
60 W
AC ADAPTER
SPECIFICATION

Model No. : **ATS065T-A120 (Level VI)**

Description : **12Volts / 5Amps**

Part No. : **ATS065TA120415218**

Version : **A1**

Date : **04-Dec.-2017**

1. Feature :

- ◆ **Input** : Universal 100 ~ 240 Vac / 50 ~ 60 Hz Input, without any slide switch.
- ◆ **Output** : +12V / 0~5A
- ◆ **Case Dimension** : 115 (L) *53 (W) * 38 (H) mm
- ◆ **Efficiency** : Eff (av) \geq 88%
- ◆ **Safety** : UL / cUL / GS / PSE / BSMI / CB / RCM
- ◆ **EMI** : CE / FCC 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 DoE / ErP (Stage 2) / GEMS / NRCan / CEC / EPA

2. Input :

2.1 Voltage	Universal 100~240Vac, single phase
2.2 Frequency	50 ~ 60 Hz
2.3 Current	1.4A Max.
2.4 Inrush Current	80A Max. / 240Vac (Cold start at 25 °C , full load)
2.5 Efficiency	Eff (av) \geq 88% (At 115 Vac & 230 Vac)
2.6 Power Consumption	Pi \leq 0.21 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	+12V \pm 5%
	Current	5A Max.
	Regulation	11.40Vmin. ~ 12.00Vtyp. ~ 12.60Vmax.
	Ripple & Noise	120mV Max.
	Total Power	60 W Max.

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

4. Protection :

4.1 Over Voltage Protection (OVP)	(V out *150%) Max.
4.2 Short Circuit Protection (SCP)	Automatic recovery after short-circuit fault being removed
4.3 Over Current Protection(OCP)	(I out *180%) Max.

Remark : When Short Circuit Protection or Over Current 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 latch .

5. Safety 、EMI and EMC Requirement :

5.1 Safety Requirement

a. Safety : UL / cUL / GS / PSE / BSMI / CB / RCM

b. Dielectric Strength : Cut off current 10mA

(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 : CE / FCC 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. : 300,000 Hrs.(Calculated Hours At 25°C , By Telcordia SR-332)

8. Mechanical :

8.1 Weight : 310 g Typical

8.2 Cable Type : Black UL1185 AWG16
(Wire + Plug)

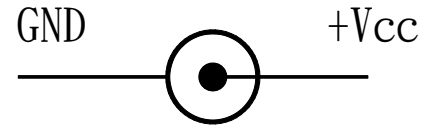
Plug : $\phi 5.5 * \phi 2.1 * 9.5$ mm
(Cannelure)

8.3 Cable Length : 1500mm

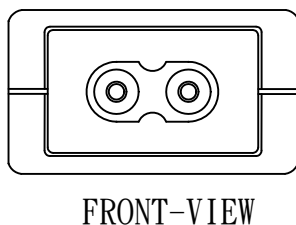
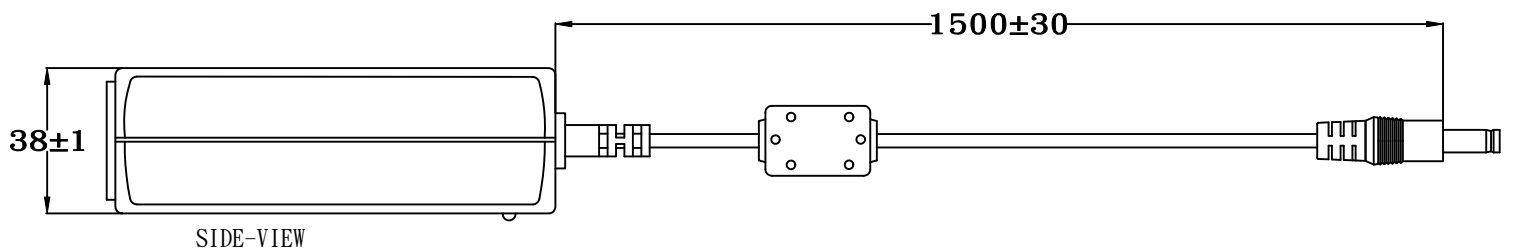
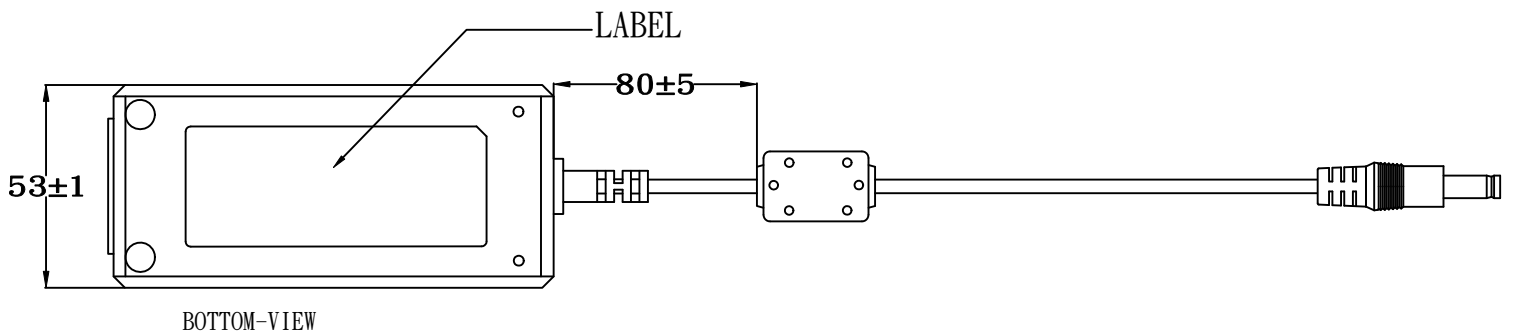
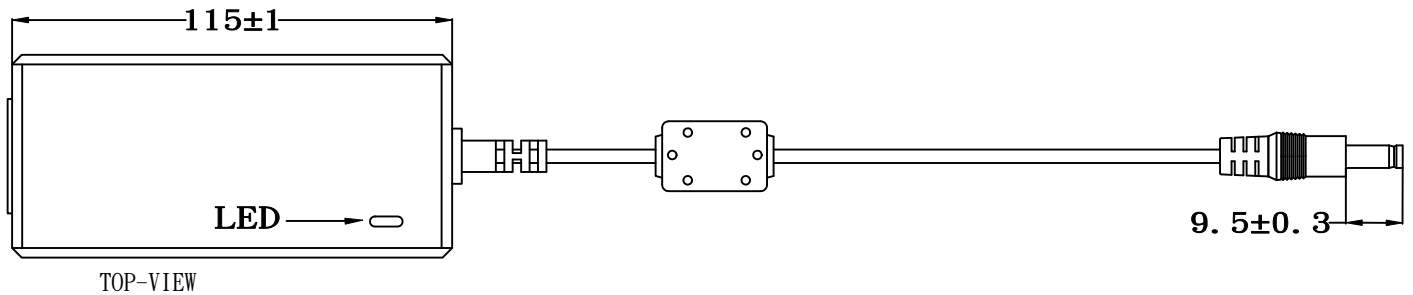
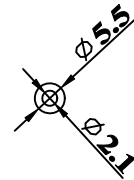
8.4 Case Dimension : 115mm(L)*53mm(W)*38mm(H)

8.5 Material Flammability : UL 94V-0

8.6 External Appearance : 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 : 70.8mm(L)*40.4mm(W)+/-0.1mm
Label Thickness : 75#

100%



"XXX"

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

ID NO. "X"

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

200%



Label Part No.:9443084440
REV.: A

A. Line Regulation Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
90Vac / 50 % Load	11.40 V ~ 12.60V	12.18V	12.12V	12.15V
115Vac / 50 % Load	11.40 V ~ 12.60V	12.18V	12.12V	12.15V
132Vac / 50 % Load	11.40 V ~ 12.60V	12.18V	12.12V	12.15V
180Vac / 50 % Load	11.40 V ~ 12.60V	12.18V	12.12V	12.15V
230Vac / 50 % Load	11.40 V ~ 12.60V	12.18V	12.12V	12.15V
264Vac / 50 % Load	11.40 V ~ 12.60V	12.18V	12.12V	12.15V

B. Efficiency Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac	88 % Min.	88.74%	88.67%	88.92%
230Vac	88 % Min.	89.13%	89.08%	89.25%

$$\text{Eff (av)} = \frac{E1 + E2 + E3 + E4}{4}$$

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

C. Load Regulation Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 0 % Load	11.40 V ~ 12.60V	12.32V	12.25V	12.28V
115Vac / 50 % Load	11.40 V ~ 12.60V	12.18V	12.12V	12.15V
115Vac / 100 % Load	11.40 V ~ 12.60V	12.04V	11.98V	12.00V
230Vac / 0 % Load	11.40 V ~ 12.60V	12.33V	12.26V	12.28V
230Vac / 50 % Load	11.40 V ~ 12.60V	12.18V	12.12V	12.15V
230Vac / 100 % Load	11.40 V ~ 12.60V	12.04V	11.97V	12.00V

D. Ripple & Noise Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	120mV Max.	64.0mV	63.2mV	61.3mV
230Vac / 100 % Load	120mV Max.	25.2mV	34.4mV	32.2mV

E. Inrush Current

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
240Vac / 100 % Load	80A Max	64A	65A	65A

F. Over Current Protection

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	(Iout *180%) Max.	124%	119%	122%
230Vac / 100 % Load	(Iout *180%) Max.	127%	119%	123%

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	≤ 0.21 W	0.07W	0.06W	0.07W

Efficiency Test Report

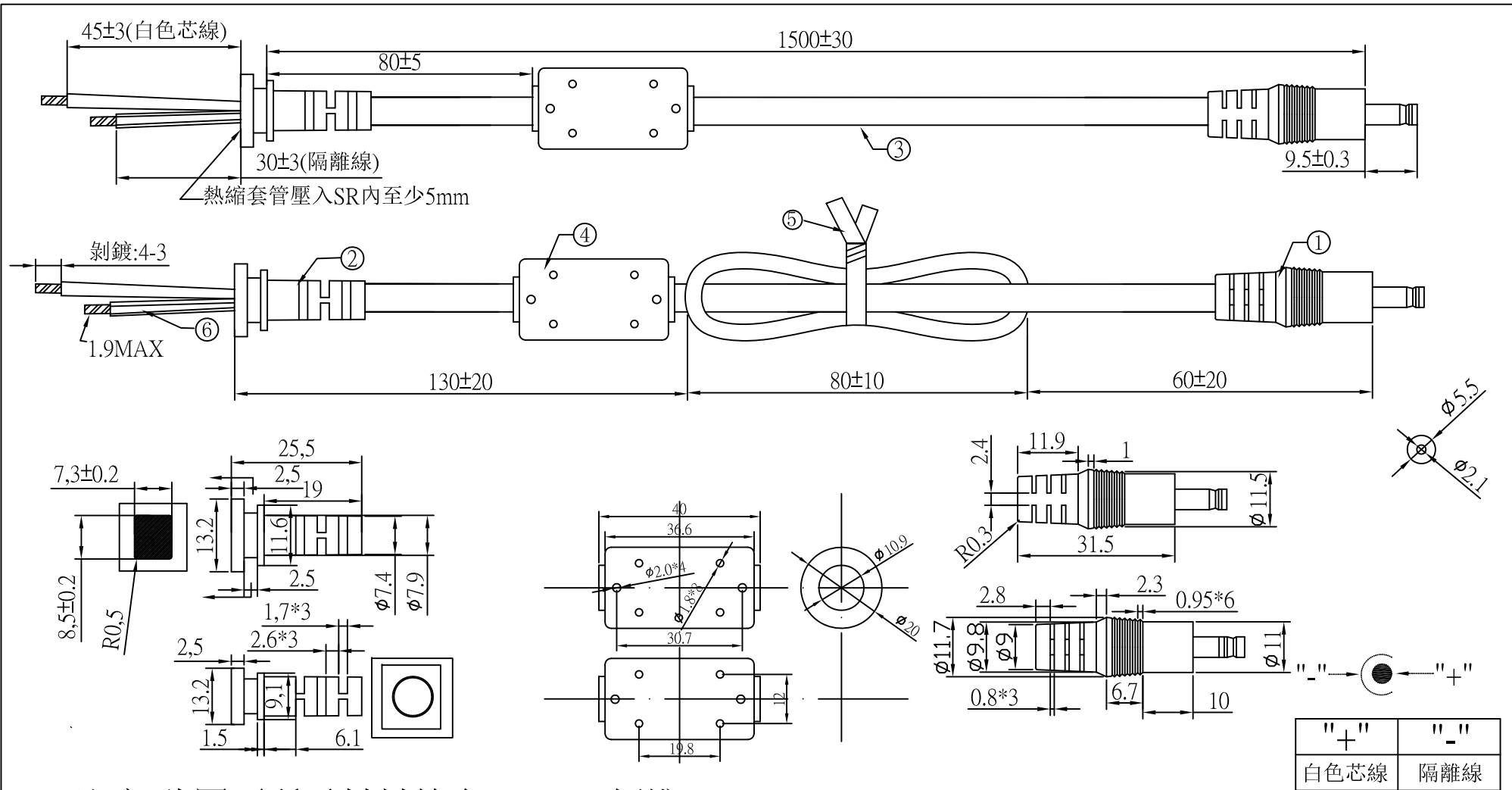
- A. Model Number : ATS065T-A120 (12V/5A)
- B. DC Power Cord : UL1185 , 16(粗)AWG ,1.5M
- C. Average Efficiency :
DoE LEVEL VI 88% Min.
- D. NO Load Power Consumption :
DoE LEVEL VI 0.21W max.
- E. Testing Dequpment :
1. AC Power Source : " ALL POWER " APW-110N
2. Electronic Load : " PRODIGIT " 3311F
3. Power Meter : "YOKOGAWA " WT310
4. Digital Meter : " FLUKE " 179
- F. AC Input Voltage : 115Vac/60Hz

Reported Quantity	Load Conditions				
	100% * I ₀	75% * I ₀	50% * I ₀	25% * I ₀	0% * I ₀
Rms Output Current(mA)	5000mA	3750mA	2500mA	1250mA	0mA
Rms Output Voltage(V)	12.048V	12.116V	12.186V	12.254V	12.320V
Active Output Power(W)	60.24W	45.44W	30.47W	15.32W	0.00W
Rms Input Voltage(V)	115V	115V	115V	115V	115V
Rms Input Current(A)	1.207A	0.951A	0.695A	0.391A	0.016A
Rms Input Power(W)	69.17W	51.44W	34.04W	17.01W	0.04W
Voltage T.H.D.(%)					
True Power Factor	0.524	0.492	0.449	0.402	0.068
Power Consumed by UUT(W)	8.93W	6.01W	3.58W	1.69W	0.04W
Efficiency	87.09%	88.33%	89.50%	90.05%	*
Average Efficiency	88.74%				*

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

Reported Quantity	Load Conditions				
	100% * I ₀	75% * I ₀	50% * I ₀	25% * I ₀	0% * I ₀
Rms Output Current(mA)	5000mA	3750mA	2500mA	1250mA	0mA
Rms Output Voltage(V)	12.043V	12.116V	12.183V	12.253V	12.328V
Active Output Power(W)	60.22W	45.44W	30.46W	15.32W	0.00W
Rms Input Voltage(V)	230V	230V	230V	230V	230V
Rms Input Current(A)	0.742A	0.571A	0.395A	0.216A	0.024A
Rms Input Power(W)	68.26W	51.00W	34.06W	17.11W	0.10W
Voltage T.H.D.(%)					
True Power Factor	0.415	0.406	0.393	0.363	0.022
Power Consumed by UUT(W)	8.05W	5.57W	3.60W	1.79W	0.07W
Efficiency	88.25%	89.14%	89.49%	89.66%	*
Average Efficiency	89.13%				*

Tester :Sun



注意:此圖面所需材料符合"ROHS"標準

- ① 5.5*2.1*23內縮車溝黑色半邊,外模P-184號模(二次成型),用料外PVC60P黑色(YV-PV-00009)
- ② SR-348(C)號模,用料PVC75P黑色(YV-PV-00031),吊重:1米/20磅/60秒
- ③ UL 1185 16AWG(0.16*65)單芯隔離線加粗(0.16*65) BK亮 OD:4.2 裁線長度:1560+10/-0
- ④ 鐵芯規格:14.2*28.5*6.35(YV-CR-00009),外模SR-118號模用料PVC60P黑色(YV-PV-00009)
- ⑤ PE有鐵芯紮帶10CM黑色(YV-ES-00001)
- ⑥ 熱縮套管:Ø2*36(YV-ES-00008)
- ⑦ 絕緣阻抗:20Ω,導通阻抗:1.5Ωmax
- ⑧ 單位:MM

料號	R44N111501L		
客戶		制圖	吳远松
版次	01	初審	
頁數	01	審核	
		批準	
圖號	ADT-2041	日期	2011/06/14