

# Approval Sheet

FOR NORDIC/ELFA

PART NO.: SA124C-12G (replace SA125A 1220 0040 / 69-001-12)

DESIGNED NO.: A124C100004-2

TYPE:

DATE: May 19. 2010

APPROVED BY (PLEASE SIGN)

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思 慈 有 限 公 司



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**Our power supply itself is with EMC(EMI+EMS) approval. We don't have customer's end-product, please double check EMC or peak current or any necessary request after mating with your product with our power supply.**

**We will produce the goods per the sample+ the specification shown on this approval sheet, if you have any question on our sample or our approval sheet such as O/P, dc plug, polarity, safety, protection characteristic(OCP/OVP..etc.), please inform us before signing back the approval sheet.**

# **24W AC to DC Switching Power Adapter Specification**

**Model Name : SA124C-12G**

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<b>SAC AC to DC SWITCHING ADAPTER SPECIFICATION</b>	<b>MODEL:</b>	SA124C-12G	<b>Design NO:</b>	A124C100004-2
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## 1. DESCRIPTION.

- 1.1 This specification is suitable for
- 1.2 This adapter is used for :
- 1.3 This product is AC to DC switching power transfer device, it can provide for a 24W dc output with constant voltage source.
- 1.4 The product complies with RoHS.
- 1.5 The product complies with EuP EPSs Stage 2

## 2. SURFACE , STRUCTURE.

- 2-1 Surface damage , rusting etc. is not permitted.
- 2-2 Appearance , dimension and description : As drawing.

## 3. ELECTRICAL CHARACTERISTICS.

- 3-1 Input Voltage :
  - a. Rated Voltage, 100~240 Vac
  - b. Max. Voltage, 90~264 Vac
- 3-2 Input Frequency :
 

47~63Hz
- 3-3 Input Current :
 

800 mA (Max.) @ 100Vac/50Hz with full load
- 3-4 Output Voltage and Current(dc) :

	<b>Voltage (Vdc)</b>	<b>Current (mA)</b>	<b>Voltage (Vdc)</b>	<b>Current (mA)</b>
<b>O/P</b>	12±5%	0	12±5%	2000

### 3-4-1 Line Regulation :

The line regulation is less than ±2%, @ full load and ±10% input voltage.

**3-4-2 Load Regulation :**

The load regulation is less than  $\pm 5\%$ .

**3-5 Efficiency :**

78% (Min.) , @ AC Input 100Vac/50 Hz with full load.

78% (Min.) , @ AC Input 240Vac/50 Hz with full load.

**3-5-2 Average Efficiency : (As per CEC guideline, EuP EPSs Stage 2)**

82.22 % (Min.)

, @ AC Input 115Vac/60Hz and 230Vac/50Hz with 25%,50%,75% and 100% load  
, ambient 25°C .

The UUT shall be operated at 100% of nameplate current output for at least 30 minutes immediately conducting efficiency measurements.

Average Efficiency : (As per Energy Star EPS 2.0)

**3-6 Ripple and Noise Voltage : (At full load)**

At O/P= 12Vdc,  $\leq 120\text{mVp-p}$

The measuring terminated with a 47uF EC-Capacitor and 0.1uF CC-Capacitor  
, and measurement is done by 20MHz band-width.

**3-7 Safety Test :**

**3-7-1 Hi -Pot Test :**

3000 Vac, 5mA, 1 Sec. between Primary and Secondary circuit and chassis.

**3-7-2 Insulation Test :**

500Vdc, 1 minute between Primary and Secondary circuit and chassis,

IR should  $\geq 100\text{M}\Omega$ .

**3-7-3 Leakage Current :  $\leq 0.25\text{mA}$  , at 240Vac / 50Hz**

3-8 Temperature Rise : (Use thermometer).

AC input 100 V / 50 Hz with full load, shall not exceed 45K on case surface  
@ ambient 25°C.

3-9 Transient Response : < 10% ,@ output change between 50% and 100% of full load,  
slew rate is 0.5A/us, frequency is 100Hz and 10KHz.

3-10 Hold Up Time :  $\geq 8$  mSec., @ 100Vac/50Hz, ambient 25°C with full load.

3-11 Rise Time :  $\leq 20$  mSec., @ 100Vac/50Hz, ambient 25°C with full load  
from 5% to 95% of  $V_o$ .

3-12 Inrush Current :  $\leq 70A$  ,at cold start, 240Vac/50Hz, full load, ambient 25°C.

3-13 No load Power Consumption (Off Mode) :  $\leq 0.3$  Watts,  
At 115Vac/60Hz and 230V/50Hz, ambient 25°C  
(As per Eup Stage 2 & Energy Star EPS 2.0 guideline.)

#### **3-14 PROTECTION CHARACTERISTICS :**

3-14-1 Over Voltage Protection : 110%~180%  $V_o$  (At full load)

3-14-2 Over Load Protection Current : 2.2 ~ 4.5 A @ 100~240Vac, ambient 25°C.

3-14-3 Short Protection :

The adapter can withstand continuous short at DC output and no damage. It will  
enter into normal condition if the fault condition is removed.

#### **4. ENVIRONMENT.**

4-1 Operating Temperature : 0°C ~ + 40°C

4-2 Operating Humidity : 10% to 90 %R.H.

4-3 Storage Temperature : -20°C ~ + 80°C

4-4 Storage Humidity : 5% to 95 %R.H.

#### **5. RELIABILITY.**

5-1 MTBF : (When calculated using MIL-HDBK-217F)  
50,000 hours at 25°C

## 6. SAFETY.

Safety Status :      Applicable   V   Not applicable

Agency	Standards	Note

## 7. EMS & EMI.

### 7-1 EMS :

Items	Specification	Reference
ESD	Contact : $\pm 4\text{KV}$	IEC61000-4-2
	Non-Contact : $\pm 8\text{KV}$	
RS	Frequency : 80MHz~1.0GHz, Field Strength : 3V/M	IEC61000-4-3
EFT	1.0KV on input ac power ports.	IEC61000-4-4
SURGE	Line to line : $\pm 1\text{KV}$ (peak)	IEC61000-4-5
	Line to earth (ground) : $\pm 2\text{KV}$ (peak)	

### 7-2 EMI for both Conduction & Radiation ( At Resistor load )

<b>Comply with Standards</b>
CISPR22 ; EN55022, Class B

## 8. MECHANICAL CHARACTERISTICS.

8-1 Physical Size : 75mm(L) x 34.2mm(W) x 49mm(H)

8-2 Enclosure material : 94V-1, minimum

8-3 Output Cable : 1500mm UL2468 #20\*2C , with Plug : 2.1\*5.5\*12.5 S  
Polarity : Center"-"

8-4 Strain Relief Test :

9 Kg to the output cord for 60 seconds each , there should be no breakage of the cord or plug .

8-5 Vibration Test :

The vibration frequencies are set at 10-55-10 Hz. with total amplitude of 1.5 mm along the 3 directions namely X-Y-Z. The each direction should be vibrated for 30 minutes, after testing no abnormal electrical or mechanical should occur.

8-6 Drop Test : (Referring to CSA C22.2 No.60950 / UL60950 / EN60950)

Products shall be dropped from a height of 1M onto a horizontal surface consists of hardwood at 13mm thick, mounted on two layers of plywood each 19mm to 20mm thick, all supported on a concrete or equivalent non-resilient floor.

Upon conclusion of test, the equipment need not be operational.

8-7 Cord Bending Test :

The cord shall withstand a weight of 200 g, when swung from left to right at an angle of 120 deg. For testing total of 1000 times.

**9. Product Warranty :**

12 months after production, under normal use condition.

**10. Net Weight (Reference) :** 137 ±20 g

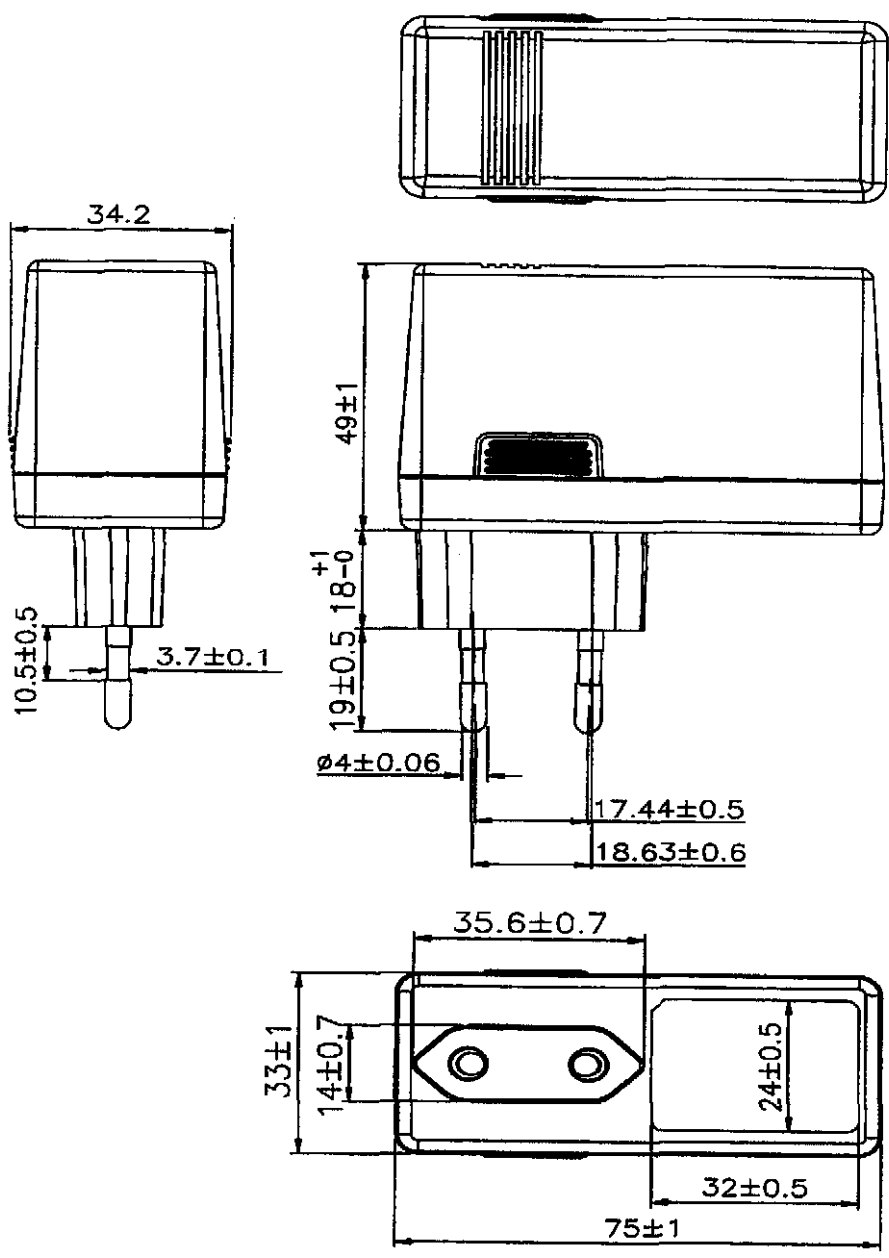
Tested By: 林宗諭

Checked By: \_\_\_\_\_



Approved By: \_\_\_\_\_



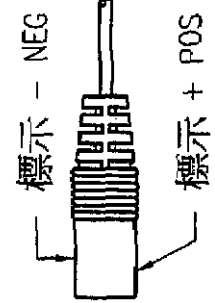
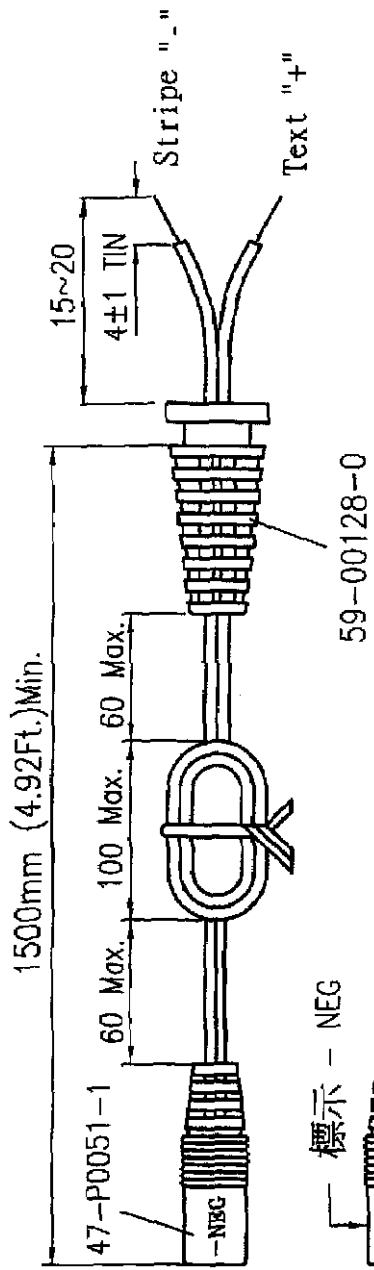
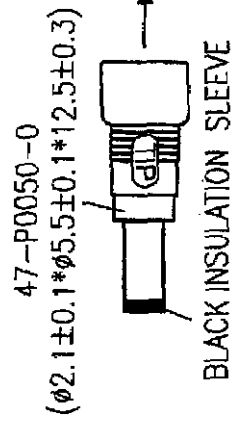


SA124C-12G

UNIT:mm



入料時47-P0050-0需套入47-P0051-1  
 \* 注意方向性 (TIP對準 - NEG)  
 Part no 47-P0050-0 should be tubed in 47-P0051-1  
 \* Note direction (TIP should be aimed at "-")



UL 2468 AWG20\*2C

REV.	DESCRIPTION				DATE/REVISER				DC CORD					
	DRAWER	DESIGN	CHECK	APPROVED	DIMENSION	TOLERANCE	Q'TY	UNIT	SCALE	ORIG. DATE	MANUFACTORY	MATERIAL	TREATMENT	DWG. NO.
CHENG	鄭美智 98.2.3	林宗諭 98.2.3	劉政源 98.2.5		0 ~ 5	±0.1		mm	/	2010.01.19		P.V.C		S89-P051-1-001%
					5 ~ 60	±0.2								
					60 ~ 200	±0.3								
					200 ~ 350	±0.6								
ONTOP COMPANY LIMITED														

# SAMPLE NAMEPLATE

**ONTOP**

MODEL:SA124C-12G  
SWITCHING ADAPTER

INPUT:100-240V ~

50-60Hz 0.8A

OUTPUT:12V  $\equiv$  2A 24W

**CAUTION:**  
INDOOR USE ONLY



MADE IN CHINA