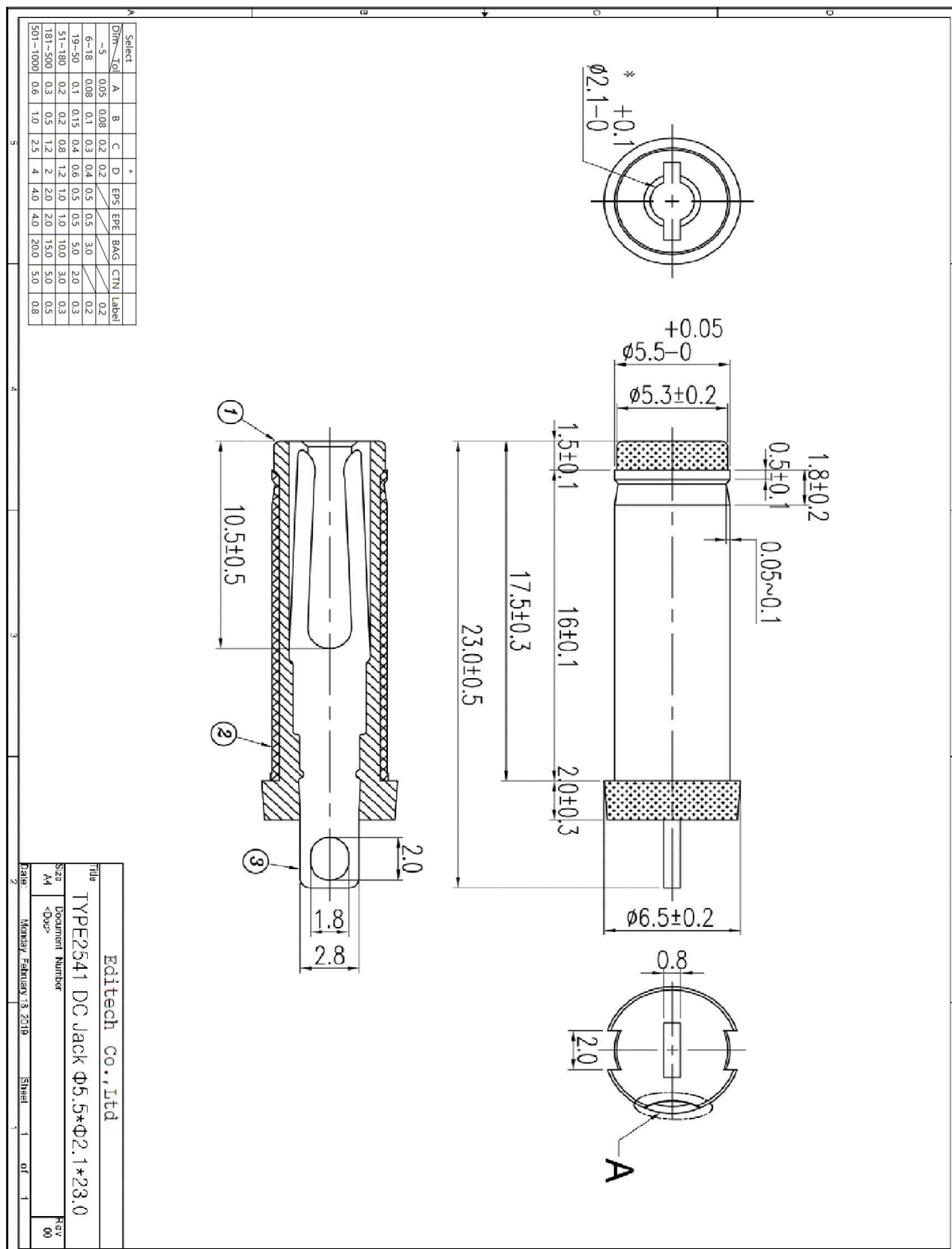
10. PCB Drawing (3)



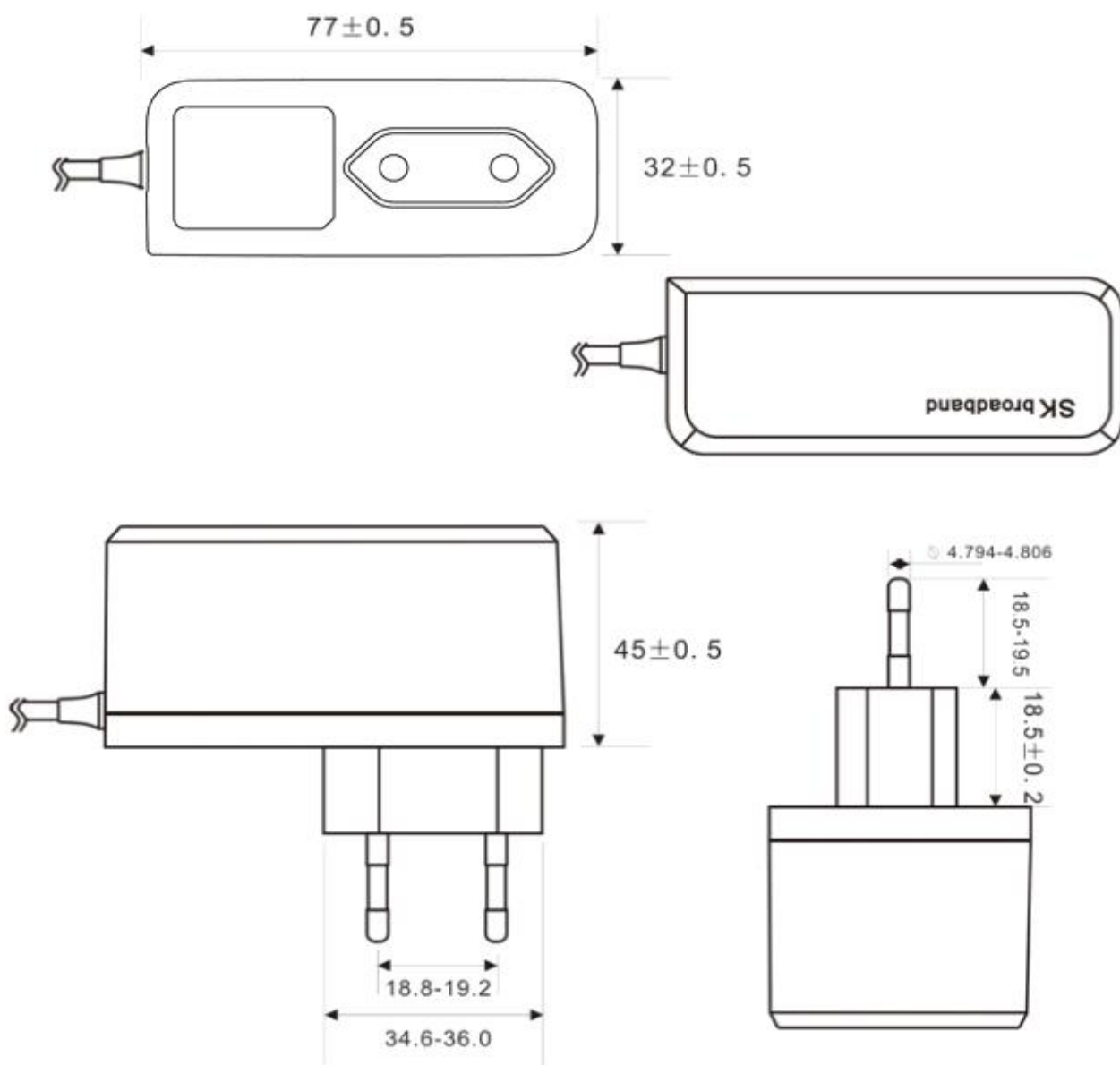
Editech Co.,Ltd	
TYPE2541 GERBER (3)	
Size	Document Number
A4	<Doc>
Date:	Monday, February 18, 2019
Sheet	1 of 1
Rev	00

Edittech Co., Ltd	
Item	TYPE2541 DC Cable
Size	Document Number
Ad	<Doc>
Rate	Monthly Fee/Jan. 10, 2015
	Printed 1 of 1
	REV 00

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
51~180	0.2	0.2	0.8	1.2	1.0	1.0	10.0	3.0	0.3
181~500	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					0.2
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	2.0	0.3
51~180	0.2	0.2	0.8	1.2	1.0	1.0	10.0	3.0	0.3
181~500	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



AIR BAG SIZE : 180x130

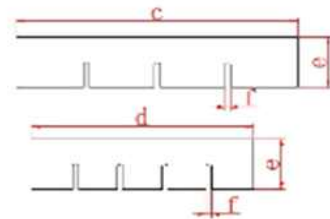
AIR BAG No. : 1DEIA501-01

TOLERANCE : ± 3



DIMENSION : K4K 6 PCS

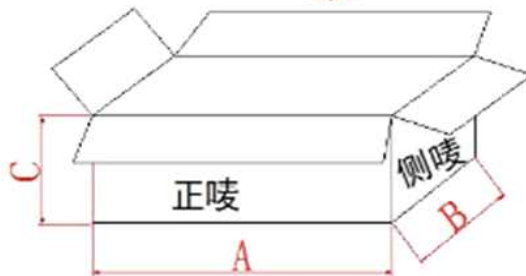
L x W x H : 455 x 365 x 3



FLAT:B=B 35 PCS HNIVES CARDBOARD:

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

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



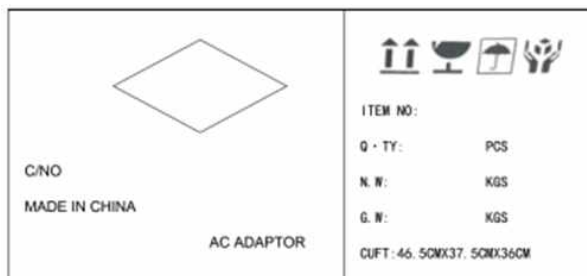
OUT CARTON DIMENSION :

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	<table><tr><td colspan="2">洪邦物料标识卡</td></tr><tr><td>Order</td><td>191122-A</td></tr><tr><td>Item Code</td><td>HU10965-19007B</td></tr><tr><td>Manuf.Name</td><td>Fastbon Electronics</td></tr><tr><td>Mfg Partno</td><td>TYPE2541</td></tr><tr><td>FXN P/N</td><td>381.00607.005LT</td></tr><tr><td>Quantity / box</td><td>100PCS</td></tr><tr><td>Date Code</td><td>2020-2-28</td></tr><tr><td>Remark</td><td>5V2A</td></tr></table>	洪邦物料标识卡		Order	191122-A	Item Code	HU10965-19007B	Manuf.Name	Fastbon Electronics	Mfg Partno	TYPE2541	FXN P/N	381.00607.005LT	Quantity / box	100PCS	Date Code	2020-2-28	Remark	5V2A	<table><tr><td>Order No</td><td>200420-A</td></tr><tr><td>Model</td><td>TYPE2541</td></tr><tr><td>Manufacture</td><td>Fastbon Electronics</td></tr><tr><td>FXN P/N</td><td>381.00607.005LT</td></tr><tr><td>Quantity / box</td><td>100PCS</td></tr><tr><td>Manufacture Date</td><td>2020-5-28</td></tr><tr><td>Remark</td><td>5V2A</td></tr></table>	Order No	200420-A	Model	TYPE2541	Manufacture	Fastbon Electronics	FXN P/N	381.00607.005LT	Quantity / box	100PCS	Manufacture Date	2020-5-28	Remark	5V2A
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