1. SCOPE

The document detail the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 15.0 W continuous output power.

The power supply shall meet the **RoHS** requirement.

1.1. Description

- ■ SMPS Adaptor(Wall mount)
- □ SMPS Adaptor(Desk-top)
- □ Open Frame
- □ SMPS Unit (With Case)
- □ Others

2. Input Characteristics

2.1. Input Voltage & Frequency

The range of input voltage is from 90Vac to 264Vac single phase.

	Minimum	Nominal	Maximum
Input Voltage	90Vac	100Vac~240Vac	264Vac
Input Frequency	47Hz	60Hz/50Hz	63Hz

2.2. Input AC Current

0.7Amax. @ 100-240Vac input & Full load

2.3. Inrush Current (cold start)

30Amax. @ 264Vac input

2.4. Efficiency (Normal)

74.37% min. @ Nominal input & Full load

2.5. Energy Consumption

Unload Power≤0.5W&Normal Input

3. Output Characteristics

3.1. Static Output Characteristics <Vo & R+N>

Output	Rated Load		Output Range	R+N	Remark
Rate	Min. Load	Max. Load			
+5.0V	0.0A	3A	4.75V ~ 5.25V	100mVp-p	

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor. (test under the condition of rated input and rated output)

3.2. Line/ Load Regulation

Output	Load Condition		Line Regulation	Load Regulation	Remark
Rate	Min. Load	Max. Load			
+5.0V	0.0A	3A	±3%	±5%	

3.3. Turn - on Delay Time

3S max. @ 100 Vac to 240 Vac input & Full load

3.4. Hold-up Time

10mS min. @ Full load &115Vac/60Hz input turn off at worst case

20mS min. @ Full load &230Vac/50Hz input turn off at worst case

3.5. Rise Time

20mS max. @ Rated load

3.6. Fall Time

20mS max. @ Full load

3.7. Output Overshoot / Undershoot

10% max. When the power on or off

3.8. Output Load Transient Response

output voltage within 4.75—5.25V for load step from 20% to 80%, R/S: 0.5A/uS, frequency: 100Hz duration and 8mS at 80%.

4. Protection Requirements

4.1. Over Current Protection

Over Current Point Limited：I≤6A(100-240Vac)

The output shall hiccup when the over currents applied to the output rail, and shall be self-recovery when the fault condition is removed

4.2. Short Circuit Protection

The input power shall decrease when the output rail short, the power supply shall no damage, and shall be self-recovery when the fault condition is removed

5. Environment Requirements

5.1. Operating Temperature and Relative Humidity

0℃ to +40℃

10%RH to 90%RH

5.2. Storage Temperature and Relative Humidity

-20℃ to +80℃

5%RH to 95%RH non-condensing @ Sea level shall be low 10,000 feet

5.3. Vibration

10 to 300Hz sweep at a constant acceleration of 1.0G(Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z

5.4. Drop in

Height: 1m; the product should be fell off on the hardwood with the thickness of 20mm, and the hardwood should be put on the base of the cement or on the ground without flexibility. Apply two times on all surface.

6. Reliability Requirements

6.1. Burn-in

The power supply shall be burn-in for 4 Hours under normal input and 80% rated load at 40℃±5℃

6.2. MTBF Qualification

The MTBF shall be at least 50,000hours at 25℃, Full load and nominal input condition

7. EMI/EMS Standards

7.1. EMI Standards

EN 55022:1998, +A1:2000 +A2:2003, Class B
EN55024:1998+A1:2001+A2:2003
CISPR 22:2003, Class B
AS/NZS CISPR 22: 2004, Class B

7.2. EMS Standards

7-2-1 EN 61000-4-2,electrostatic discharge(ESD) requirement

Discharge characteristic	Test level	Test criteria
Air discharge	+/-8KV	B
Contact discharge	+/-6KV	B

7-2-2 EN 61000-4-3,radiated electromagnetic field susceptibiligy(rs)

Test level	Test criteria
3V/m (r.m.s)	A
80-1000MHz,80%AM(1KHz) sine-wave	

7-2-3 EN 61000-4-4,electric fast transients(burst) immunity requirement

Coupling	Test level	Test criteria
AC-input	0.5KV	A
AC-input	1KV	B

7-2-4 EN 61000-4-5,surge capability requirement

Surge voltage	Test criteria
Common mode +/-2KV	A
Differential mode +/-1KV	

7-2-5 EN 61000-4-6,

Induced radio frequency fields conducted disturbances immunity requirement

Test level	Test criteria
3V	A
0.15-80 MHz,80%AM(1KHz)	

7-2-6 Assessment criteria

Acceptance criteria	performance
A	Agreed operational behavior within the specified limits
B	Time limited functional diminishment or malfuncation during the tests is permitted . The function is self-reactivated by the unit following completion of the tests .
C	Malfunction is permitted .The function can be reactivated either by reconnection to the mains or by operator intervention .

8. Safety Standards

8.1. Dielectric Strength(Hi-pot)

Primary to Secondary: 3000Vac / 10mAMax / 60second(3second for production)

8.2 Leakage Current

0.25mAmax. at 264Vac / 50Hz

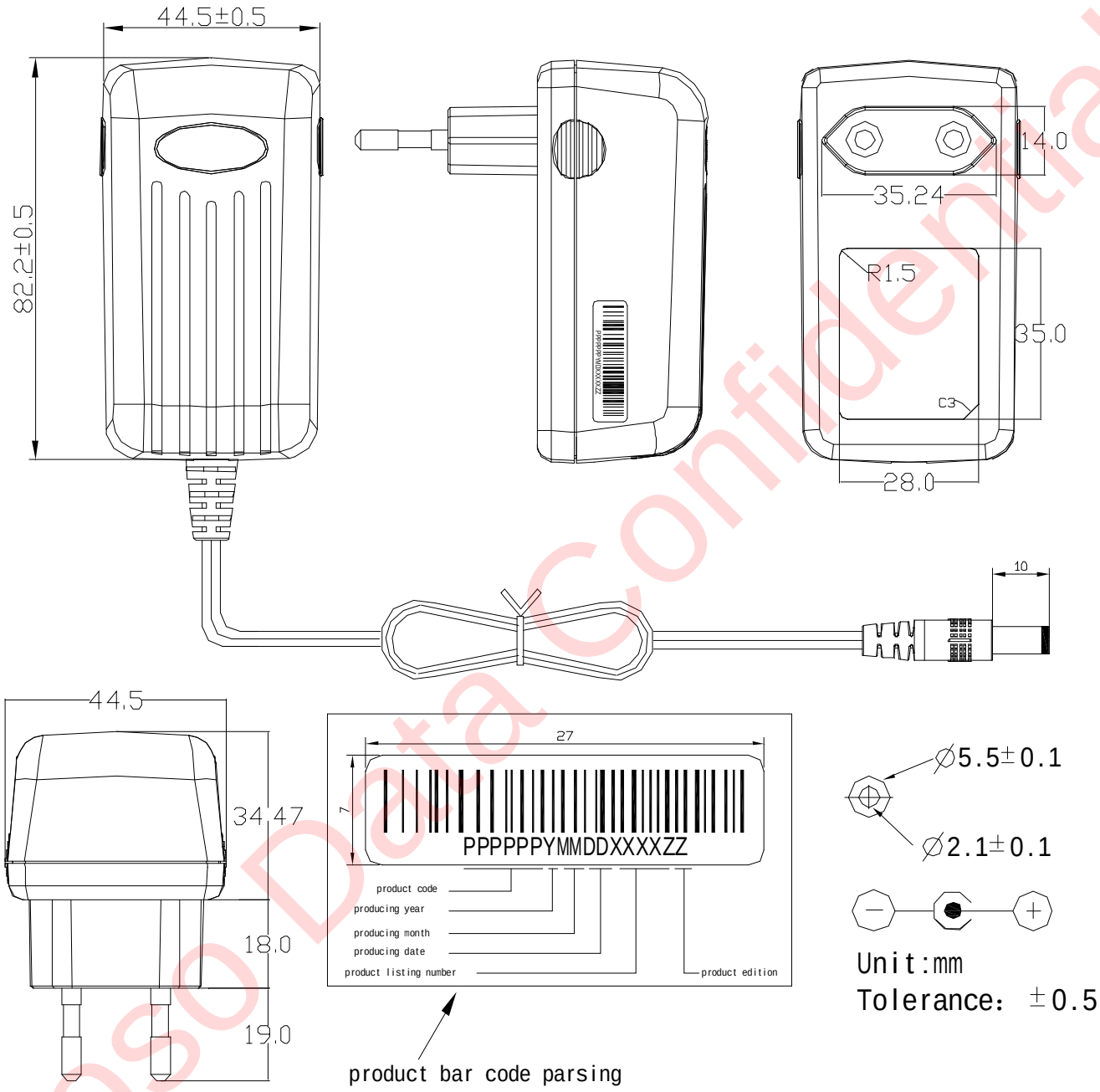
8.3. Insulation Resistance

50MΩ min. at primary to secondary add 500Vdc test voltage

8.4.Regulatory Standards

Type	Country	Standard	State	Mark
GS/CE	Europe	EN60065	已认证	

9. Mach. Outline Drawing

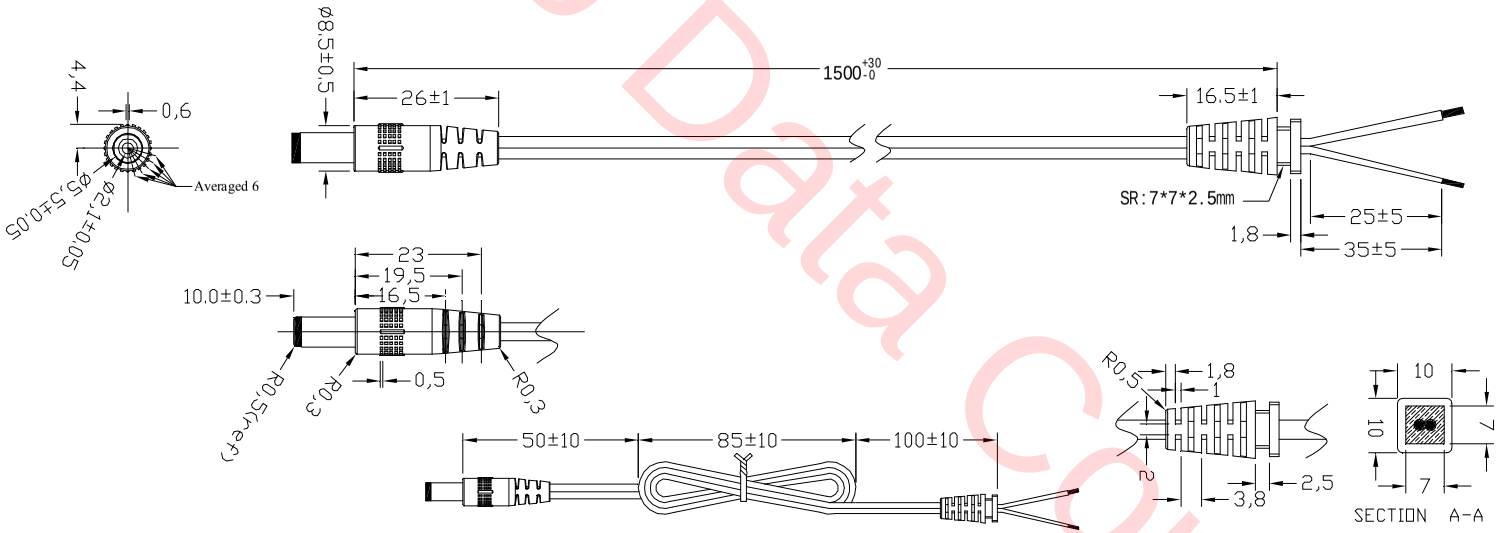


Case material: ☑PC temperature resistance: 125℃

☐PC+ABS temperature resistance: 95℃

Remark: 1) PC material compliances with ball pressure testing requirement.

2) PC+ABS do not compliance with ball pressure testing requirement, any consequence by choice with PC+ABS material should be taken on your side, and we bear no responsibility.



Technology Request:

一、Drawing Up Test Request：1、The DC plug and SR pull≥5kg(1 minute),displacement≤2mm；
2、Pull of the whole line≥10kg(un-break off in 1 min and extend rate ≤10% of whole length)

二、Vibration Test Request: SR port:500g,120° (both 60° on left and on right),45 times/min minum 1000 times;
DC plug:500g,120° (both 60° on left and on right),45 times/min minum 1000 times.

三、Oppearance Request：1、No more than three times on per meter wine;
2、Inferior as diserpair、impress、dirty、pursy on the wire surface are unallowed;
3、Inferior as shrink、distrotion、glue lack on SR/DC plug are unallowed;
4、Oxidation or Scrash on hardware DC plug are unallowed;
5、Should be entirely imaersed the DC plug into tin;
6、 Impress on SR/DC plug rump is unallowed;

四、Temperature resistance: the thermal deformation temperature ≥80℃, without deformation,crack

五、Wire Specification：2468 18AWG 80℃ 300V FT1 VW-1
should have word printed,cord should be 41/Ø0.16X2CX1For34/Ø0.18X2CX1F,
proqortion should be 0.823m2

六、Words printed request：2468 18AWG 80℃ 300V FT1 VW-1 with UL certificate NO.and company name;

七、DC plug：5.5±0.05X2.1±0.05X10±0.3mm;

八、Material Request:about DC plug should be 45p-pvc;60° pvc on SR and 65±5 PVC on wire surface;

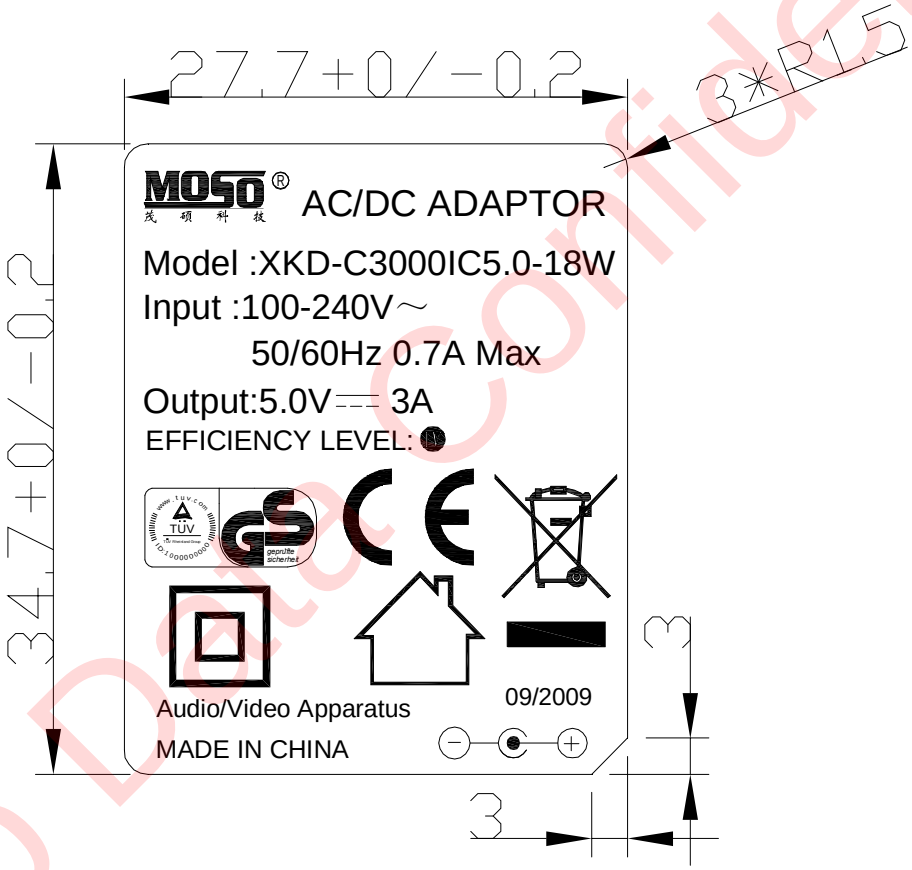
九、Connect method:white line connect with the copper nail innerside;words printed line on nail outside

十、Salt and fog test:on 35° ± 2° ,humidity≥85%,PH pqrameter between 6.5-7.2 should be ok after 48h

十一、Color Request：black

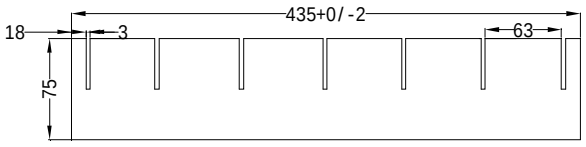
十二、Renviroment Protection Request:Rohs.

11. I/O Marking Drawing

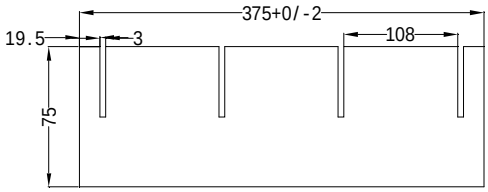


Remark:1.Color:White words with black ground
2.Material:CPC+fog firm
3.RoHS

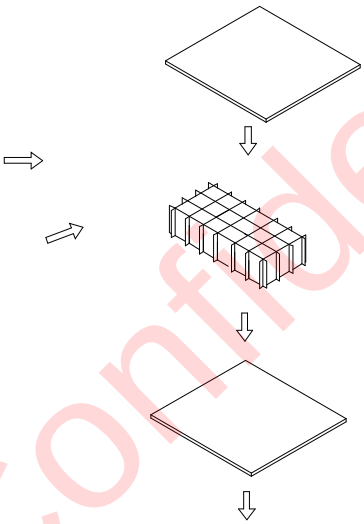
12. Package Drawing



seven partitioning card :435*75



four partitioning card:375*75

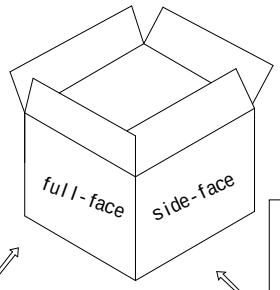


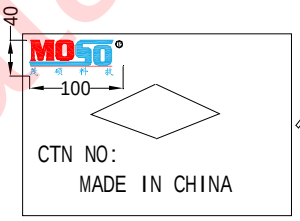
Packing Instruction：

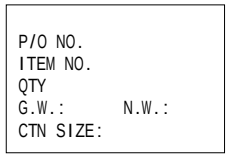
一、the product put in the bag ，
then the packing product put in the
pattitioning card groove，18PCS/floor，
4floors in all，72PCS/box
such as： 18pcs/floor*4floor=72PCS/box

二、the usage of the packing materials：

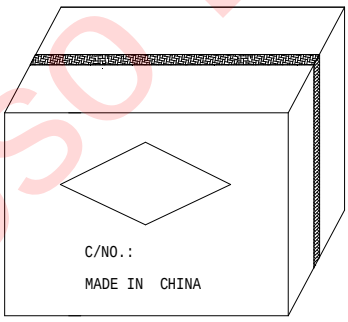
1、the usage of the seven partitioning card 435*75：16PCS
2、the usage of the four partitioning card 375*60：28PCS
3、the usage of the PE bag 250*120：72PCS
4、the usage of the flat 435*375:5PCS
5、carton box 450*390*335：1PCS







450*390*335MM
the bag of outside size：450L*390W*335H



The product will be packed in the carton box
and the box will be seled by the sticker

The requirement of PE bag packing: ☐PE bag without sealing by adhesive tap.
☐ PE bag with sealing by adhesive tap
☐Other requirement

Remark: If the customer has not chose the PE bag packing way,
we will use the PE bag without sealing by adhesive tap