
Specification for Approval

Customer : **Linkman Co., Ltd.**

Part Name : **AC ADAPTER**

Description : **5Volts / 4Amps**

Model No. : **STD-05040U (USA / Level V)**

Customer P / N :

Product P / N : **RXTD05040U410203**

Issued Date : **20 – Nov. – 2015**

Version : **A2**

Issued Stamp :

Customer's Approval Signature

20W
Switching Power Adapter
SPECIFICATION

Model No. : **STD-05040U(USA / Level V)**

Description : **5Volts / 4Amps**

Part No. : **RXTD05040U410203**

Version : **A2**

Date : **20 – Nov. – 2015**

Approved	Reviewed	Checked	Prepared	Sales

Approval Documents/Spec. Revised Records

Customer : Linkman Co., Ltd.

Model No. : STD-05040U

Original Documents Content : Spec. 10 Pages, Attachment 2 Pages

Revised Records : No.	Date	Description (Before / After)	Page(s) Revised	Revised By (Adapter/Customer)	Remark
1	May/05/2011	Issue	-	Wei	A1
2	Nov./20/2015	Modify label & appearance	P6.P7	Wei	A2
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1. Feature :

- ◆ **Input** : Universal 100 ~ 240 Vac / 47 ~ 63 Hz Input, without any slide switch.
- ◆ **Output** : +5 V / 0~4 A
- ◆ **Case Dimension** : 72 (L) * 34 (W) * 69 (H) mm (±0.5mm)
- ◆ **Efficiency** : Eff (av) ≥ 78.56% Min.
- ◆ **Safety** : PSE
- ◆ **EMI** : Class B ; Conduction & Radiation Met.
- ◆ **Protection** : OVP (Over Voltage Protection) 、 SCP (Short Circuit Protection) 、 OCP (Over Current Protection)
- ◆ High frequency design , less power consumption.
- ◆ Suitable for usage at Telecommunication, Computer, Industrial Controller, & OA System.
- ◆ Meet Energy Star V / Erp (Stage 2) / MEPS V .

2. Input :

2.1 Voltage	Universal 100~240Vac, single phase
2.2 Frequency	47 ~ 63 Hz
2.3 Current	0.58A Max.
2.4 Inrush Current	30A Max. / 100Vac ; 60A Max. / 230Vac (Cold Start At 25 °C , Full Load)
2.5 Efficiency	Eff (av) ≥ 78.56 % Min. (At 115 Vac & 230 Vac)
2.6 Power Consumption	Pi ≤ 0.3 W (At 230Vac & No Load)

$$\text{※Eff (av)} = \frac{E_1 + E_2 + E_3 + E_4}{4}$$

E1=efficiency with 25% rated load ; E2= efficiency with 50% rated load
E3=efficiency with 75% rated load ; E4= efficiency with 100% rated load

3. Output :

3.1 DC Output	Voltage	+5 V ± 6%
	Current	4A Max.
	Regulation	4.7Vmin. ~ 5.0Vtyp. ~ 5.3Vmax.
	Ripple & Noise	100 mV Max.
	Total Power	20W Max.

Remark : For ripple & noise measurement, use a 20MHz bandwidth frequency oscilloscope, and add a 0.1µF multilayer Cap. and a Low ESR Electrolytic Cap. (10 µF) at output connector terminals. (At nominal line voltage, Full Load)

4. Protection :

4.1 Over Voltage Protection (OVP)	6.8V (Max.)
4.2 Short Circuit Protection (SCP)	Automatic recovery after short-circuit fault being removed
4.3 Over Current Protection(OCP)	7A (MAX)

Remark : When Short Circuit Protection is activated,the power supply will shutdown automatically.

Once the abnormal condition resulting in the failure being removed, the power supply will restart accordingly. When

Over Voltage Protection is activated, the power supply will shutdown .

5. Safety 、EMI and EMC Requirement :

5.1 Safety Requirement

a. Safety : PSE

b. Dielectric Strength : 10mA Max. Cut off current

(1)	Primary to Secondary	3000Vac for 1 Minute
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c. Insulation Resistance :

(1)	Primary to Secondary	10 M Ohm for 500Vdc
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5.2 EMI Requirement : Class B ; Conduction & Radiation Met.

5.3 Leakage Current : Less than 0.25mA

6. Operation and Environment Performance :

6.1 Temperature Range

Operating	+ 0°C ~ + 40°C
Storage	- 20 °C ~ + 80 °C

6.2 Humidity Range(Non-condensing)

Operating	20% ~ 80% RH
Storage	10% ~ 90% RH

6.3 Cooling : By natural air

7. M.T.B.F. : 300,000Hrs.(Calculated Hours at 25°C,By Telcordia SR-332)

8.Mechanical :

8.1 Weight : 165 g Typical

**8.2 Cable Type : Black UL2468 18AWG
(Wire + Plug)**

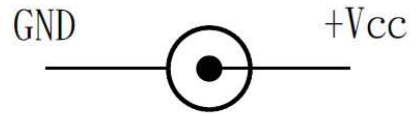
**Plug : $\varnothing 5.5 \times \varnothing 2.1 \times 9.5 \text{mm}$
(Tuning Fork & Cannelure)**

8.3 Cable Length : 1000mm

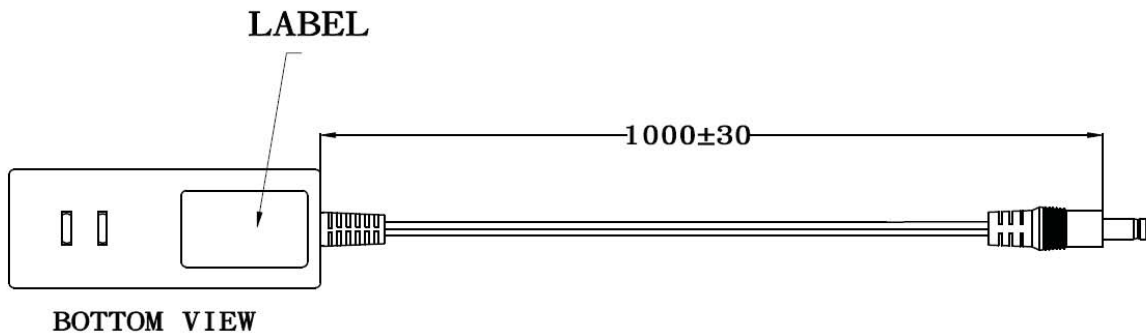
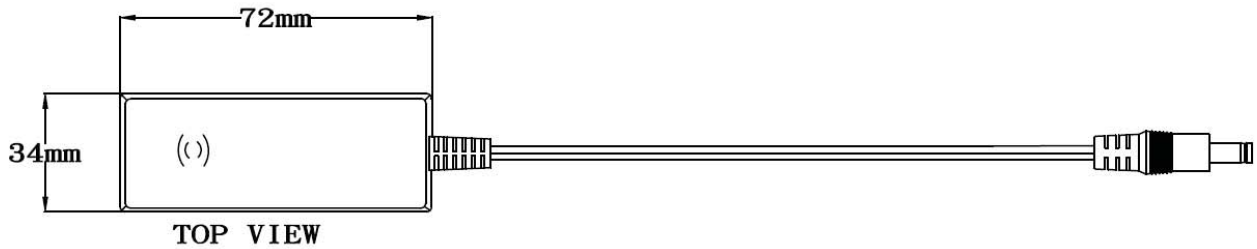
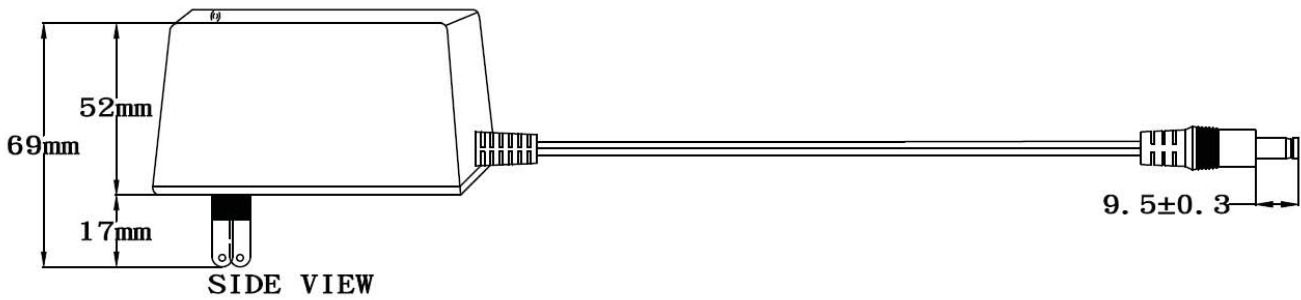
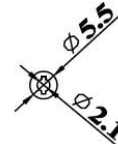
8.4 Case Dimension : 72mm(L)*34mm(W)*69mm(H) ($\pm 0.5 \text{mm}$)

8.5 Material Flammability : UL 94V-0

8.6 External Apperance : As drawing below (Scale \rightarrow mm)

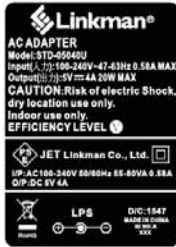


Output Cable Plug Pin Assignment



8.7 Spec. Label Materials : Metalized Polyester Label (Silver Gloss)
 Color : Black Background with Silver Printing
 Label Dimension : 34.5mm(L)*24.5mm(W)+/-0.1mm
 Label Thickness : #75

100%



300%



"XXX"

Label supplier's code.
 It is accurate that the number of words depends on the real finished product.

ID NO. "X"

Label manufacturer's code.
 It is accurate that the number of words depends on the real finished product.

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A. Line Regulation Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
90Vac / 50 % Load	4.7V~ 5.3 V	5.023 V	5.014 V	5.009 V
115Vac / 50 % Load	4.7V~ 5.3 V	5.023 V	5.014V	5.009 V
132Vac / 50 % Load	4.7V~ 5.3 V	5.022 V	5.013 V	5.010 V
180Vac / 50 % Load	4.7V~ 5.3 V	5.020 V	5.014 V	5.009 V
230Vac / 50 % Load	4.7V~ 5.3 V	5.020 V	5.014 V	5.008 V
264Vac / 50 % Load	4.7V~ 5.3 V	5.021 V	5.013 V	5.008 V

B. Efficiency Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac	78.56% Min.	79.29%	79.35%	79.33%
230Vac	78.56% Min.	78.61%	78.72%	78.67%

C. Load Regulation Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 0 % Load	4.7V~ 5.3 V	5.241 V	5.235 V	5.221 V
115Vac / 50 % Load	4.7V~ 5.3 V	5.023 V	5.011 V	5.009 V
115Vac / 100 % Load	4.7V~ 5.3 V	4.794 V	4.795 V	4.989 V
230Vac / 0 % Load	4.7V~ 5.3 V	5.242 V	5.233 V	5.221 V
230Vac / 50 % Load	4.7V~ 5.3 V	5.020 V	5.013 V	5.008V
230Vac / 100 % Load	4.7V~ 5.3 V	4.792 V	4.795V	4.988 V

D. Ripple & Noise Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	100mVpp Max.	62.7 mVpp	63.2 mVpp	61.9 mVpp
230Vac / 100 % Load	100mVpp Max.	46.1 mVpp	45.5 mVpp	45.9 mVpp

E. Inrush Current

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	30A Max	28.1A	27.6A	28.3A
230Vac / 100 % Load	60A Max	42.9A	43.5A	42.1A

F. Over Current Protection

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	7A Max	5.448A	5.451A	5.435A
230Vac / 100 % Load	7A Max	5.920A	5.929A	5.901A

G. Short Circuit Protection

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	Auto Recovery	OK	OK	OK
230Vac / 100 % Load	Auto Recovery	OK	OK	OK

H. Input Power Consumption(No Load)

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230Vac / 0 % Load	≤ 0.3 W	0.21W	0.20W	0.20W

Efficiency Test Report

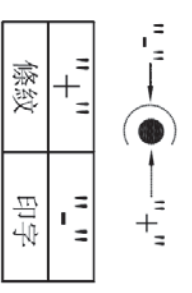
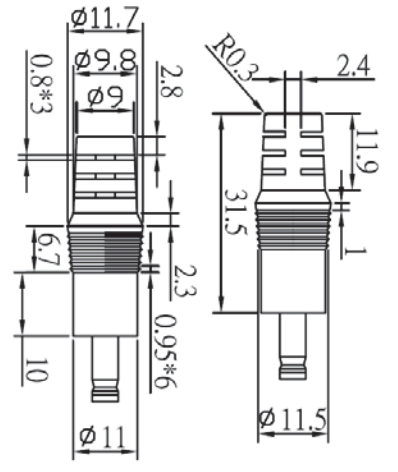
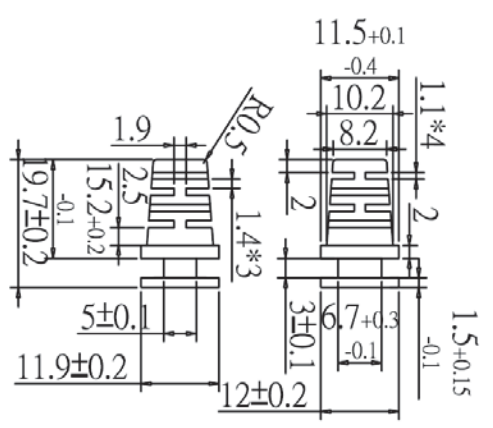
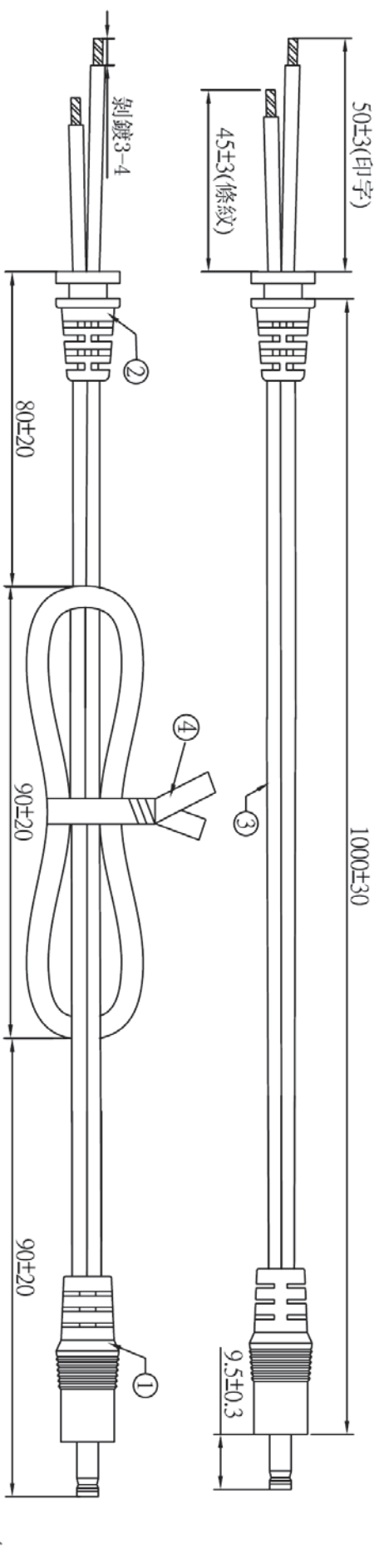
- A. Model Number** : STD-05040Z (Z=A,B,C,E,K,T,U,V) (5V / 4A / 20W)
- B. DC Power Cord** : UL2468 , 18AWG , 1M
- C. Average Efficiency** :
- Energy Star V** (0.075*Ln(Nameplate Output)+0.561) = 78.56 % Min.
- Erp (Stage 2)** (0.075*Ln(Nameplate Output)+0.561) = 78.56 % Min.
- MEPS V** (0.075*Ln(Nameplate Output)+0.561) = 78.56 % Min.
- D. NO Load Power Consumption** :
- Energy Star V** 0.3W Max.
- Erp (Stage 2)** 0.3W Max.
- MEPS V** 0.3W Max.
- E. Testing Equipment** :
- a. AC Power Source** : " Zentech " 2700M-10
- b. Electronic Load** : " PRODIGIT " 3311C
- c. Power Meter** : " Zentech " 2100
- d. Digital Meter** : " FLUKE " 45
- F. AC Input Voltage** : 115Vac/60Hz

Load Conditions	100%* I ₀	75%* I ₀	50%* I ₀	25%* I ₀	0%* I ₀
Reported Quantity					
Rms Output Current(mA)	4000mA	3000mA	2000mA	1000mA	0mA
Rms Output Voltage(V)	4.937V	5.007V	5.077V	5.144V	5.232V
Active Output Power(W)	19.75W	15.02W	10.15W	5.14W	0.00W
Rms Input Voltage(V)	115V	115V	115V	115V	115V
Rms Input Current(A)	0.427A	0.333A	0.240A	0.139A	0.011A
Rms Input Power(W)	25.60W	19.00W	12.60W	6.40W	0.14W
T.H.D. (Voltage)	0.16	0.16	0.15	0.14	0.12
True Power Factor	0.543	0.516	0.472	0.409	0.126
Power Consumed by UUT(W)	5.85W	3.98W	2.45W	1.26W	0.14W
Efficiency	77.14%	79.06%	80.59%	80.38%	*
Average Efficiency	79.29%				*

- G. AC Input Voltage** : 230Vac/50Hz

Load Conditions	100%* I ₀	75%* I ₀	50%* I ₀	25%* I ₀	0%* I ₀
Reported Quantity					
Rms Output Current(mA)	4000mA	3000mA	2000mA	1000mA	0mA
Rms Output Voltage(V)	4.938V	5.008V	5.077V	5.147V	5.236V
Active Output Power(W)	19.75W	15.02W	10.15W	5.15W	0.00W
Rms Input Voltage(V)	230V	230V	230V	230V	230V
Rms Input Current(A)	0.289A	0.226A	0.157A	0.089A	0.016A
Rms Input Power(W)	25.30W	19.00W	12.80W	6.60W	0.22W
T.H.D. (Voltage)	0.23	0.19	0.15	0.12	0.1
True Power Factor	0.391	0.375	0.360	0.324	0.053
Power Consumed by UUT(W)	5.55W	3.98W	2.65W	1.45W	0.22W
Efficiency	78.07%	79.07%	79.33%	77.98%	*
Average Efficiency	78.61%				*

Tester : Wei



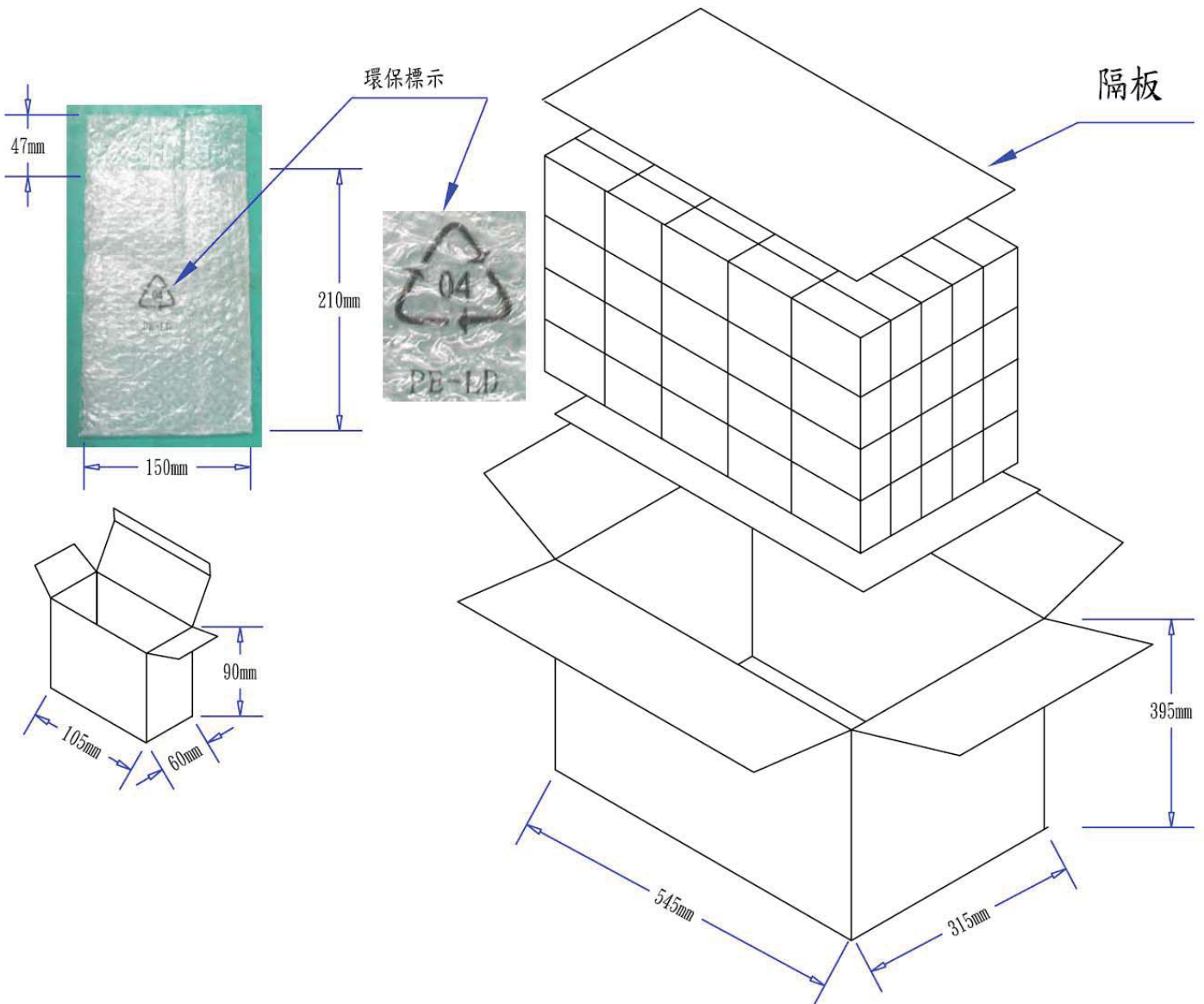
注意:此圖面所需材料符合"ROHS"標準

- ① 5.5*2.1*21 音叉車溝黑色半邊 (YY-PD-00023), 外模 P-184 號模 (二次成型), 用料外 PVC60P 黑色 (YY-PV-00009)
- ② SR-101 號模, 用料 PVC60P 黑色 (YY-PV-00009), 吊重: 1米/20磅/60秒
- ③ UL 2468 18AWG(0.16*41)*2C BK OD: 2.2*4.4 (YY-DC-00091) 裁線長度: 1060+10/-0
- ④ PE 有鐵芯 紫帶 12CM 黑色 (YY-ES-00001)
- ⑤ 單位: MM

一般公差表	
10mm以上	±0.1mm
3mm~10mm	±0.05mm
100mm以上	±0.2mm
30mm~100mm	±0.1mm
100mm以上	±0.2mm

料號	R44MIG10012
客戶	
制圖	吳遠松
頁數	01
審核	
批准	

版次 02	變更內容	日期 2013/07/10
版次 01	變更內容	日期 2010/09/20
圖號		日期 2013/07/10



PIS18W00007 包裝(FOR 18W, 24W-插牆式)-環保雙面氣泡袋-白盒-100

1. 9550006001 隔板:530*300*6mm B=B 2/100
2. 數量:25*4=100PCS
3. 9520006502 外箱:L*W*H=545*315*395mm K=K 1/100
4. 9510003502 紙盒:L*W*H=105*60*90mm 白盒 350P+CE(即C9紙加裱350磅白板紙)
5. 9540000901 氣泡袋:210*150*47mm 無色透明,中間位置印環保標示,短邊單端開口
6. 成品裝入氣泡袋后,用小膠紙封口
7. 外箱,紙盒標注為外徑尺寸
8. 上述所有材料須符合環保ROHS標準.

8.7 Spec. Label Materials : Metalized Polyester Label (Silver Gloss)
 Color : Black Background with Silver Printing
 Label Dimension : 34.5mm(L)*24.5mm(W)+/-0.1mm
 Label Thickness : #75

100%



300%



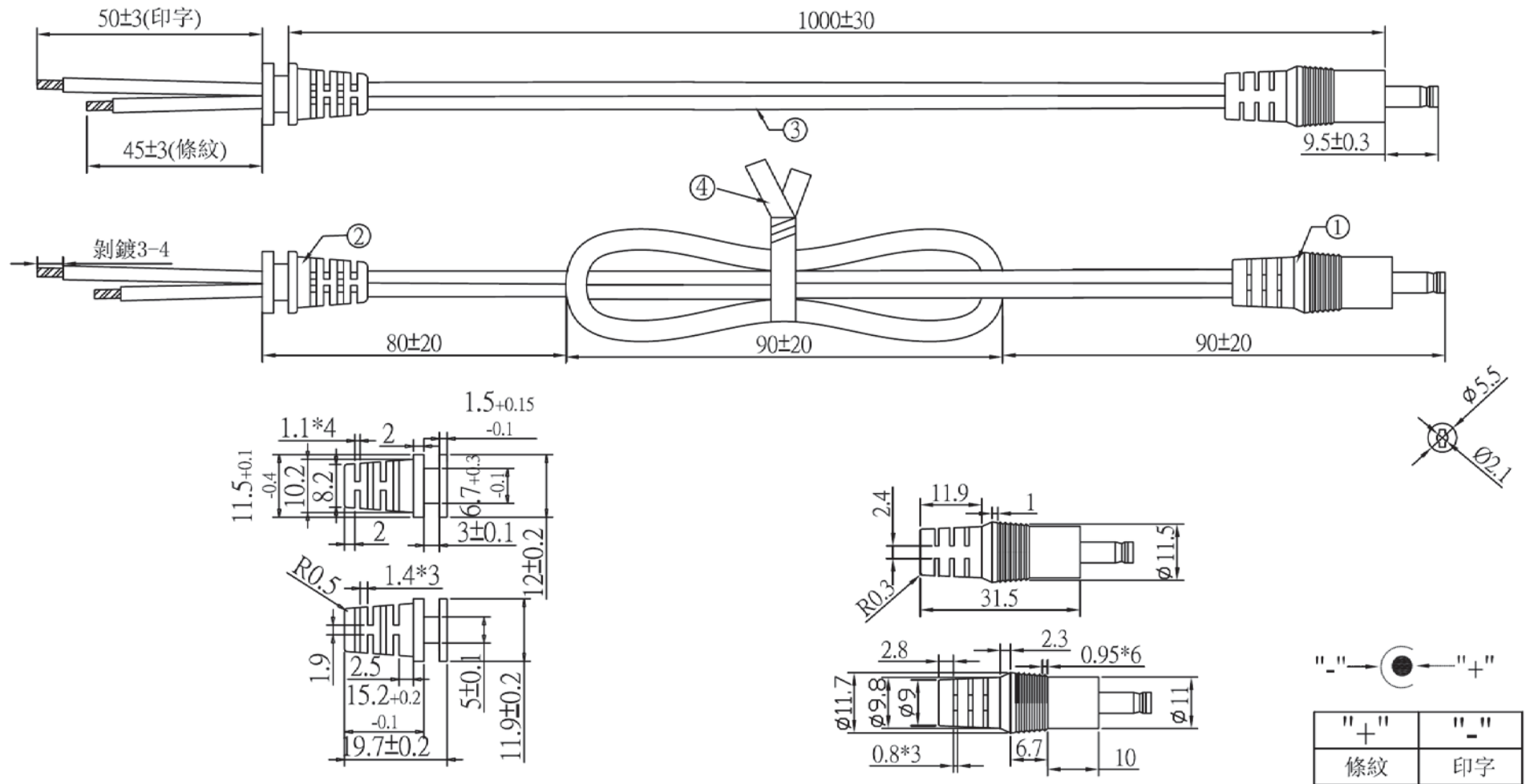
"XXX"

Label supplier's code.
 It is accurate that the number of words depends on the real finished product.

ID NO."X"

Label manufacturer's code.
 It is accurate that the number of words depends on the real finished product.

9443027071



注意:此圖面所需材料符合"ROHS"標準

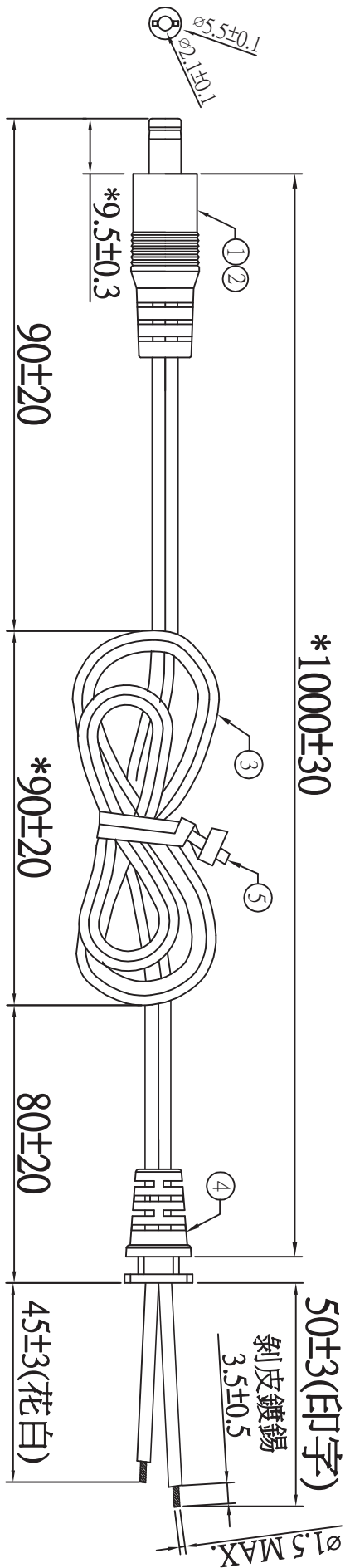
- ① 5.5*2.1*21音叉車溝黑色半邊(YYPD-00023),外模P-184號模(二次成型),用料外PVC60P黑色(YY-PV-00009)
- ② SR-101號模,用料PVC60P黑色(YY-PV-00009),吊重:1米/20磅/60秒
- ③ UL 2468 18AWG(0.16*41)*2C BK OD:2.2*4.4(YY-DC-00091) 裁線長度:1060+10/-0
- ④ PE有鐵芯紮帶12CM黑色(YY-ES-00001)
- ⑤ 單位:MM

一般公差表			
1.0mm以下	±0.1mm	15.0mm以下	±0.6mm
2.0mm以下	±0.15mm	20.0mm以下	±0.8mm
3.0mm以下	±0.20mm	30.0mm以下	±1.0mm
10.0mm以下	±0.50mm	30.0mm以上	±1.2mm

版次	02	變更內容	日期	2013/07/10
版次	01	變更內容	日期	2010/08/20

料號	R44M1G10012		
客戶		制圖	吳遠松
頁數	01	審核	
		批准	

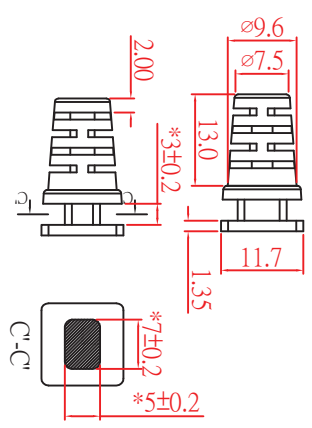
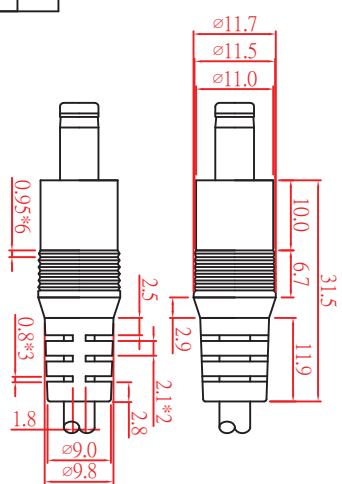
圖號		日期	2013/07/10
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花白邊 ⊕ ⊙ ⊖ 印字邊

相關測試要求:

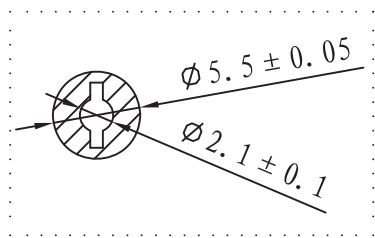
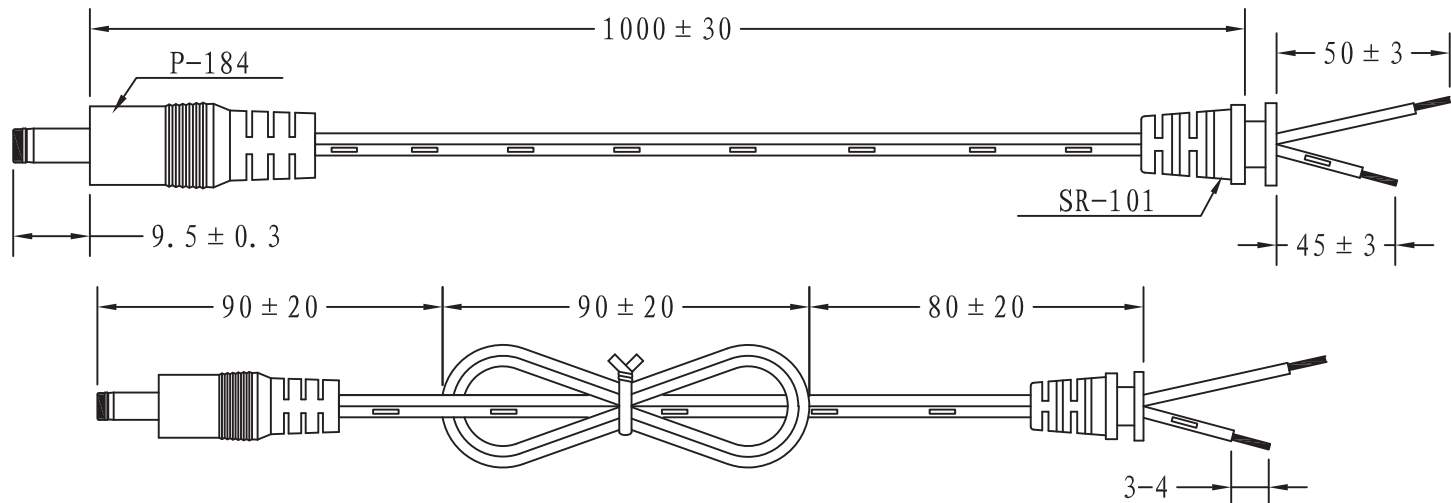
- 一. 電性測試:
 1. 耐電壓: AC 500V/秒, 測試無異常;
 2. 絕緣抵抗: DC 500V 20MΩ 以上;
 3. 導通測試: 無斷線, 短路, 極性反;
- 二. 拉力測試: 電線與S/R間吊重9.1kg 經過1分鐘無斷線脫落等異常.
- 三. 搖擺測試:
 - 電線與PG間吊重200g, 40回/分, 角度±60°往復2000回不完全斷線, 且外觀無脫落, 斷裂等異常.



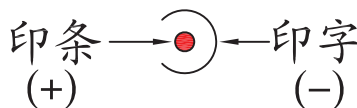
線材廠商報價		
E72332-4	E328935	
E198417	E315618	
E204573		
5.	扎帶	PE有鐵絲 黑
4.	S/R	模具編號:DM-SR-3138
3.	Wire	用料:黑色PVC 60P UL 2468 18AWG(0.16/41)*2F 黑印字/花白 OD:φ2.2*4.4mm
2.	Plug	外模模具編號:DM-PG-3377內/外 用料:內/PE 外/黑色PVC 60P
1.	Pin	φ5.5*2.1音叉車溝 黑(彈片內縮0.5mm)
序號	部品	規格

投影		單位 mm		比例		份數		公差		客戶名		DATE		變更	
制作日期	3D ANGLE	DM	SCALE	QTY	TOLEANCE	REV	DATE	變更	版次						
2013.07.18															
制圖 DRW	校圖 CHKD	承認: APPD	承認: APPD	公差		客戶名		DATE							
江	單	王亞琴		XX.X	±0.5										
娟	鵬			X.X	±0.3										
				X.XX	±0.1										

图面编号	ADT-Y086	版本	A/0	发行	13-07-19
物料编号	R44M1G10018	分发	品管1 资材1 制造1 业务中心1		

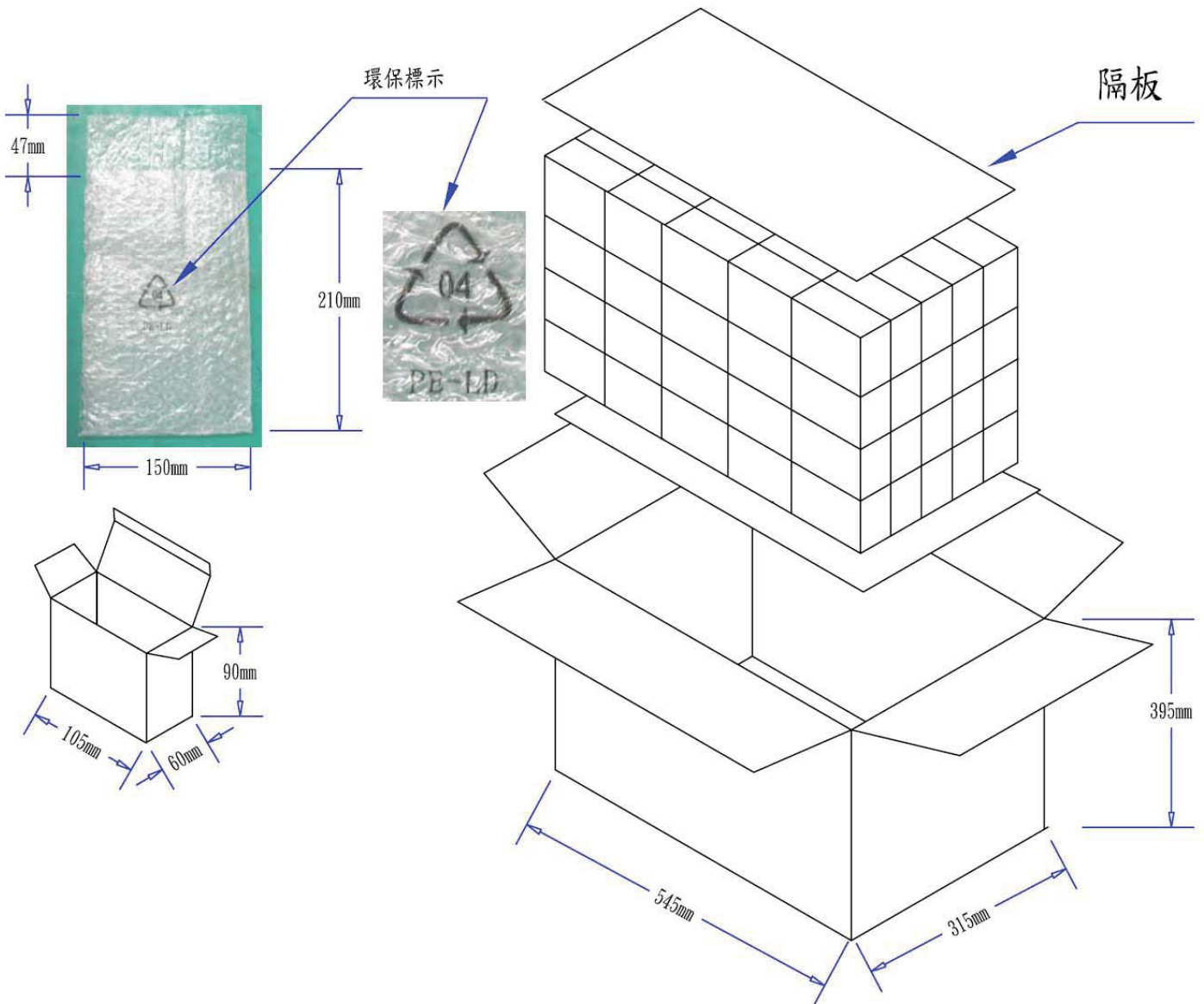


焊接方式



材料明细					特性要求及注意事项	
序号	材名	物料编码	材料规格	用量	特性要求	
1	线材	A1800033	18#/2C UL2468 黑色线 2.1*4.2 (41*0.16) 80℃ (合力)	1PCS	1. 耐压测试: AC500V, 持续2秒, 漏电流1mA. 2. PL/SR拉力测试: 施力5KG, 持续60秒, 电气性能正常. 3. 线材拉力测试: 施力20磅, 持续60秒, 吊距1米, 电气性能正常. 4. PL/SR摇摆测试: 荷重200g, 角度±60度, 40次/min, 须通过2000最少, 电气性能正常 5. 老化试验: 将产品置于60℃环境中储存24小时, 常温恢复两小时, DC线外观应无变色、破裂、变形、生锈等不良现象 6. 绝缘测试: DC500V 20MΩmin.	
2	铜钉	BTV50233	5.5*2.1*22.5黑色音叉带凹槽	1EA		
3	胶料	C0600013	PLUG 黑色 60P 插头料	g		
		C0600013	SR 黑色 60P 插头料	g		
4	扎带	E0020043	黑色PE有铁芯扎带(100mm)	1PCS	注意事项 1. 单位: mm. 2. 模具图如下一页	

绘制							
审核							
核准		更改依据	标记	处数	变更内容	签名	日期
修改记录							



PIS18W00007 包裝(FOR 18W, 24W-插牆式)-環保雙面氣泡袋-白盒-100

1. 9550006001 隔板:530*300*6mm B=B 2/100
2. 數量:25*4=100PCS
3. 9520006502 外箱:L*W*H=545*315*395mm K=K 1/100
4. 9510003502 紙盒:L*W*H=105*60*90mm 白盒 350P+CE(即C9紙加裱350磅白板紙)
5. 9540000901 氣泡袋:210*150*47mm 無色透明,中間位置印環保標示,短邊單端開口
6. 成品裝入氣泡袋后,用小膠紙封口
7. 外箱,紙盒標注為外徑尺寸
8. 上述所有材料須符合環保ROHS標準.