

CUSTOMER : L1111

DATE : Apr.07.2016

APPROVAL SHEET

ITEM :DC Voltage Stabilized Supply

MODEL No. : ADS-110DL-19-1 200090E

PART No. : ADS-110DL-19-1 200090E C

SAMPLE ORDER :L1111DL20V4.5AE-20160414 REV:02

Customer Code No.

CUSTOMER'S APPROVED

Drawing	Agreement				Approver
	Product Eng.	Mechanical	PM	Check	
汤永兰	余超	吴小东	易海燕	余超	郝留全
May.07.2016	May.07.2016	May.07.2016	May.07.2016	May.07.2016	May.07.2016

Maker	MAXJADE INDUSTRIAL LIMITED	TEL	86-755-3385-7166	○
Address	Flat/Rm701,7/F Sino Centre 582-592 Nathan Road Mongkok,HONGKONG.			
Factory1	HONOR (Shen zhen) ELECTRONIC CO.,LTD	TEL	86-755-3385-7166	○
Address	No.C7 C8,Fu Yuan Industry Park,NO.111,Zhou shi road, Xi Xiang Town,Bao An District,ShenZhen,China			

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CHANGE ITEM

Before (Rev.)	After (Rev.)	Change Reason	Remark
TUV-GS	UL-GS	Customer Request	01
N/A	PSE		

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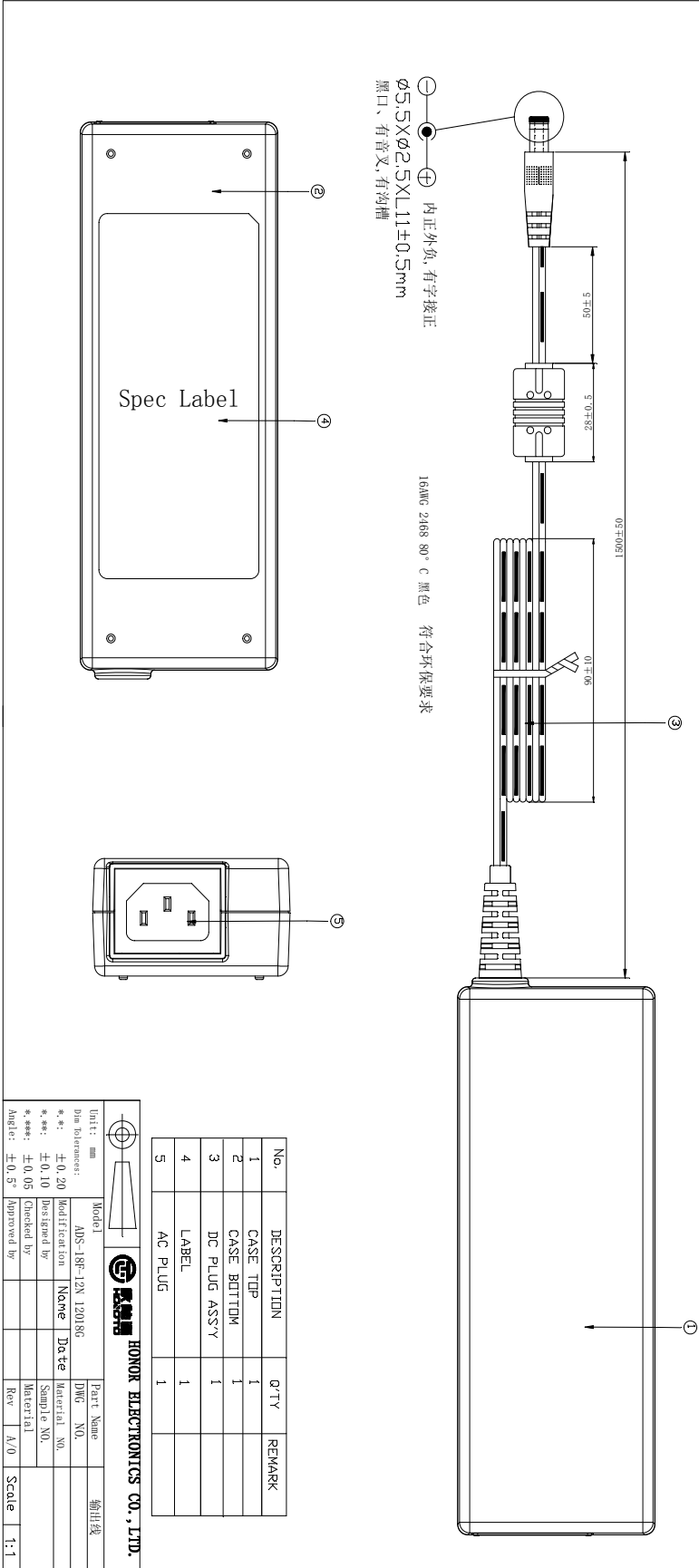
1. Product Dimension

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RevNo | Revision note | Date | Signature | Checked



No.	DESCRIPTION	Q'TY	REMARK
1	CASE TOP	1	
2	CASE BOTTOM	1	
3	DC PLUG ASS'Y	1	
4	LABEL	1	
5	AC PLUG	1	

Unit: mm			
Model: ADS-18P-12N 120186		HONOR ELECTRONICS CO., LTD.	
Dim Tolerances:	±0.20	Part Name:	输出线
*. *:	±0.10	DWG NO.:	
*. ***:	±0.05	Material NO.:	
Angle:	±0.5°	Material:	
Modified by:		Rev:	A/0
Checked by:		Scale:	1:1
Approved by:			

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2. Electrical Specification

2-1. General Specification

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2-4. PCB Drawing

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2-1. General Specification

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GENERAL SPECIFICATION

ADS-110DL-19-1 200090E C

DC VOLTAGE STABILIZED SUPPLY

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1. General Spec(DC VOLTAGE STABILIZED SUPPLY)

Product Description

: This Specification defines the input, output, performance characteristics, environment, noise and safety requirements for a Power Supply.

Parameter Specification

- : Unless specification otherwise, all parameters must meet over the limit of temperature load, and input voltage.
- : All measurements shall be taken at 25°C±5°C ambient unless otherwise noted.

1-1. Electrical Requirements

1). Input Voltage

a. Input Voltages

Normal voltage: 100 to 240VACrms
Voltage range: 90 to 264VACrms

b. Inrush Current(Cold Start)

Inrush current should be lower than 80 A under cold start and 1st half cycle of 230 Vrms input voltage.

c. Input Fuse

The input fuse shall not blow up.

d. Input Current

≤1.5Arms at 90 to 264Vac input

e. Frequency

Normal Frequency : 50Hz - 60Hz
Frequency range : 47Hz - 63Hz

f. Hold up time

10ms min.@115VAC input
20ms min.@230VAC input

g. Turn On delay time

3s max@ 115Vac input

h. Rise time

30ms max@100Vac to 240Vac input and output Max.Load

i. Efficiency

- The average efficiency shall not be less than 88.00%(Expressions: 0.880 (Vout>6V))
- DOE VI
- Both 115Vac(60Hz) and 230Vac(50Hz) input voltage condition.
- Average (25%+50%+75%+100%)/4
- The DC POWER SUPPLY shall be operated at 100% of nameplate current output for at least 30 minutes immediately prior to conducting

j. Primary Over Current Protection

An adequate internal fuse on the AC input line shall be provided.


k. DPMS Mode (Minimum Load Power Consumption)

CONDITION		RESULT(SPEC)
INPUT VOLTAGE	230VAC	LESS THAN 0.21W (INPUT POWER)
OUTPUT CURRENT	+20.0V / No Load	AT 230Vac/50Hz

l. Configuration

3 Conductors (Live, Neutral,Earth)

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m. Earth Leakage Current.

3.50mA Max (264V, 50Hz)

n. 2).Hi-Pot test (Dielectric withstand voltage)-CLASS I

: leakage(cutoff) current 10mA

: Safety Standard Condition:

Primary To GND : 1500Vac ,1 minute for type test

Primary To Secondary : 3000Vac ,1 minute for type test

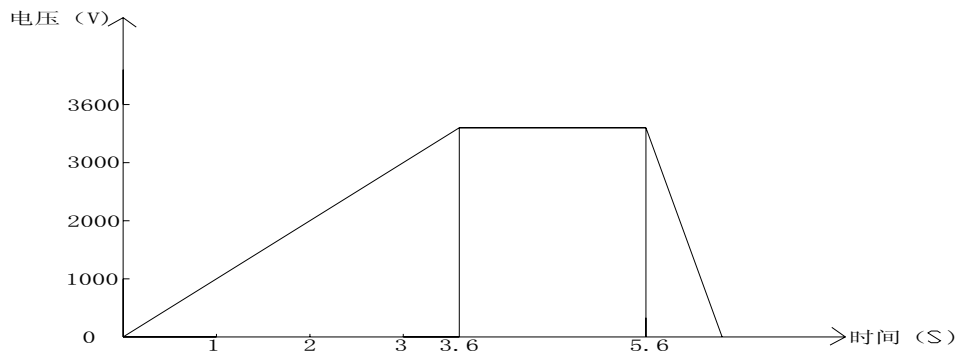
: Mass Production Condition:

Primary To GND : 1800Vac ,keeping 2 seconds for production

Primary To Secondary : 3600Vac ,keeping 2 seconds for production

* Test methods:Input test voltage beginning from zero to 3600Vac in 0.5s.We move plug after discharge display 0V.

* Test point : Primary Live and Natural Short ↔ Ground
As Sketch Map:




o. Insulation Resistance

Insulation resistance shall be more than 10MΩ at 500Vdc between Primary Live, Primary Neutral and secondary.

2). Output Requirements

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a. Power spec.

Adapter	Output	Output Load Spec(A)			Power Consumption
	terminal	MIN	TYP	(100-240V) (OCP)	
	+20.00V	-	4.50 A	5.4-9.0A	

b. Output Voltage and Current

OUTPUT VOLTAGE	MINIMUM VOLTAGE	MAXIMUM VOLTAGE	OUTPUT CURRENT CONDITIONS	REMARK
+20.00VDC	+19.00VDC	+21.00VDC	0.0A~4.50A	100Vac-240Vac

c. Load Regulation

OUTPUT VOLTAGE	MINIMUM VOLTAGE	MAXIMUM VOLTAGE	CONDITIONS	REMARK
			100Vac-240Vac, 25°C	
+20.00VDC	+19.00VDC	+21.00VDC	0.0A~4.50A	

d. Line Regulation ±2%

$$\frac{V_{LOW}-V_{NORMAL}}{V_{NORMAL}} \times 100\% \quad ; \quad \frac{V_{HIGH}-V_{NORMAL}}{V_{NORMAL}} \times 100\%$$

Note: Vnormal:在Normal Line 输入电压时的输出电压值;
 Vhigh: 在High Line 输入电压时的输出电压值;
 Vlow: 在Low Line 输入电压时的输出电压值;

e. Ripple and Noise

The power supply shall not exceed the following limits on the indicated Voltages for 60Hz or 50Hz ripple, switching frequency ripple and noise and dynamic load variations, measured with a 20MHz bandwidth.

A	B(Input Voltage 115-230Vac)
20.0Vdc	0.30Vp-p(300mV)

Column A : Output Voltage.

Column B: AC Input + Switching Ripple and Noise

*.Ripple and noise are measured at the end of output cables which are added a 0.1uF(104) ceramic capacitor and a 47uF electrolytic capacitor.(connect parallel)
 Frame Ground and Secondary Common ground should be connected.

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- 3) EN61000-4-4(IEC61000-4-4:1995+A1:2000+ A2:2001 IEC801-4): EFT/AC Line noise.
 Transient Test: ±1KV(EFT) ±2KV(AC Line noise)
- 4) EN61000-4-6(IEC61000-4-6:1996+A1:2000)Conducted Radio Frequency
 Injected Current Susceptibility:3Vrms

c. Safety Standards

The adapter shall be certified with the following safety standards:

Type(Marking)	Country/Region	Standard	Situation	Lead time	Finish Date
UL/CUL(OR CSA)	USA	UL60150-1	Y		
	Canada	CAN/CSA C22.2 No.60150-1	Y		
FCC	USA	ANSI C63.4-2003;FCC Part 15 ClassB	Y		
Energy Star	USA	ENERGY STAR Program Requirements for External Power Supplies(Version 2.0)	Y		
CEC	California	California Code of Regulations	Y		
CB	IEC	IEC 60150-1	Y		
CE	Europe	73/23/EEC and the amendment directive :2006/95/EC(IEC/EN60150-1	Y		
		89/336/EEC and the amendment directive: 2004/108/EC (EN6100-3-2&EN61000-3-3;EN55022 ClassB &EN55024	Y		
		Erp Directive:2001/125/EC and the Implementing Measures(EC) No 278/2001	Y		
GS	Germany	EN60950-1	Y		
RCM	Australia&New Zealand	Australia&New Zealand	Y		
MEPS	Australia&New Zealand	AS/NZS 4665.1	Y		
NRcan	Canada	C381.1-08 November 2008-test method of calculating the energy efficiency of single-voltage external ac-dc and ac-ac power supplies	N		
BSMI	Taiwan	CNS 13438;CNS 14336	N		

d. EMI:3dB margin

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1-3. HOT Burn-In

Condition		Result(Spec)
Input Voltage	100VAC / 240VAC	NO Defect, Normal Operating
Output Current	More than 80% of Max Load	
Temperature	40°C ± 5°C	
Test Time	4HR ± 1HR	

1-4. Connectors

- 1). AC Input Connector: C14 INLET

1-5.Environment Requirements

- 1). **Operating temperature**
→ 0°C ~ 40°C
- 2). **Operating humidity**
→ 10% ~ 90% RH (Condensation : NOT REQUIRED)
- 3). **Storage temperature**
→ -20°C ~ 80°C
- 4). **Storage humidity**
→ 5% ~ 95% RH (Condensation : NOT REQUIRED)
- 5). **Operation Altitude**
→ 0-5000m
- 6). **Others**
 - 1) Mean Time between Failures (MTBF)

Output Voltage	Min Voltage	Max Voltage	Current	MTBF	Load Condition
+20.0Vdc	+19.00Vdc (-5%)	+21.00Vdc (+5%)	4.5A	200,000Hr	100%

*Standard: Telcordia SR-332 Issue 2

*Environment temperature: 40°C ,90-264Vac input

2) Lifetime

The life estimation of aluminum capacitor must be over 3 years at 25° 100% load ,90-264V.

Standard: Life Time=Lr * 2^{(To-Tx)/10} * 2^{(ΔTo-ΔT)/5}

$$(\Delta To - \Delta T)/5 = 1 - [I_a / (I_s * T_f * F_f)]^2$$

Note-3 CE Capacitor Life time ΔTo: Self Heat Coefficient (85°C =10, 105°C = 5)

Lr : Capacitor Life Spec Ia : Measured Ripple Current

To : Capacitor Temp Spec Is : Ripple Current spec

Tx : Capacitor case Temp Ff : Frequency Factor

ΔT : Capacitor Self Heat Tf : Temperature Factor

3) Hearing Noise

The noise generated by the adapter supplied under mains voltage of no load and full load shall be lower than 35dB,measure 1m form the nameplate.

4) LED Light:No

5) Weight :T.B.D

6) Case Color:Black

7). Warranty of adapter:two years

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2-2. Circuit Drawing

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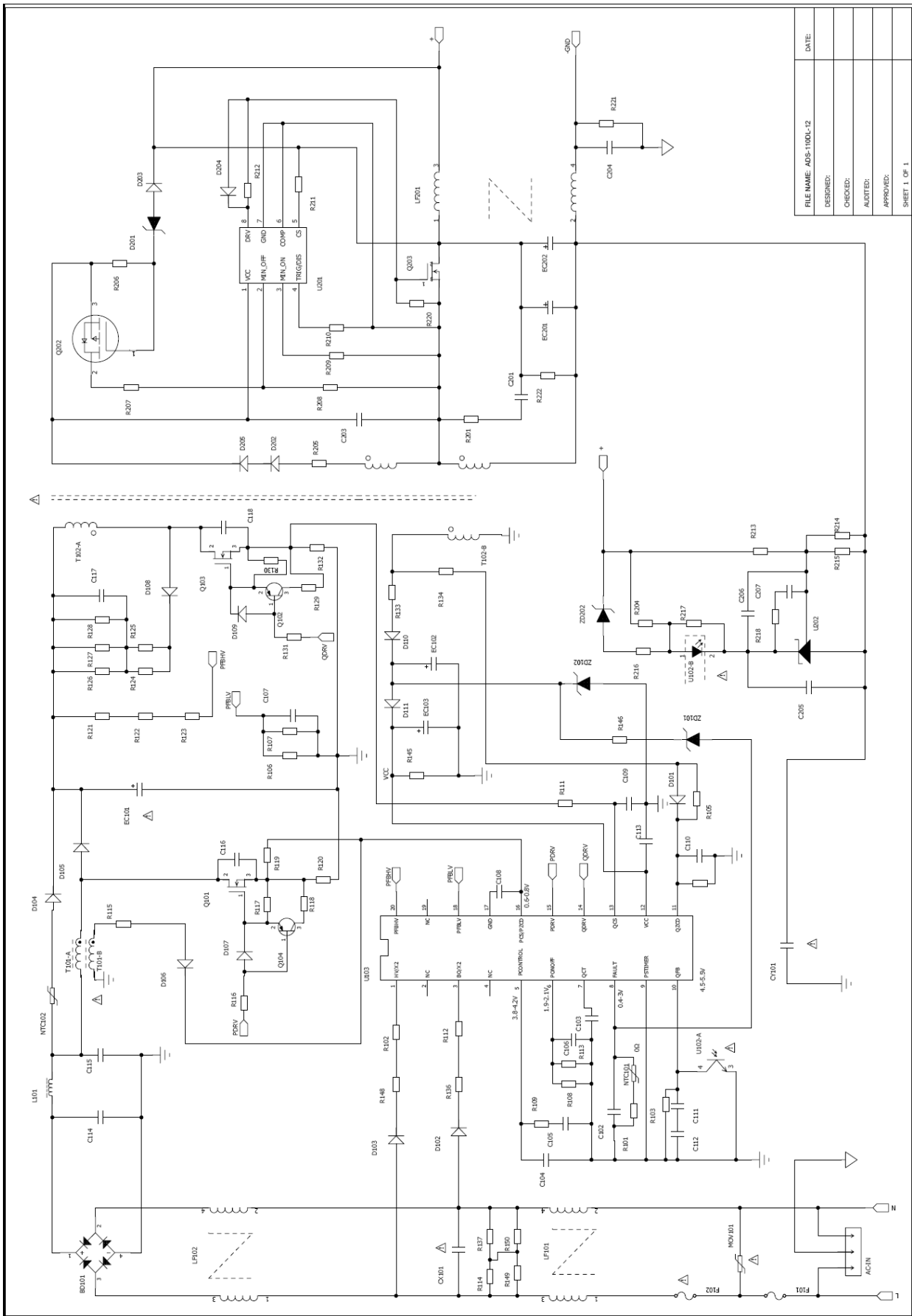
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MODEL NAME

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FILE NAME: ADS-110DL-12	DATE:
DESIGNED:	
CHECKED:	
AUDITED:	
APPROVED:	
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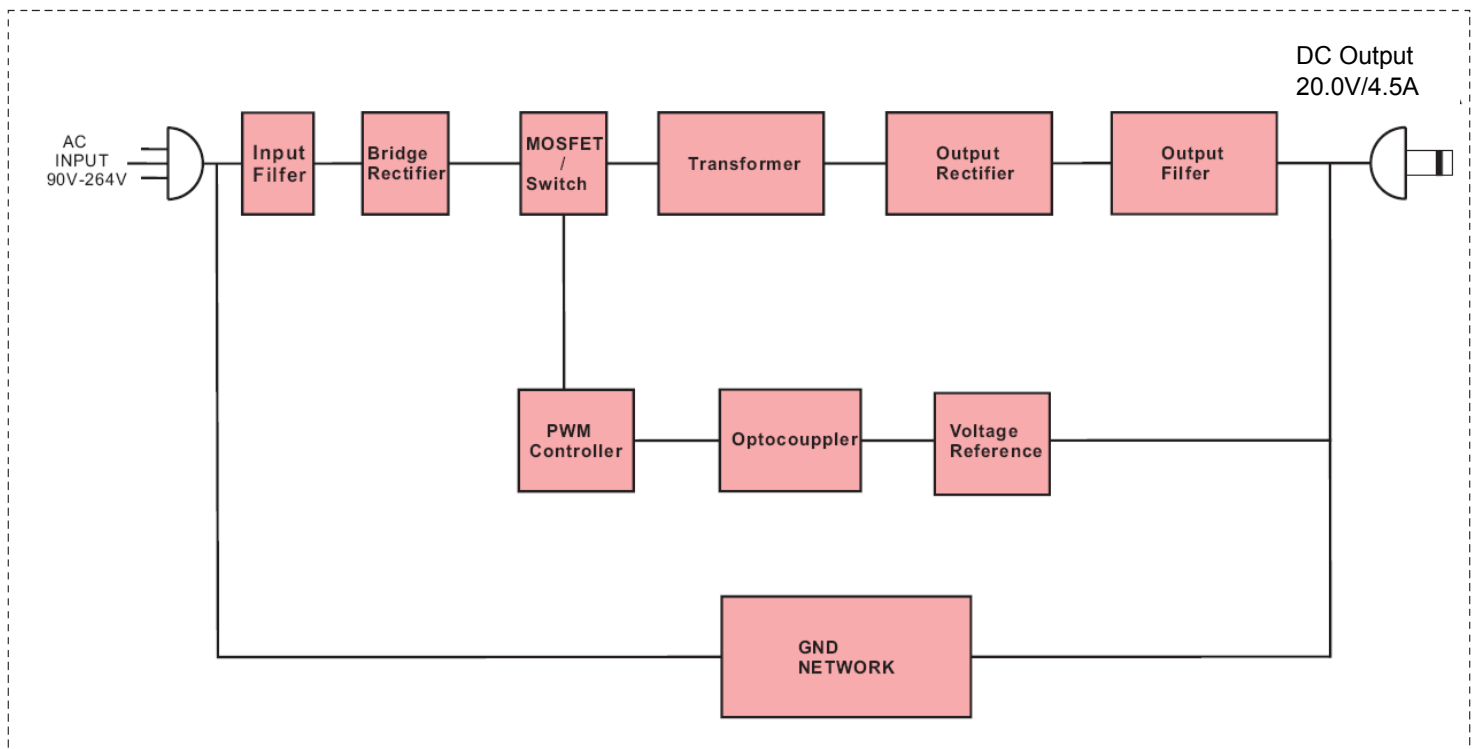


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2-3. Block Diagram

DC Voltage Stabilized Supply SECTION

90W BLOCK DIAGRAM



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2-4. PCB Drawing

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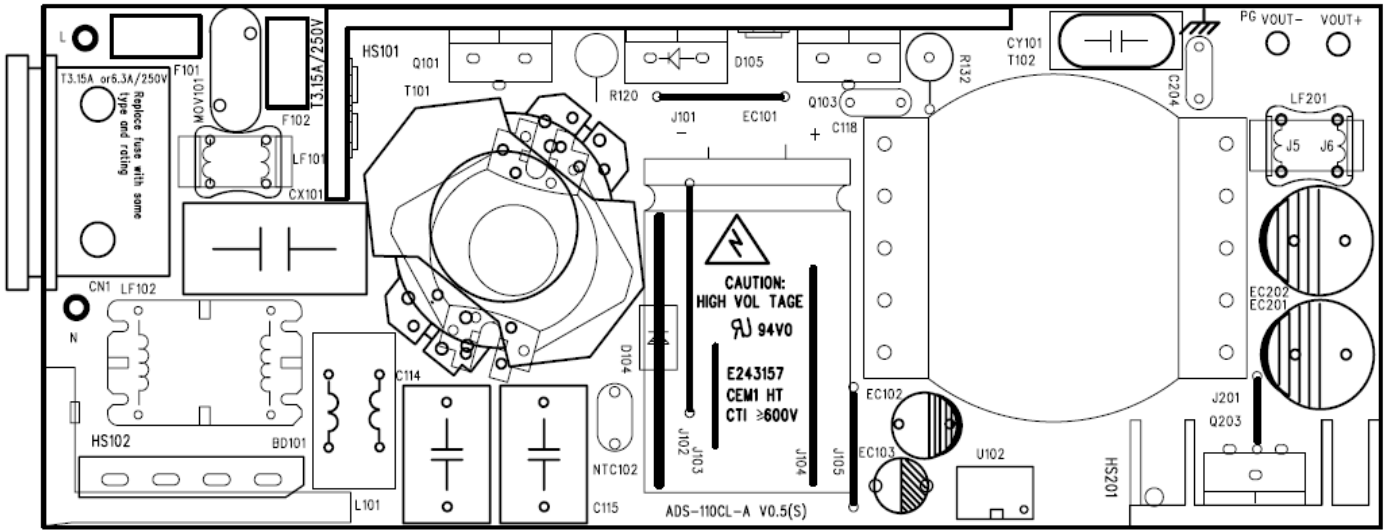


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TOPSILK

pictures as below just for reference, according with the latest PCB edition.

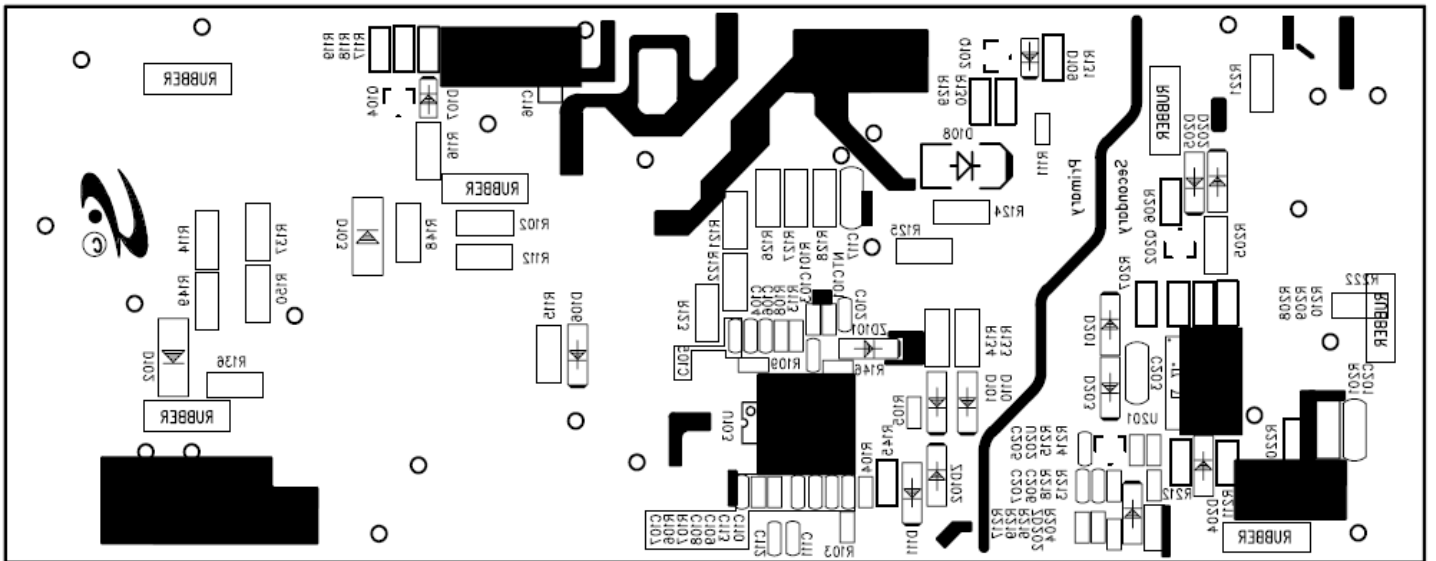


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BOTTSILK

pictures as below just for reference, according with the latest PCB edition.



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3. Mechanical Specification

3-1. Case Drawing

3-2. Cable Drawing

3-3. Label Drawing

3-4. Packing Drawing

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3-1. Case Drawing

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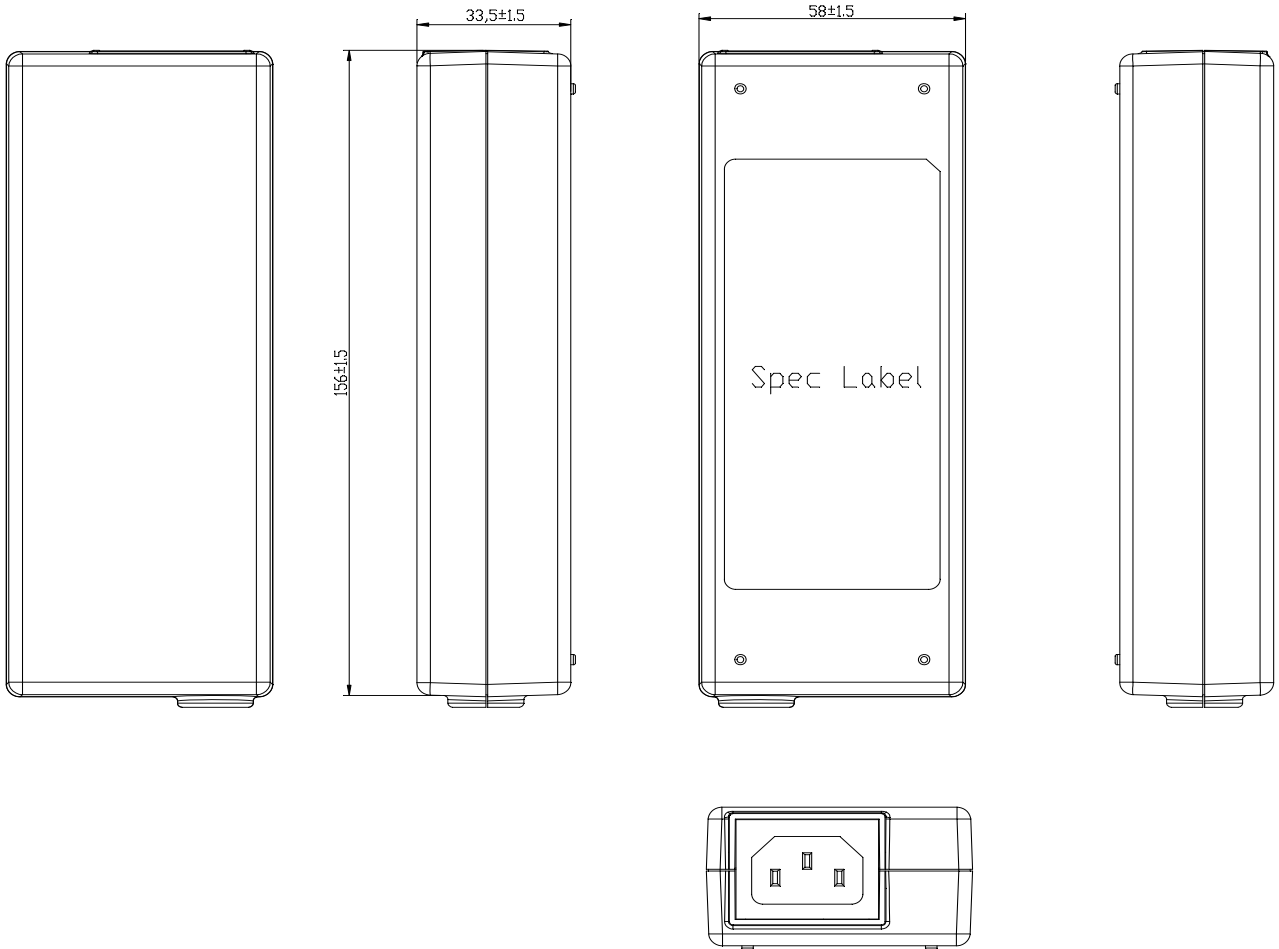
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3-2. Cable Drawing

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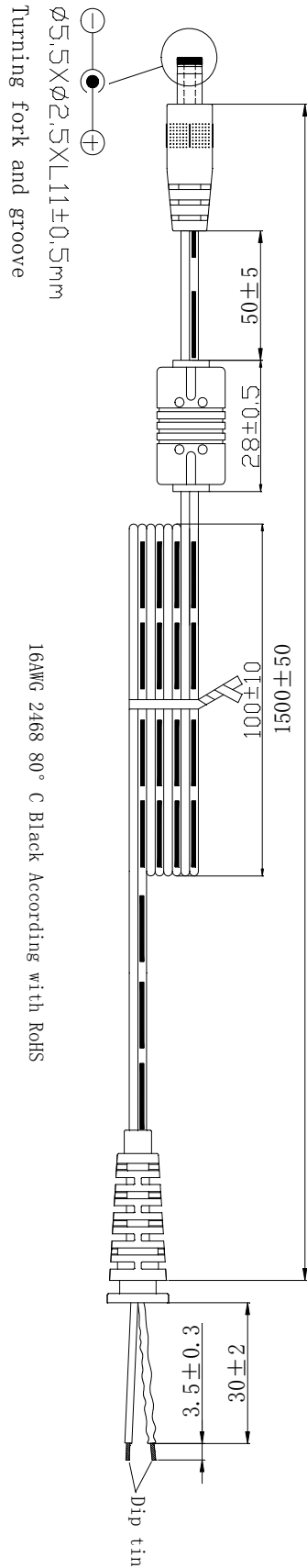


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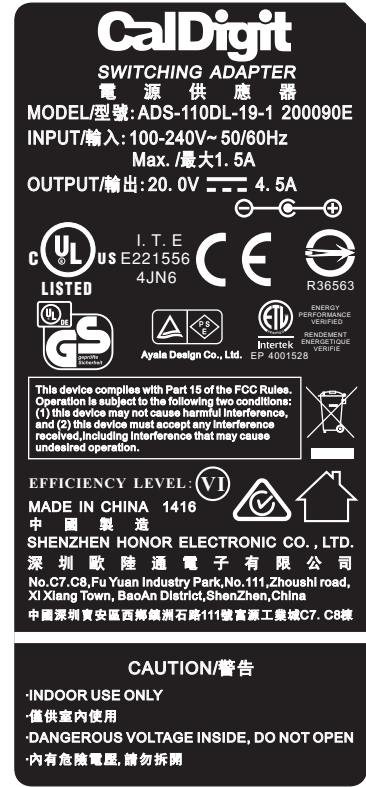


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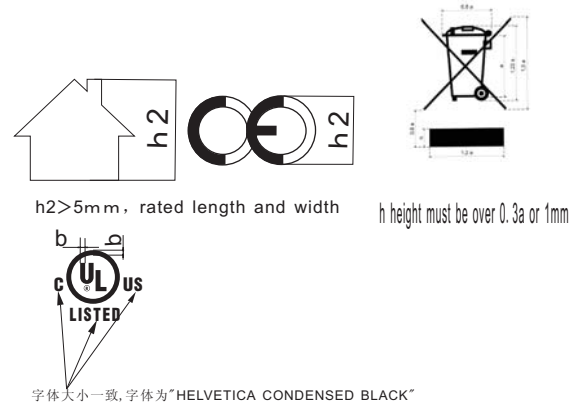
3-3. Label Drawing



1:1

Note:

- 1:material quality: 100#PET底格纹+光膜
- 2:black bottom and white words,clearly
- 3.one side with glue and stick well
- 4.temperature-resistant of more than 80 degree
- 5.straight of sarap edge , without burr, colour and letterform refer to the latest sample.
6. Be resistant to alcohol smear, without the word out, fuzzy, scratching phenomenon.



TOLERANCES UNLESS NOTED OTHERWISE	DESIGNER	汤永兰	16.05.07	DRAWING NAME	LABEL, DESIGNATION	
	CHECK			MODEL NO.		
X. :+0/-0.2	APPROVAL			SIZE	DRAWING NO.	REV.
XX. :+0/-0.2				A4		A
XXX. :+0/-0.3						
ANGLE:±2°			UNIT mm	SCALE N /S	SHEET 1 OF 1	

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Producing district

HONOR(SHENZHEN) ELECTRONIC CO.,LTD

No. C7 C8,Fu Yuan Industry Park ,No. 111,Zhou shi road

Xi Xiang Town,Bao An District

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CHINA

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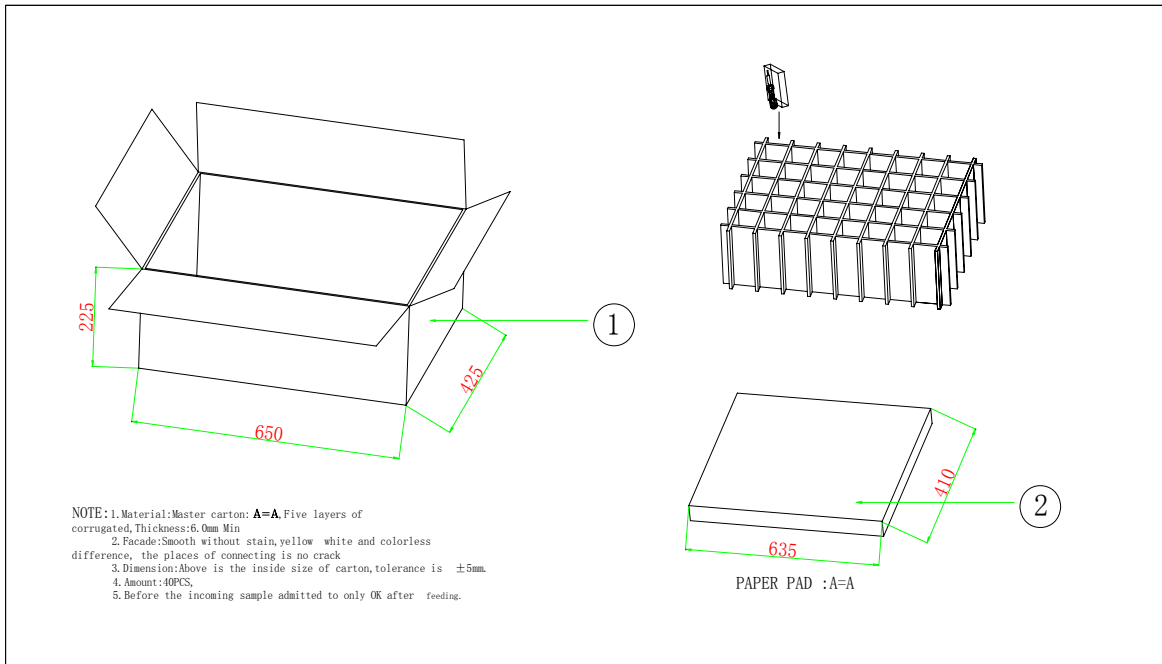
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3-4. Packing Drawing

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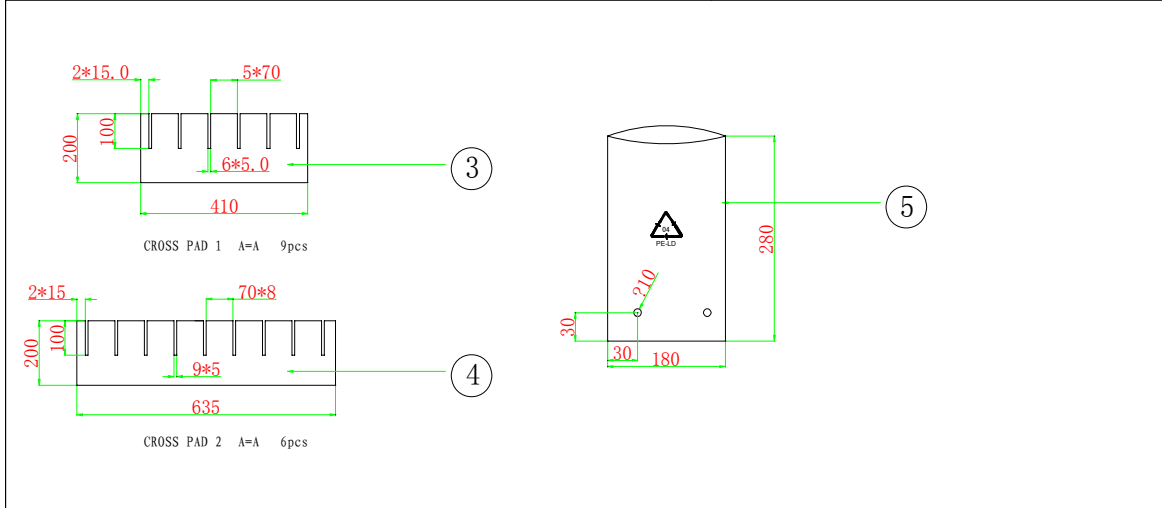


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NOTE: 1. Material: Master carton: A=A. Five layers of corrugated. Thickness: 6.0mm Min
 2. Facade: Smooth without stain, yellow white and colorless difference, the places of connecting is no crack
 3. Dimension: Above is the inside size of carton, tolerance is ±5mm.
 4. Amount: 40PCS,
 5. Before the incoming sample admitted to only OK after feeding.

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						Unit: mm	Model: ADS-110DL																				
						Dim Tolerances:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Modification</td> <td>Name</td> <td>Date</td> <td>Part Name</td> <td>packing</td> </tr> <tr> <td>Designed by</td> <td>DXL</td> <td>2013. 3. 14</td> <td>Part NO</td> <td></td> </tr> <tr> <td>Checked by</td> <td></td> <td></td> <td>DWG NO</td> <td></td> </tr> <tr> <td>Approved by</td> <td></td> <td></td> <td>Rev</td> <td>A/0</td> </tr> </table>	Modification	Name	Date	Part Name	packing	Designed by	DXL	2013. 3. 14	Part NO		Checked by			DWG NO		Approved by			Rev	A/0
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						*. **: ±0.10																					
						*. ***: ±0.05																					
						Angle: ±0.5°																					



No.	Part NO.	Name	Specification	QTY	Unit
5		pe bag	180*280*0.06 with two holes	1	PCS
4		cross pad 2	635*200 A=A	0.15	PCS
3		cross pad 1	410*200 A=A	0.225	PCS
2		paper pad	410*635 A=A	0.05	PCS
1		carton box	650*425*225 A=A	0.025	PCS

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