

A3U-1200120HE

14W / 12V /1.2A

PH03020

## 4. Environmental

## 4.1 Operation temperature

Minimum		Maximum	Unit
0	~	40	°C

## 4.2 Operation humidity

Minimum		Maximum	Unit
10	~	90	%RH

## 4.3 Storage temperature

Minimum		Maximum	Unit
-20	~	70	°C

## 4.4 Storage humidity

Minimum		Maximum	Unit
10	~	90	%RH

## 5. Safety &amp; EMC requirement

## 5.1 Leakage Current

0.25mA maximum, at nominal AC input voltage and frequency.

## 5.2 Dielectric strength (Primary (LN) to Secondary)

3000VAC 5mA 1 minute; 3600VAC 5mA 2 second for mass product.

## 5.3 Insulation resistance

put to output : 10Mohm MIN. at 500VDC

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## 5.4 Radio Frequency Electromagnetic Field Immunity

EN 61000-4-3

Range : 80MHz-1000MHz  
Field Strength : 3V/m  
Distance Antenna-EUT : 3m  
Polarity of Antenna : Horizontal and Vertical  
Performance: Criteria A

## 5.5 Injected Currents Immunity

EN 61000-4-6

Range: 0.15MHz-80MHz  
Voltage Level: 3V  
Step:  $\leq 0.015$  decades / sec  
Performance: Criteria A

## 5.6 Lightning surge

EN 61000-4-5

1.2/50 usec Open Circuit voltage  
8/20 usec Short Circuit current  
Differential mode :  $\pm 1$  KV  
Common mode :  $\pm 1$  KV  
Performance : Criteria B.

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## 5.7 Electrolytic discharge (ESD)

EN 61000-4-2

Air Discharge:  $\pm 8\text{kV}$   
Contact Discharge:  $\pm 4\text{kV}$   
Discharge Impedance :  $330\Omega / 150\text{pF}$   
Polarity: Positive and Negative  
Performance: Criteria B

## 5.8 Electric fast transient (EFT)

EN 61000-4-4

techniques - Electrical fast transient/burst  
immunity test Pulse Amplitude-AC Power Port:  $1.0\text{KV}$   
Burst Frequency:  $100\text{kHz}$   
Polarity of Antenna : Positive and Negative  
Performance: Criteria B

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## 6. Reliability requirement

## 6.1 MTBF calculation

Reliability level of 50K hours MTBF @ 25° C  
(rated input voltage, and using the BELLCORE SR-332 method ).

## 6.2 E-Cap Life Time

E-cap Life Time > 1 years ( 8760 Hrs)  
Ambient Temperature : 40 ° C  
Load condition : 80% of Full Load

## 6.3 Drop Test

From 1000mm onto concrete, 6 times (1/face), No surface crack,  
function are normal, can be passed dielectric strength and  
insulation resistance test.

## 6.4 Random vibration test (non-operating)

5Hz-50Hz, 30m/s<sup>2</sup>, 3 axes x 2 hours  
Normal performance after test condition is removed.

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## 7. Mechanical

## 7.1 Physical size

68.5(L) \* 42.5 (W) \* 27.5 (H) mm

## 7.2 AC Input Plug

EU- AC PIN

## 7.3 DC Output plug &amp; Wire

WIRE : 24 AWG / 2C, 2468 ,1500mm

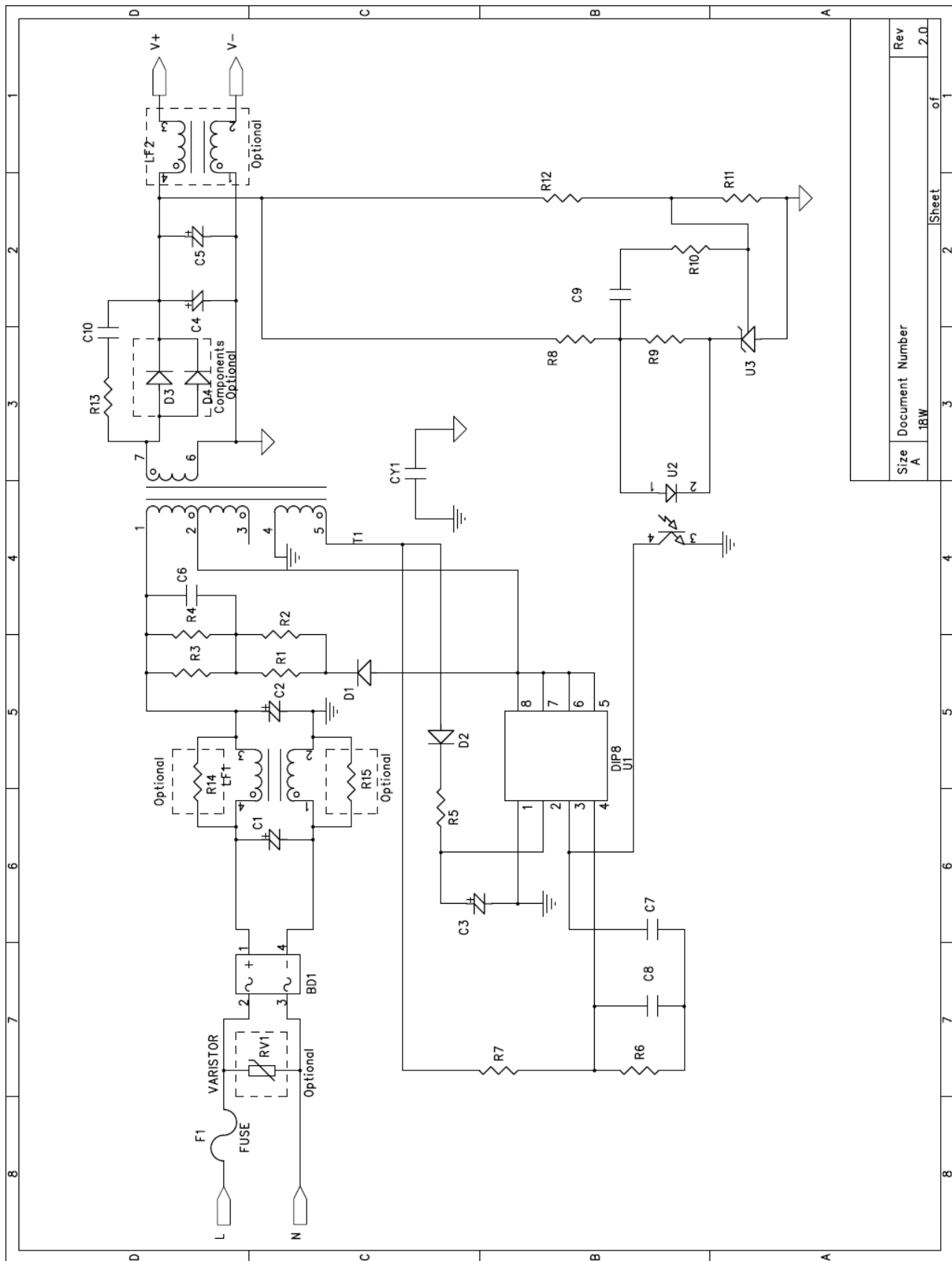
PLUG : 5.5\*2.1\*10.0 mm (FORK AND GROOVE)

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#### 7.4 Circuit schematic drawing

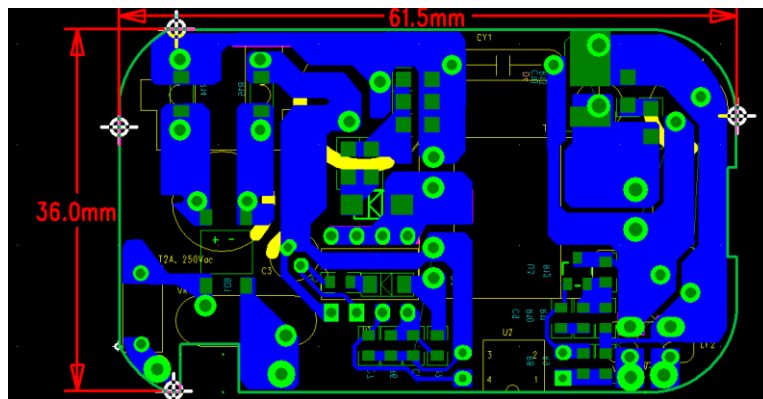
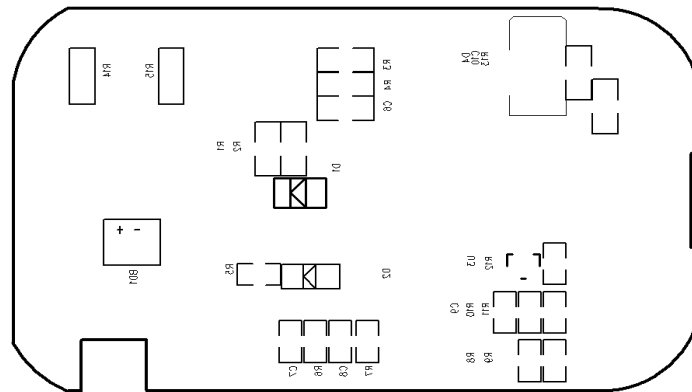
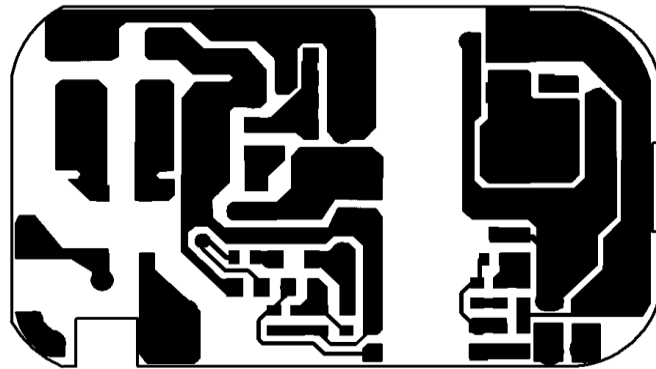
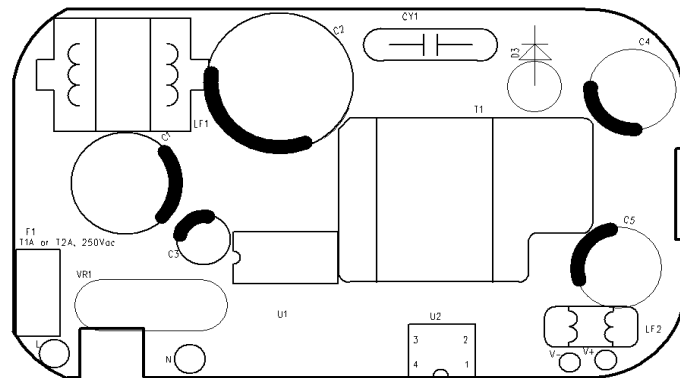


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7.5 PCB VIEW



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## 7.6 BOM

17316		Mode specification : A3U-12DC 1.2A	A3U-1200120HE		
Food items		specification	unit	Dosage	location
1	PCB	CAM-1 1 oZ, 36*61.5*1.6 (mm)	PCS	1	
	SMD		PCS	21	
1	Chip resistors	1206, 200 $\Omega$ $\pm$ 5%	PCS	2	R1,R2
2	Chip resistors	1206, 470K $\Omega$ $\pm$ 5%	PCS	1	R3,R4
3	Chip resistors	1206, 10 $\Omega$ $\pm$ 5%	PCS	1	R13
4	Chip resistors	0805, 0 $\Omega$ $\pm$ 5%	PCS	1	R5
5	Chip resistors	0805, 91K $\Omega$ $\pm$ 1%	PCS	1	R7
6	Chip resistors	0805, 18K $\pm$ 5%	PCS	1	R6
7	Chip resistors	0805, 39K $\Omega$ $\pm$ 1%	PCS	1	R11
8	Chip resistors	0805, 10K $\Omega$ $\pm$ 1%	PCS	1	R12
9	Chip resistors	0805, 1K $\Omega$ $\pm$ 5%	PCS	1	R10
10	Chip resistors	0805, 2.2K $\Omega$ $\pm$ 5%	PCS	1	R9
11	Chip resistors	0805, 5.6K $\Omega$ $\pm$ 5%	PCS	1	R8
13	Chip capacitors	1206, 470pF/200V $\pm$ 10% X7R	PCS	1	C10
14	Chip capacitors	1206, 1000pF/1KV $\pm$ 10% X7R	PCS	1	C6
15	Chip capacitors	0805, 1NF/50V $\pm$ 10% X7R (103/50V)	PCS	1	C7
16	Chip capacitors	0805, 10PF/50V $\pm$ 10% X7R (100/50V)	PCS	1	C8
17	Chip capacitors	0805, 0.1UF/50V $\pm$ 10% X7R (104/50V)	PCS	1	C9
18	Patch diode	BRIDGE RECTIFIER DIODE 2A 1000V SOP4 RoHS (ABS210)	PCS	1	BD1
19	Patch diode	M7 DIODE, 1A/ 1000V	PCS	1	D1
20	Patch diode	RS1M Fast DIODE, 1A/ 1000V SOD123	PCS	1	D2
21	IC	SMD IC( LA4310CRPA) 431 $\pm$ 1% SOT-023	PCS	1	U3
	DIP		PCS	21	
1	PWM IC	DIP PWMIC PN8160 ,VER:M DIP-8,RoHS	PCS	1	U1
2	Optocoupler	DIP IC LTV-817-B)	PCS	1	U2
3	Schottky	SCHOTTKY DIODE 10A100V (DO-201AD)	PCS	1	D3
4	EC capacitors	10uF/ 400V 105°C, 2KHr, 10 $\Phi$ *15 (CD81)	PCS	1	C1
5	EC capacitors	15uF/ 400V 105°C, 2KHr, 10 $\Phi$ *17 (CD81)	PCS	2	C2
6	EC capacitors	4.7uF/ 50V 105°C, 2KHr, 5 $\Phi$ *11mm	PCS	1	C3
7	EC capacitors	470uF/ 16V 105°C, 3KHr, 8 $\Phi$ *16mm	PCS	2	C4,C5
8	High frequency transformer	EE16 A3U012 1750~1850uH,	PCS	1	T1
9	Common Choke	COMMON INDUCTOR UU9.8 25mH min (0.25 $\Phi$ )	PCS	1	LF1
10	Color ring inductance	Choke T9*5*3 0.6 $\Phi$ 7Ts	PCS	1	LF2
11	Fuse	FUSE, T2.0AL 250V, 3.6*10mm, RoHS	PCS	1	F1
12	Thermal casing	Thermal casing,4 $\Phi$ *35mm tube	PCS	1	F1
13	Y Capacitors	Y1 1500PF 400VAC Y5V P=10mm L=3.5mm	PCS	1	CY1
14	WIRE	AC WIRE BROWN 22AWG 5*25*5mm	PCS	1	L
15	WIRE	AC WIRE BLUE 22AWG 5*30*5mm	PCS	1	N
16	Mylar	Mylar, 32.5*20*0.25mm	PCS	1	PCB Isolation
17	DC Cable	UL 2468 24AWG 1.5M ROUD WIRE DC PLUG 5.5*2.1*10mm	PCS	1	DC WIRE
18	Enclosure	18W BLACK TOP COVER (DX-41 VDE)	PCS	1	CASE
19	Plug holder	18W BLACK BOTTOM COVER (DX-41 VDE)	PCS	1	CASE



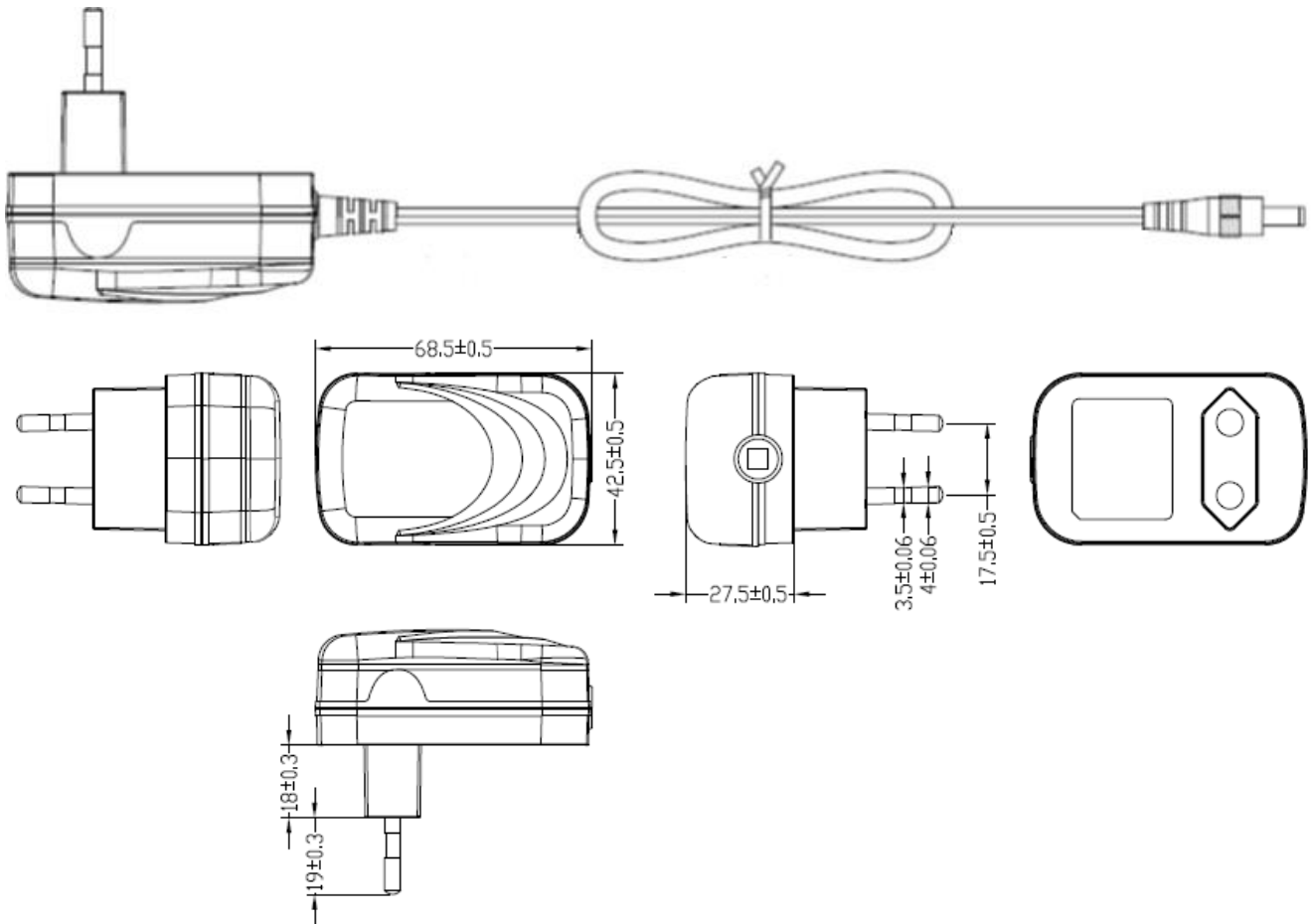
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# 8. Outline Drawing

Unit : mm



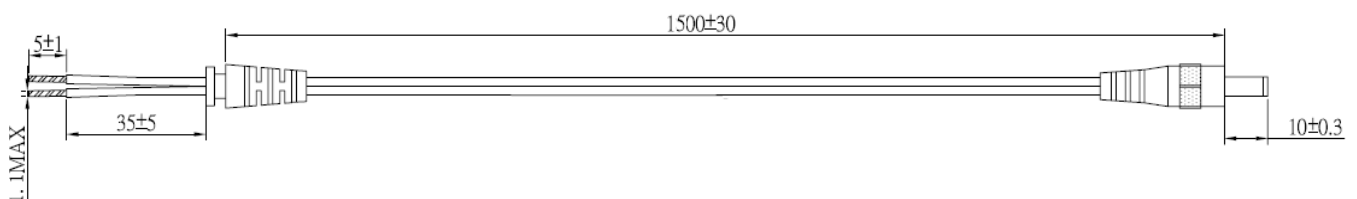
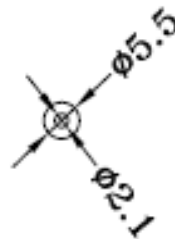
## Note :

### (1) Wire Type :

VW-1 80°C 300V L=1500mm  
2468 24AWG 2C BLACK+WHITE  
BLACK and WHITE - Positive  
BLACK- Negative

### (2) The Polarity :

### (3) REACH ROHS



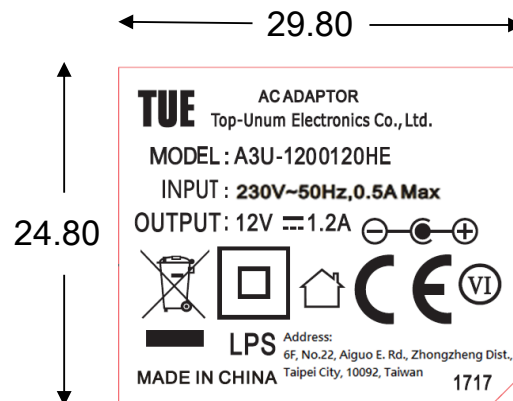
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### 9. Label drawing

Unit : mm



### 10. Carton drawing

