



SPECIFICATION FOR APPROVAL

產品規格承認書

CUSTOMER APPROVAL(客戶簽章)
DATE(日期):

CUSTOMER(客戶): _____

PART NO(料號): G99-CAD120F-N042 REV: A

DESCRIPTION(類別): ADAPTER (電源適配器)

*PLEASE SIGN AND RETURN ONE COPY.

*ALL PRODUCTION UNITS WILL BE BUILT ACCORDING TO THIS SPECIFICATIONS.

*請客戶簽名並返回一份復本給我司，後續生產交貨依此份承認書為準

PREPARED(制定)	CHECKED(確認)	APPROVED(核准)
潘小琪	易檢華	鄭斌
DATE : 2016.12.02	DATE : 2016.12.02	DATE :2016.12.02

MODEL NO(產品型號): CAD120121 12V/10A 120W 10748#14*1200mm 5.5*2.5*11.5 180 度

WEB SITE(網址):Http://www.cwtnc.com.cn

Http://www.cwt.com.tw

E-mail(電子郵件):guanshuo@cwtnc.com.cn

ADDRESS:10,Chuang-ye Rd,The West of Ningbo Free Trade Zone,Ningbo,Zhejiang,P.R. China.

地址:中國，浙江省，寧波市，寧波保稅區西區，創業大道10號

TEL(電話):0574-86879335

FAX(傳真):0574-86879078



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1 SCOPE

This document describes basic electrical characteristics and mechanical requirements of Model No., CAD120121 switching power supply.

2 ELECTRICAL SPECIFICATION

2.1 INPUT REQUIREMENT

2.1.1 INPUT VOLTAGE RANGE

Power supply shall operate within specification from 90 to 264Vrms or provide automatic switching in two ranges. The table below shows common input voltage range.

Input Range	Minimum	Nominal	Maximum	Unit
	90	100-240	264	Vac, rms

Table 1 - Input Voltage Range

2.1.2 INPUT FREQUENCY RANGE

The power supply shall operate within specification from 47 to 63 Hz.

2.1.3 AC INRUSH CURRENT

It shall be limited to a level below the I^2t of the fuse and the bridge diode. No damage.

2.1.4 INPUT CURRENT

Maximum steady state input current shall not exceed 2.0 A for any line voltage specified in 2.1.1.

2.1.5 LOW POWER CONSUMPTION

Vin	Load	Power consumption
230Vac / 50Hz	0A	< 0.3 W



2.2 INPUT PROTECTION

2.2.1 INPUT CURRENT PROTECTION

A fuse with rating of 4 A / 250 V(Time Lag) shall be installed on the input line side near the input connector to provided protection to the power supply.

2.2.2 INPUT CURRENT HARMONIC

Input current harmonic of the power supply should meet IEC 61000-3-2 requirement.

2.3 OUTPUT REQUIREMENT

2.3.1 OUTPUT POWER

Unit total output power, under steady state conditions, shall not exceed 120 W.

2.3.2 OUTPUT VOLTAGE AND CURRENT

Under any combination of line and load variation and environmental conditions, all outputs shall remain within tolerance defined in Table 2. Output voltage(s) shall be measured at the load side of output connector.

	Output Voltage	Voltage Range		Current Range	
		Lower Limit	Upper Limit	Minimum Load	Full rated load
1	+12V	11.4V	12.6V	0A	10A

Table 2 - Output Voltage and Current

2.3.3 RIPPLE AND NOISE

Measurements shall be made with an oscilloscope with minimum of 20MHz bandwidth. Output shall be bypassed at the connector with a 0.1µF ceramic disk capacitor and a 10µF electrolytic capacitor for general testing purpose.

Output Voltage	Maximum Ripple & Noise (Vp-p)
+12V	150mV

Table 3 – Ripple and Noise

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2.3.4 OVER VOLTAGE PROTECTION

The power supply shall be provided with over voltage protection such that under any single component failure, output channel shall exceed the voltages specified, the first will clamp, second will latch minimum load 0.1A.

Output Voltage	Maximum OVP Trip Voltage
+12V	+16.0V

Table 4 – Over Voltage Protection

Note : In the event of latch an over - voltage condition on output voltage, the power supply shall shutdown and require remove the AC mains.

2.3.5 OVER POWER PROTECTION

After the supply reaches temperature equilibrium, over power protection shall operate at 105~ 160% of rated power, after one hour burn-in and reached temperature equilibrium, defined in section 2.3.1 at 100~240Vac line input or temperature conditions.

2.3.6 OVERSHOOT AND UNDERSHOOT

During turn on, turn off condition, the output overshoot shall not exceed nominal voltage by more than 10 %, and output shall not change its polarity with respect to its return line.

2.3.7 SHORT CIRCUIT POTECTION

Power supply shall have self-limiting protection to protect against short circuit or overload conditions. No damage to the supply shall result from a continuous or intermittent short circuit condition.

2.4 PERFORMANCE REQUIREMENT

2.4.1 EFFICIENCY

Efficiency (watt out / watt in) shall be a minimum of 87 % with average mode at 115 / 230Vac & 50 / 60Hz input.

2.4.2 TURN ON DELAY TIME

Output shall reach steady state in 3 seconds after turn on.

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2.4.3 HOLD-UP TIME

Hold-up time shall be a minimum of 8_ms at 45 degrees, 115Vac / 60Hz of input.

Hold-up time shall be a minimum of 8_ms at 45 degrees, 230Vac / 50Hz of input.

2.4.4 DYNAMIC LOAD

Power supply shall operate within regulation defined at following conditions:

Rated output voltage: +/- 10%

Step load change: from 0A to 5A Load and 5A to 10A on the output.

Dwell Time: 100Hz & 1 KHz 50% duty.

Slew rate: 2.5A/usec

3 ENVIRONMENTAL SPECIFICATION

3.1 TEMPERATURE

Operation within specification: 0 to 40 degrees C.

Storage: -20 to 80 degrees C

3.2 HUMIDITY

Operation: 10% to 90% relative humidity, non-condensation.

Storage: 5% to 95% relative humidity, including condensation.

3.3 VIBRATION

Operating: 10-250Hz, 0.25G peak to peak, 3 axes, 15 min sweep.

Storage: 10-300Hz, 2.0G peak to peak, 3 axes, 15 min sweep.

3.4 ALTITUDE

Power supply shall operate to an altitude of 6561 feet.

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3.5 CALCULATED MEAN TIME BETWEEN FAILURES (MTBF)

Power supply shall have a calculated MTBF of greater than 50,000 hours, calculated utilizing MIL-HDBK-217F with the following assumptions:

Input voltage: 115Vac / 60Hz

Output load: Rated full load

Ambient temperature: 25 degrees C

4 REGULATORY COMPLIANCE

4.1 EMC SPECIFICATION

4.1.1 FCC REQUIREMENTS

Power supply shall comply with the radiated and conducted emission requirements for FCC Class B.

4.1.2 CISPR REQUIREMENTS

Power supply shall comply with the radiated and conducted emission requirements for CISPR 22 Class B.

4.2 IMMUNITY

4.2.1 ELECTROSTATIC DISCHARGE (ESD), EN 61000-4-2

The power supply shall compliance to EN61000-4-2, withstand the following ESD conditions at any point on the power supply enclosure when tested as following condition.

+/- 8KV discharge by air & +/- 4KV discharge by contact, no damage.

The storage capacitance shall be 150 pF and the discharge resistance shall be 330 ohms. The power supply shall meet all discharge requirements for the CE Mark designation.

4.2.2 RADIATED FIELD IMMUNITY, EN 61000-4-3

Power supply shall withstand following condition:

Frequency Range: 80 - 1000MHz

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Field Strength: 3 V/m with 80% amplitude modulation of 1 kHz

4.2.3 FAST TRANSIENT IMMUNITY, EN 61000-4-4

Power supply shall withstand EN 61000-4-4 +/-1kV requirements.

4.2.4 SURGE IMMUNITY, EN 61000-4-5

Power supply shall withstand 1kV (L – L) and 2kV (L – PE AND N-PE) without functional failure.

4.2.5 CONDUCTED IMMUNITY, EN 61000-4-6

Power supply shall withstand following condition:

Frequency Range: 0.15 - 80MHz

Field Strength: 3 V/m with 80% amplitude modulation of 1 kHz

4.2.6 VOLTAGE DIPS AND INTERRUPTIONS, EN 61000-4-11

Power supply shall meet EN61000-4-11 requirements.

4.3 AGENCIES CERTIFICATIONS

Unless otherwise specified, the supply is designed to meet IEC 60950-1 and/or equivalent safety standards for use in Information Technology Equipment. For desktop universal adapter, CB certificate will identify and support worldwide deviations. Specific agency certifications will be applied at customer's request and cost.

4.3.1 PRODUCT SAFETY COMPLIANCE

Certification	Certification
Canada	(cUL)
USA	(UL)
Europe	(TUV)

Table 5 - Safety Compliance

4.3.2 LEAKAGE CURRENT

Power supply touch current shall not exceed 3.5 mA at input voltage of 264Vac / 60Hz.

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4.3.3 DIELECTRIC STRENGTH

The power supply shall withstand following Hi-pot test without breakdown.

2121 Vdc line to earth ground for 3 seconds.

4242 Vdc input to output for 3 seconds.

Time duration may reduce to 3 second on production.

5 MECHANICAL

5.1 INPUT CONNECTOR AND OUTPUT CABLE

5.1.1 INPUT CONNECTOR

AC Input connector shall be an IEC60320 C14 power connector (International Class I Plug Style).

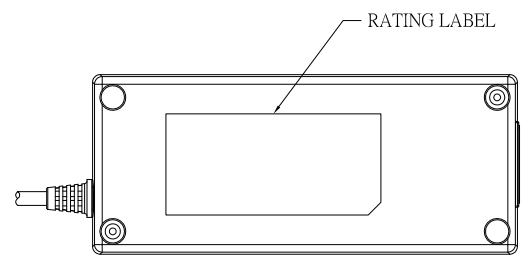
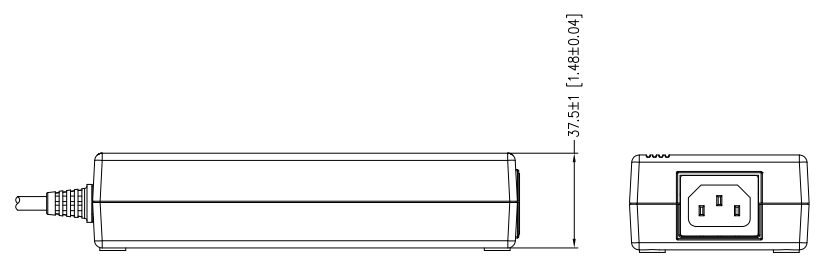
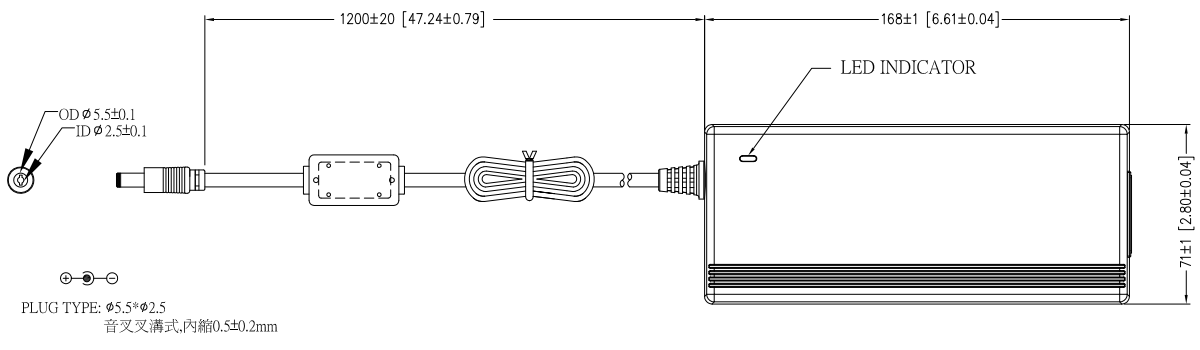
5.1.2 OUTPUT CABLE:

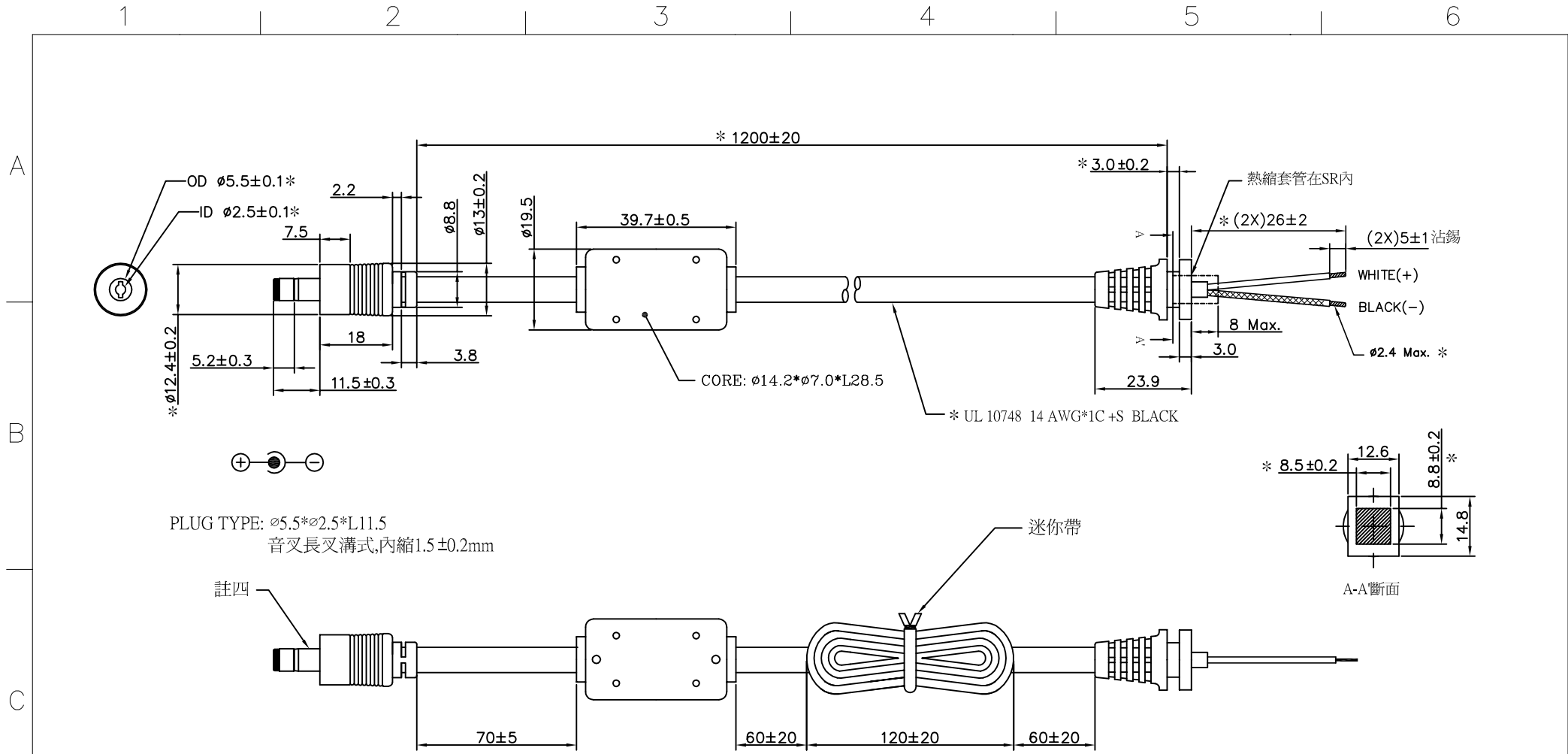
Refer to Refer to drawing.

5.2 AC ADAPTER EXTERNAL DIMENSION

Refer to appendix outline dimension drawing.

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註:
 一.電性測試:
 1.耐電壓:AC 500V/秒,測試無異常.
 2.絕緣抵抗:DC 500V 50MΩ以上.
 3.導通測試:無斷線、短路、極性反(芯線接內極).

二.拉力測試:電線與S/R間吊重 9Kg經過1分鐘
 無斷線脫落等異常.

三.折曲測試:
 電線吊重300g,左右各 60°往復搖擺,45次/分,
 往復3,000 回後,不完全斷線且外觀無脫落、
 斷裂等異常.

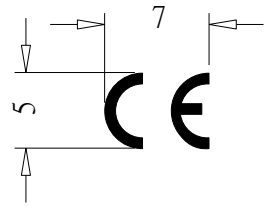
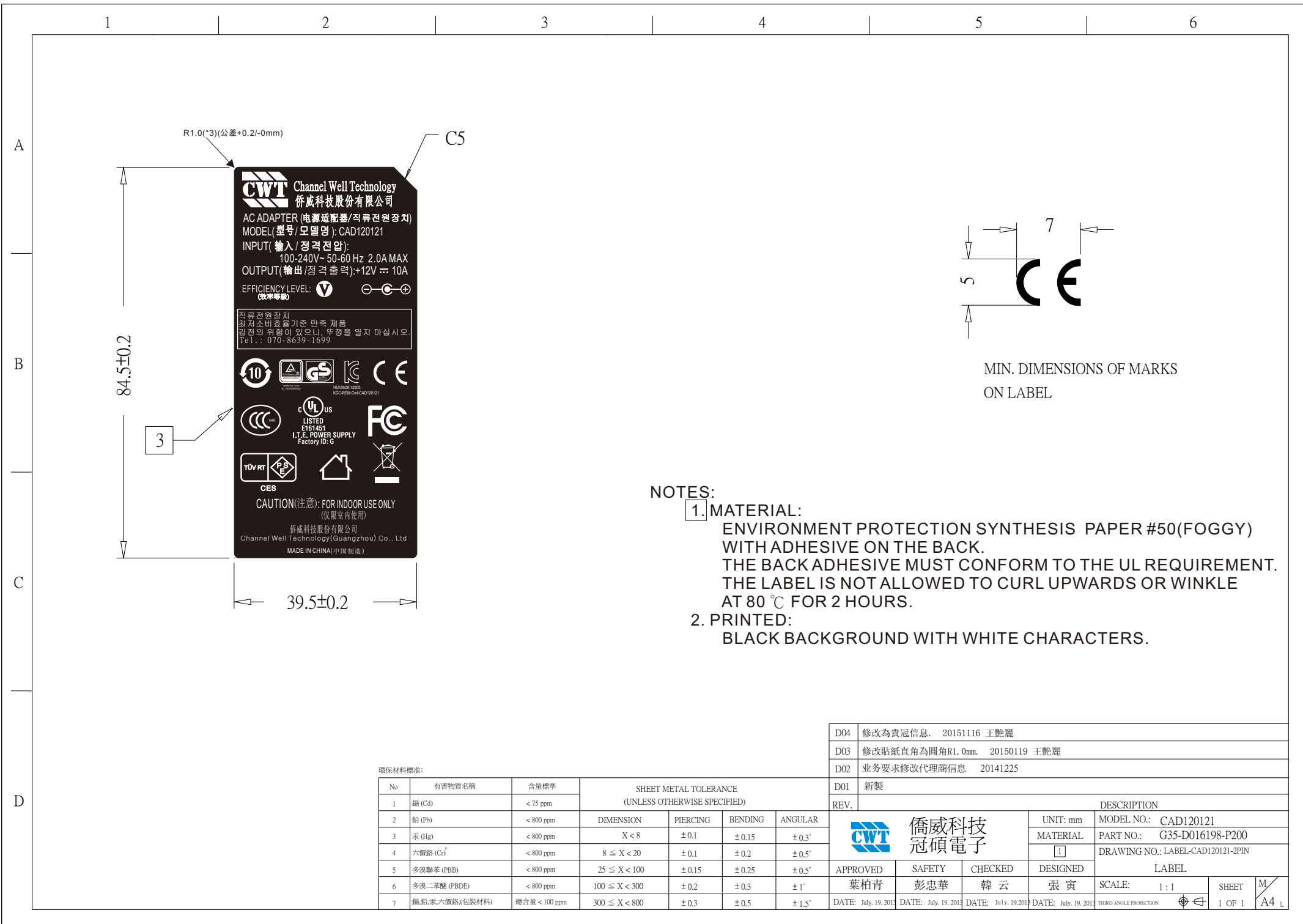
四. PLUG 需耐10A,深圳泰及電子有限公司 NUMBER
 SF552250240-01 5.5X2.5X24音叉長叉溝,或同等級.

標註 "*" 為 IQC 必須檢驗的尺寸或內容.

環保材料標準:

No	有害物質名稱	含量標準	SHEET METAL TOLERANCE (UNLESS OTHERWISE SPECIFIED)			
1	鎘 (Cd)	<75ppm				
2	鉛 (Pb)	<800ppm	DIMENSION	PIERCING	BENDING	ANGULAR
3	汞 (Hg)	<800ppm	X < 8	±0.1	±0.15	±0.3°
4	六價鉻 (Cr)	<800ppm	8 ≤ X < 25	±0.1	±0.2	±0.5°
5	多環聯苯 (PBB)	<800ppm	25 ≤ X < 100	±0.15	±0.25	±0.5°
6	多環二苯醌 (PBDE)	<800ppm	100 ≤ X < 300	±0.2	±0.3	±1°
7	鎳,鉛,汞,六價鉻(包裝材料)	總含量<100ppm	300 ≤ X < 800	±0.3	±0.5	±1.5°

0.1	新製		
REV.		DESCRIPTION	
		UNIT: mm	MODEL NO.: 120W(12V)
		MATERIAL	PART NO.: G18-B3W112A-M500
		DRAWING NO.: 2012CBL065	
APPROVED	CHECKED	DESIGNED	DC CABLE
Tiger		<i>JASON</i>	SCALE: <i>1:1</i>
DATE: Sept. 28, 2012	DATE:	DATE: Sept. 28, 2012	THIRD ANGLE PROJECTION
		SHEET	M/A3
		1 OF 1	



MIN. DIMENSIONS OF MARKS ON LABEL

NOTES:

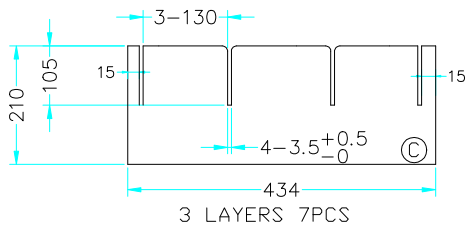
1. MATERIAL:
 ENVIRONMENT PROTECTION SYNTHESIS PAPER #50(FOGGY) WITH ADHESIVE ON THE BACK.
 THE BACK ADHESIVE MUST CONFORM TO THE UL REQUIREMENT.
 THE LABEL IS NOT ALLOWED TO CURL UPWARDS OR WINKLE AT 80 °C FOR 2 HOURS.
2. PRINTED:
 BLACK BACKGROUND WITH WHITE CHARACTERS.

環保材料標準:

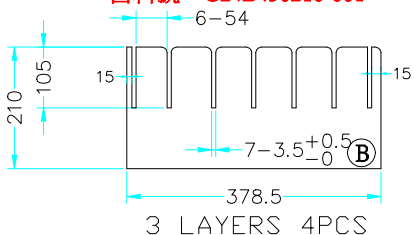
No	有害物質名稱	含量標準	SHEET METAL TOLERANCE (UNLESS OTHERWISE SPECIFIED)			
			DIMENSION	PIERCING	BENDING	ANGULAR
1	銅 (Cu)	< 75 ppm				
2	鉛 (Pb)	< 800 ppm				
3	汞 (Hg)	< 800 ppm	X < 8	± 0.1	± 0.15	± 0.3°
4	六價鉻 (Cr ⁶⁺)	< 800 ppm	8 ≤ X < 20	± 0.1	± 0.2	± 0.5°
5	多溴聯苯 (PBB)	< 800 ppm	25 ≤ X < 100	± 0.15	± 0.25	± 0.5°
6	多溴二苯醚 (PBDE)	< 800 ppm	100 ≤ X < 300	± 0.2	± 0.3	± 1°
7	鎘,鉛,汞,六價鉻,(包裝材料)	總含量 < 100 ppm	300 ≤ X < 800	± 0.3	± 0.5	± 1.5°

D04	修改為貴冠信息. 20151116 王艷麗					
D03	修改貼紙直角為圓角R1.0mm. 20150119 王艷麗					
D02	業務要求修改代理商信息 20141225					
D01	新製					
REV.	DESCRIPTION					
	UNIT: mm					
	MODEL NO.: CAD120121					
	MATERIAL					
	PART NO.: G35-D016198-P200					
	DRAWING NO.: LABEL-CAD120121-2PIN					
	LABEL					
APPROVED	SAFETY	CHECKED	DESIGNED	SCALE: 1:1	SHEET	M
葉柏青	彭忠華	韓云	張寅	1 OF 1	A4	L
DATE: July, 19, 2015	DATE: July, 19, 2015	DATE: July, 19, 2015	DATE: July, 19, 2015	THIRD ANGLE PROJECTION		

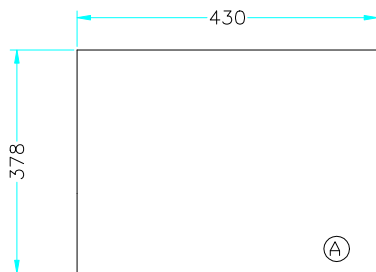
版本	修訂內容	修訂者	日期
B		HAIFENG	20070829
C	修正尺寸描述	羅李金	20120302



新料號：G24-B432111-PI**
舊料號：G24B430210-001



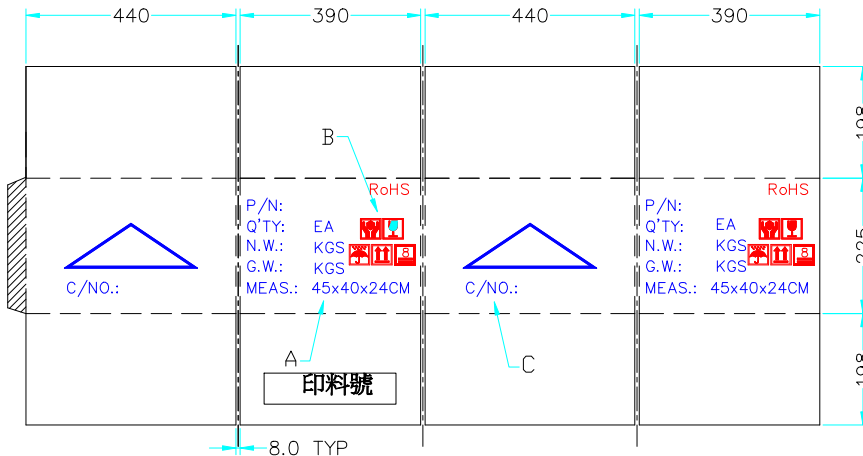
新料號：G24-B372111-PI**
舊料號：G24B378210-001



3 LAYERS 2PCS

新料號：G24-C433711-PI**
舊料號：G24C430378-001

ITEM	NAME	PART NO	MATERIAL	BURST	Q'TY
Ⓒ	PARTITION	R1511501	3 LAYERS	12kgf/cm ²	7PCS
Ⓓ	PARTITION	R1511502	3 LAYERS	12kgf/cm ²	4PCS
Ⓐ	PAD PAPER	R1311501	3 LAYERS	12kgf/cm ²	2PCS

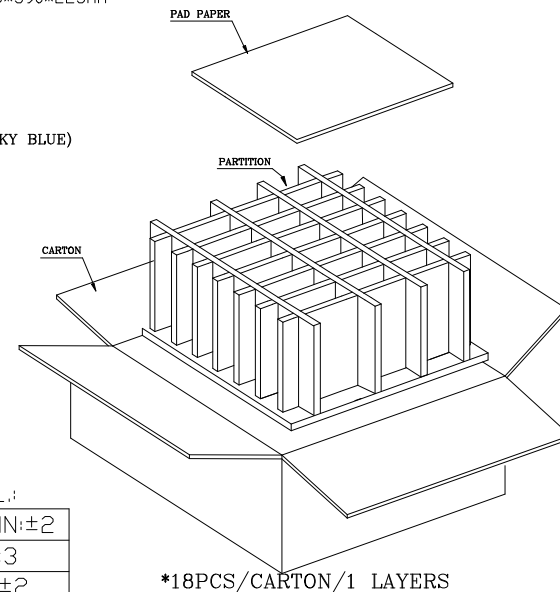


P/N: Q'TY: EA N.W.: KGS G.W.: KGS MEAS.: 45x40x24CM
A SCALE
(PRINTED COLOR IS SKY BLUE)

B SCALE
(PRINTED COLOR IS RED)

C SCALE
(PRINTED COLOR IS BLUE)

紙箱內徑尺寸：440*390*225mm



OTHER TOL.:

PARTITION:±2
CARTON:±3
PRINTED:±2

*18PCS/CARTON/1 LAYERS

REV.	DATE	APPROVED	DESCRIPTION	
			UNIT: mm	MODEL NO.: F11503
			MATERIAL	PART NO.: G24-A454011-PI**
				舊G24A450400-001
APPROVED	CHECKED	DESIGNED	SCALE: $\frac{1}{2}$	SHEET 1 OF 1
韓云	施繼成	羅李金	THIRD ANGLE PROJECTION	M/A4
DATE: 20120302	DATE: 20120302	DATE: 20120302		