



Electrical Specification

Model Name : WA-36A12R0UGK-BAB

Rev. 00

1 SCOPE

This specification describes the physical, functional and electrical characteristics of the 36 watts, Single output +12V/3.0A, switching power supply.

2 INPUT CHARACTERISTICS

2.1 Input Voltage

Input voltage range : 100~240 Vac $\pm 10\%$.

2.2 Input Frequency

Input frequency range : 50~60 Hz ± 3 Hz .

2.3 Input current

Input current should lower than 0.90/0.50 Arms under full-load and 115/230 Vrms input voltage conditions.

2.4 Inrush Current

Inrush current should be lower than 60/80A Max under cold start and 1st half cycle of 115/230 Vrms input voltage.

2.5 Leakage Current

Leakage current should be lower than 250 μ A under maximum input voltage and frequency.

2.6 Power Consumption

Input power saving should be lower than 0.3 W under No-load and 230 Vrms input voltage conditions.
It would conform to LEVEL V standard.

2.7 Efficiency

+12V output current 3.0A/2.25A/1.5A/0.75A correspondingly under input voltage 115/230Vrms, sum of each efficiency division 4 should be greater than 84.6%, after burn in 0.5 hour in full load.
It would conform to LEVEL V standard.

2.8 Input Power Factor

The supply input power factor is 0.5 typical under full load and 115Vrms input voltage conditions.

3 OUTPUT CHARACTERISTICS

3.1 Output Characteristics

Output voltage, load current, voltage regulation and output noise of power supply should meet the specifications, which defined on the tables below:

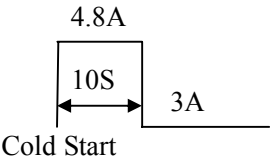
Table 1 Electrical Characteristics overview



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Rev. 00

Item	Performance	Remarks
Output Voltage Rating	+12Vdc	
Output Tolerance	±5%	
Full Load	3.0A	
Min. Load	0A	
Max. Ripple Voltage	200 mVp-p	@Ta=25°C Note 1
Peak Load	4.8A	 Cold Start @115V/60Hz&230V/50Hz
Line Regulation	±1 %	
Load Regulation	±5 %	
Hold up Time	10mS	Full Load & 115Vrms /60Hz input voltage, Turn off at Vin 90° Phase Note 2
	60mS	Full Load & 230Vrms /50Hz input voltage , Turn off at Vin 90° Phase Note 2
Turn on Time	5 S Max.	Full Load & 90Vrms /47Hz input voltage

Note 1: Ripple voltage measurement is done with an oscilloscope set at 20M Hz bandwidth & output terminated with 0.1uf ceramic capacitor & parallel with 47uf low ESR electrolytic capacitor at full load & nominal line.

Note 2: Turn off at Vin 90° phase.

3.2 Output Protection :

3.2.1 Short Circuit Protection : No damage to this power supply when output is shorted to GND.

3.2.2 Over Current Protection : Output current should be no more than 7A.

4 ENVIRONMENT SECTION

4.1 Temperature

4.1.1 Operating : 0 °C to +40 °C

4.1.2 Storage : -20 °C to +80 °C

4.2 Humidity

4.2.1 Operating : 10% to 90% RH

4.2.2 Storage : 5% to 95% RH



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Rev. 00

5 SAFETY SECTION

- 5.1 Insulation Resistance :** Primary to Secondary 100M Ohm Min. at 500Vdc
5.2 Hi-Pot Test : Primary to secondary: 4242Vdc or 3000VAC/1 minute for typical. 10mA Max.
5.3 Safety conforming :

Type (Marking)	Country/Region	Standard
UL/cUL(or CSA)	USA	UL 60950-1 and UL 60065
	Canada	CAN/CSA C22.2 No. 60950-1 and CAN/CSA-C22.2 No. 60065
FCC	USA	ANSI C63.4-2003;FCC Part 15 Class B
CEC	California	California Code of Regulations, Title 20, Sections 1601 through 1608(Phase 2<Level IV>)
CB	IEC	IEC 60950-1 and IEC 60065
GS	Germany	EN 60950-1 and EN 60065
CE	Europe	73/23/EEC and the amendment directive: 2006/95/EC (IEC/EN 60950-1 or IEC/EN 60065)
		89/336/EEC and the amendment directive:2004/108/EC (EN61000-3-2 & EN61000-3-3; EN55022 Class B & EN55024 or EN55013 & EN55020)
		ErP Directive: 2009/125/EC and the Implementing Measures (EC)No 278/2009
CCC	China	GB4943; GB 9254 ; GB 17625 and GB8898;GB13837;GB17625.1
BSMI	Taiwan	CNS 13438; CNS14336 and CNS 14408; CNS14336; CNS13438
KC Mark	Korea	K60950-1 ;K00022;K00024 and K60065
K-MEPS	Korea	MKE's Notification 2008-99
SAA/SGS	Australia & New Zealand	AS/NZS60950.1 and AS/NZS 60065
C-Tick	Australia & New Zealand	AS/NZS CISPR22 or AS/NZS CISPR13
MEPS	Australia & New Zealand	AS/NZS 4665.1
PSE	Japan	J 60950 ;J55001 and J 60065 ;J55013
VCCI	Japan	VCCI Class B

6 EMC SECTION :



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Rev. 00

6.1 EMI design to meet to following standards

6.1.1 Conduction: It is refer to EN 55022, CISPR PUB 22. Class B

6.1.2 Radiation: It is refer to EN 55022, CISPR PUB 22. Class B

6.1.3 Harmonic current: It is refer to EN 61000-3-2

6.1.4 Flicker Voltage: It is refer to EN 61000-3-3.

6.2 EMS design to meet to following standards.

6.2.1 Electrostatic Discharge ESD:

6.2.1.1 It is refer to IEC 61000-4-2.

6.2.1.2 Air Electrostatic Discharge : $\pm 8KV$

6.2.1.3 Contact Electrostatic Discharge : $\pm 4KV$

6.2.2 Radiated Immunity RS:

6.2.2.1 It is refer to IEC 61000-4-3.

6.2.2.2 Radiated Susceptibility : 3V/m

6.2.3 EFT

6.2.3.1 It is refer to IEC 61000-4-4.

6.2.3.2 EFT Test : $\pm 1KV$

6.2.4 Surge:

6.2.4.1 It is refer to IEC 61000-4-5

6.2.4.2 Common Mode Surge Immunity : Non (Class II is unnecessary)

6.2.4.3 Differential Mode Surge Immunity : $\pm 1KV$

6.2.5 Conducted Radio Frequency Disturbances Test CS:

6.2.5.1 It is refer to IEC 61000-4-6.

6.2.5.2 Injected current Susceptibility : 3Vrms

6.2.6 Power Frequency Magnetic Field Test: It is refer to IEC 61000-4-8.

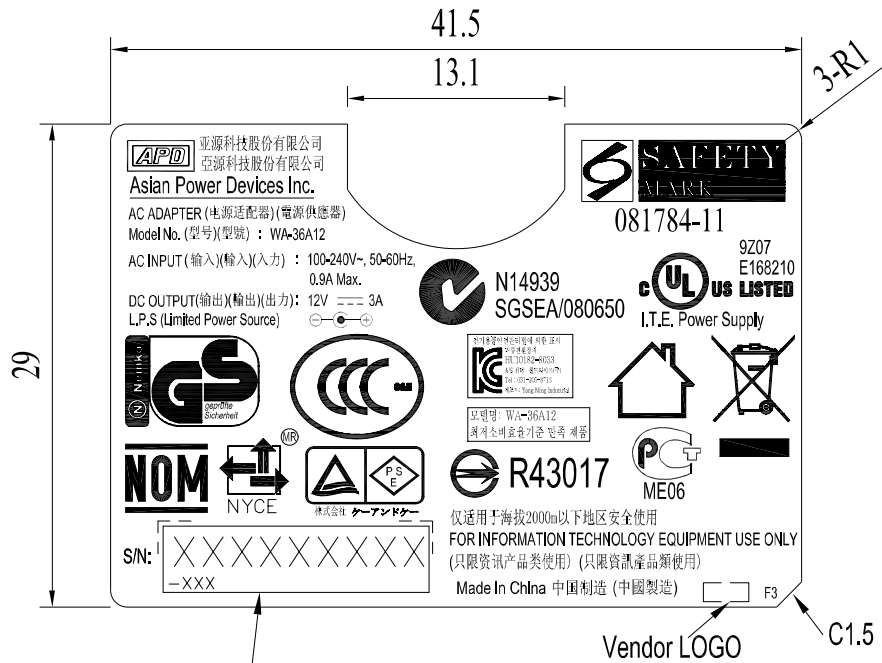
6.2.7 Voltage Dips: It is refer to IEC 61000-4-11

7 MECHANICAL SECTION

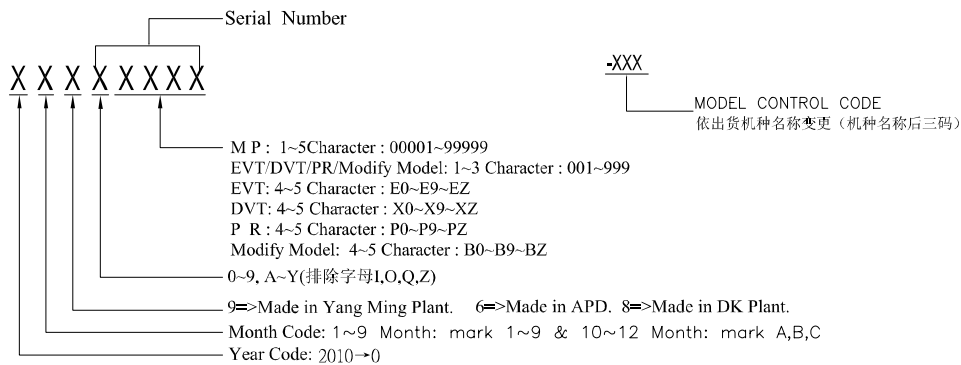
7.1 Dimension : Refer to mechanical drawing for the details.

APD Proprietary Information / Document : No publicity , transmission to third party or competitor is allowed without APD Prior written consent.	Issue Date: 2013-3-22	Approved by : 尹啸雷	Checked by : 陈聪	Prepared by : 陈聪
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REV.	ORD.	REVISION NOTE.	DATE	DESIGNED	APPROVED



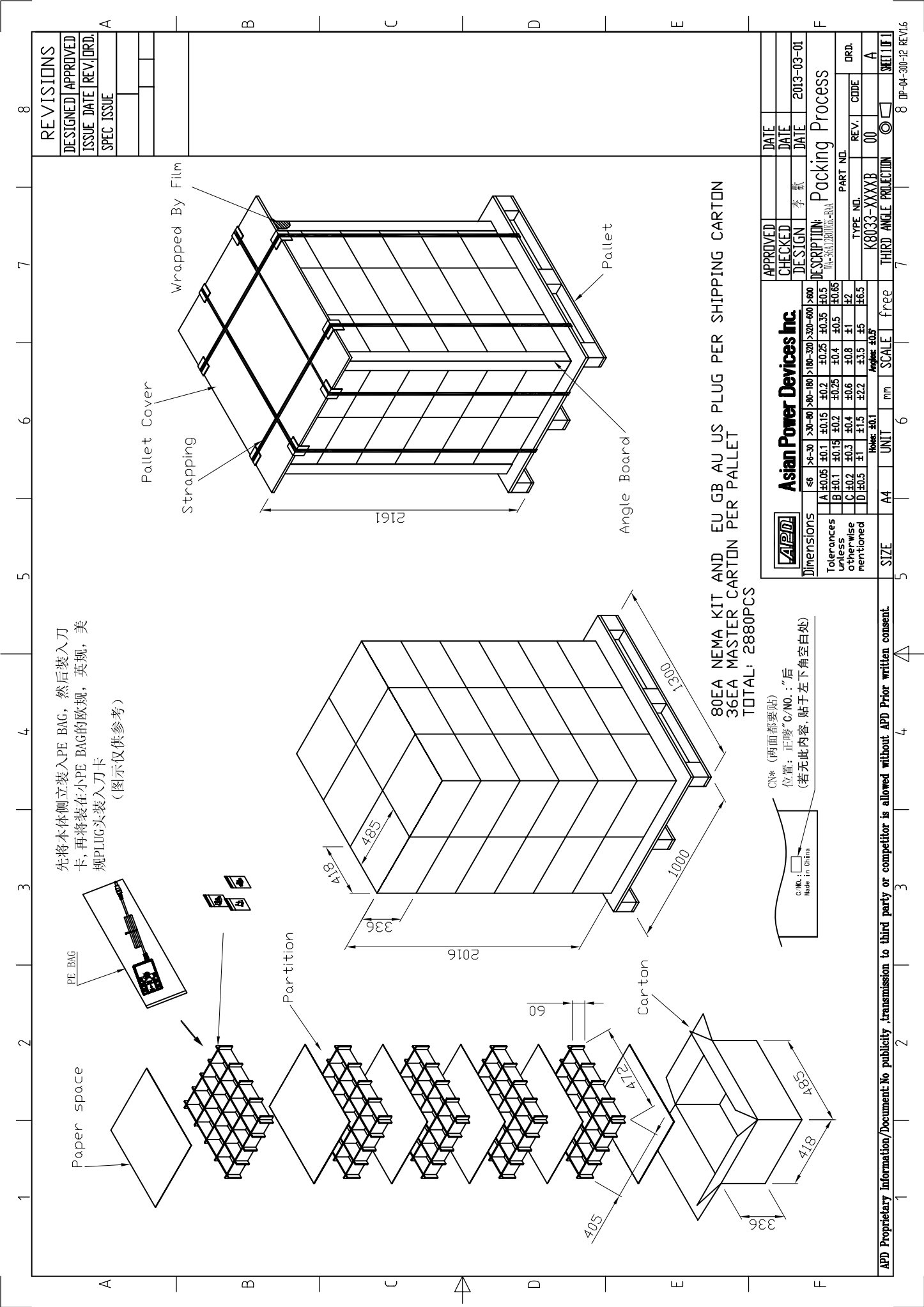
貼S/N LABEL16*4mm



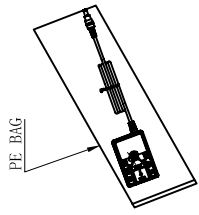
Note: Revision No.&Date Reference To 612-12554, S/N:L8033-20063

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 Asian Power Devices Inc.		APPROVED		王 伟		DATE		2013-03-22									
		CHECKED		梁 锋		DATE		2013-03-22									
		DESIGN		邓 娟		DATE		2013-03-22									
Dimensions		≤6		>6-30		>30-80		>80-180		>180-320		>320-600		>600		DESCRIPTION: LABEL ASSEMBLY WA-36A12ROUGK-BAB	
Tolerances unless otherwise mentioned	A	±0.05		±0.1		±0.15		±0.2		±0.25		±0.35		±0.5			
	V B	±0.1		±0.15		±0.2		±0.25		±0.4		±0.5		±0.65			
	C	±0.2		±0.3		±0.4		±0.6		±0.8		±0.1		±2			
	D	±0.5		±1		±1.5		±2.2		±3.5		±5		±6.5			
		Holes: ±0.1										Angles: ±0.5°					
SIZE		A4		UNIT		mm		SCALE		1:1							
																THIRD ANGLE PROJECTION	
																SHEET 10F 1	

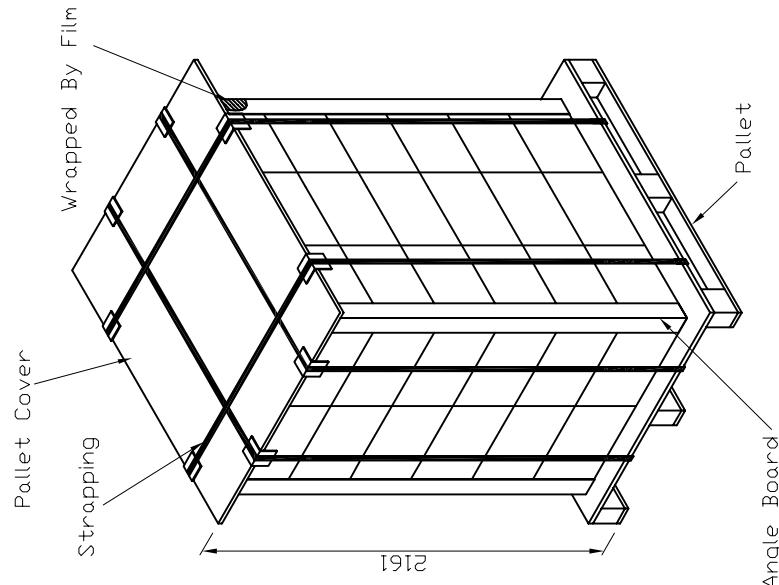


先将本体侧立装入PE BAG, 然后装入刀卡, 再将装在小PE BAG的欧规, 英规, 美规PLUG头装入刀卡 (图示仅供参考)



CN* (两面都要贴)
位置: 正陵 C/NO.: "后
(若无此内容, 贴于左下角空白处)

80EA NEMA KIT AND EU GB AU US PLUG PER SHIPPING CARTON
36EA MASTER CARTON PER PALLET
TOTAL: 2880PCS



REVISIONS				8
DESIGNED	APPROVED	DATE	REV.	DRD.
ISSUE	DATE	REV.	DRD.	
SPEC	ISSUE			
				A
				B
				C
				D
				E
				F

		Asian Power Devices Inc.										APPROVED		DATE		
Dimensions		≤6	>6-30	>30-40	>40-50	>50-60	>60-80	>80-100	>100-120	>120-150	>150-200	>200-400	>400	CHECKED	DATE	
Tolerances unless otherwise mentioned		A	±0.05	±0.1	±0.15	±0.2	±0.25	±0.4	±0.5	±0.5	±0.5	±0.5	±0.5	DESIGN	2013-03-01	
		B	±0.1	±0.15	±0.2	±0.25	±0.4	±0.5	±0.8	±1	±1	±1	±1			
		C	±0.2	±0.3	±0.4	±0.6	±0.8	±1	±1	±1	±1	±1	±1			
		D	±0.5	±1	±1.5	±2.2	±3.5	±5	±6.5	±10	±10	±10	±10			
		Holes: ±0.1 Angles: ±0.5														
SIZE	A4	UNIT	mm	SCALE	Free									THIRD ANGLE PROJECTION		SHEET 1 OF 1
DESCRIPTION: Packing Process																
PART NO.																
TYPE NO.																
REV.																
CODE																
K8033-XXXXB																
DRD.																
A																