MOSO Industrial Park, Nanshan District,
Shenzhen, Guangdong 518108, P. R. China
TEL: 86-755-27657000 27657555
P.C:518108
FAX: 86-755-27657908
http://www.mosopower.com

SPECIFICATION FOR REFERENCE

CUSTOMER: _____

CUSTOMER P.N.: _____

MODEL NO.: V30-Z2500R190-048F0-E

PRODUCT NO.: SCXXX-E0/XXXXXX

SAMPLE DATE: 2024-03-01

CUSTOMER AUTHORIZED SIGNATURE		

Please return to us one copy of "SPECIFICATION FOR APPROVAL" with you approved signature.

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FAX: 86-755-27657908
E-mail:moso@mosopower.com http://www.mosopower.com

Prepared By :	Checked By:	Safetied By :	Approved By :

MOSO® 茂硕电源
股票代码：002660

茂硕电源科技股份有限公司
MOSO POWER SUPPLY TECHNOLOGY CO., LTD

MOSO Industrial Park, Nanshan District,
Shenzhen, Guangdong 518108, P. R. China
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E. C. LIST

Rev.	Description of Change		Changed Date	ECN No.
	Before	After		
A1	Original Release	---	2024-03-01	---

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1. SCOPE

The document detail the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 47.5 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/AC

1.3Amax. @ 100-240Vac input & Full load

2.3.Inrush Current (cold start)

No component was damaged and the fuse should not blow.

2.4.Average Efficiency

87.76% min. @115Vac/60Hz input & 230Vac/50Hz input (@25%, 50%, 75% and 100% of max load).

2.5.Energy Consumption

No load Consumption ≤0.1W(115Vac/60Hz & 230Vac/50Hz).

3. Output Characteristics

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

Output	Rated Load		Output Range	R+N	Remark
Rate	Min. Load	Max. Load			
+19V	0.0A	2.5A	18.05V ~ 19.95V	150mVp-p	100-240V

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 47uF 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			
+19V	0.0A	2.5A	±3%	±5%	

3.3.Turn - on Delay Time

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

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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 18.05-19.95V 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: 2.9A＜I＜4.5A(100Vac-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℃

20%RH to 85%RH

5.2.Storage Temperature and Relative Humidity

-20℃ to +70℃

5%RH to 95%RH non-condensing @ Sea level shall be low 5000 meters.

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. Apply one time on all surfaces, totally 6 surfaces. The electric performance and Hi-Pot test must be OK after the drop tests.

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 35℃±5℃

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6.2.MTBF Qualification

The MTBF shall be at least 100,000hours at 25℃, 80% max load and nominal input condition

7. EMI/EMS Standards

7.1. EMI Standards

FCC Part 15 Subpart B GB13837/GB17625.1 EN55032 EN55035

7.2. EMS Standards

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

Discharge characteristic	Test level	Test criteria
Air discharge	+/-15KV	B
Contact discharge	+/-8KV	B

7-2-2 EN 61000-4-3,radiated electromagnetic field susceptibility(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	1KV	A
AC-input	2KV	B

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

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

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)	

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7-2-6 Assessment criteria

Acceptance criteria	Performance
A	Agreed operational behavior within the specified limits
B	Time limited functional diminishment or malfunction 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 /10mA max. / 60S (when safety testing).

Primary to Secondary: 3300Vac /5mA max. / 3S (when production).

8.2.Leakage Current

0.25mAmax. at 264Vac / 60Hz

8.3.Insulation Resistance

100MΩ min. at primary to secondary add 500Vdc test voltage

8.4.Earthing Resistance

Earthing Resistance：<0.1Ω at 12Vdc/25A/1S.

8.5.Regulatory Standards

Type	Country	Standard	State	
UL	USA	UL62368-1	APPROVAL	
CCC	CHINA	GB8898	APPROVAL	
CE	Europe	EN62368-1	APPROVAL	
UKCA	UK	EN62368-1	APPROVAL	

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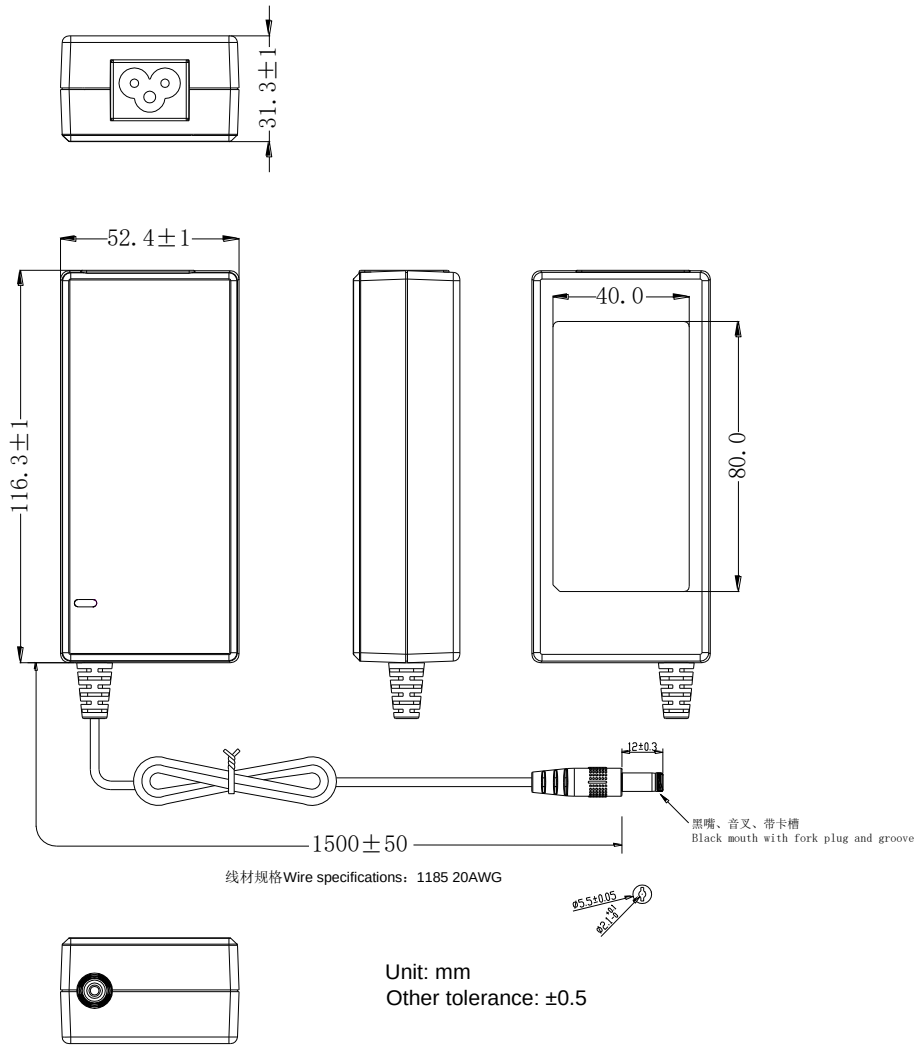
9. Mach. Outline Drawing



Case material: ■PC temperature resistance: 125℃
□PC+ABS temperature resistance: 95℃
Remark: PC material compliances with ball pressure testing requirement.

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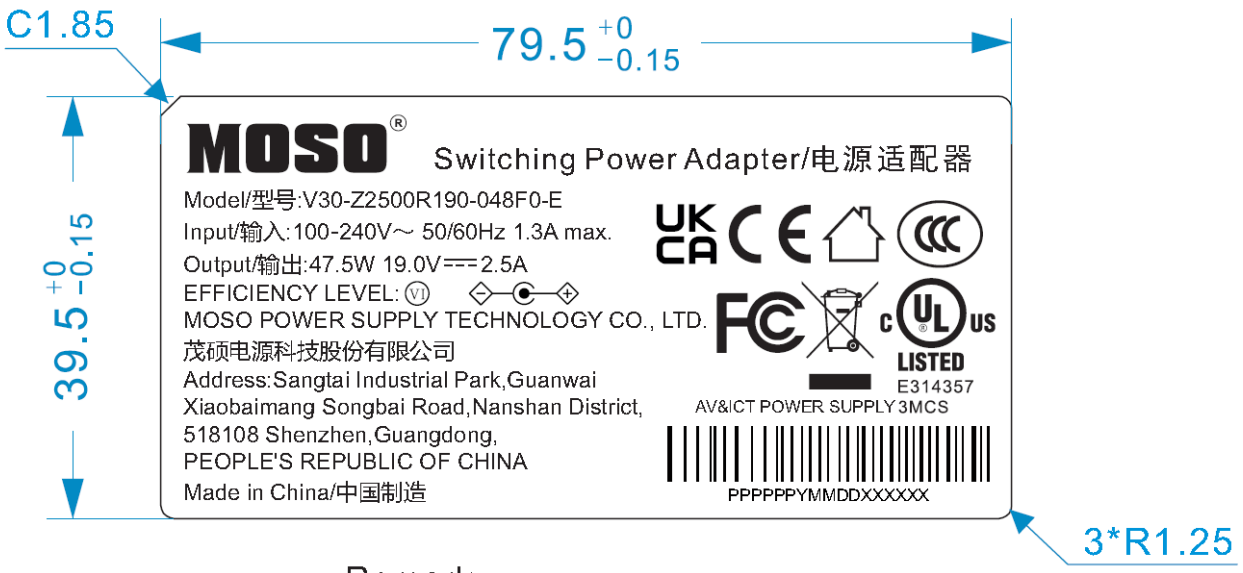
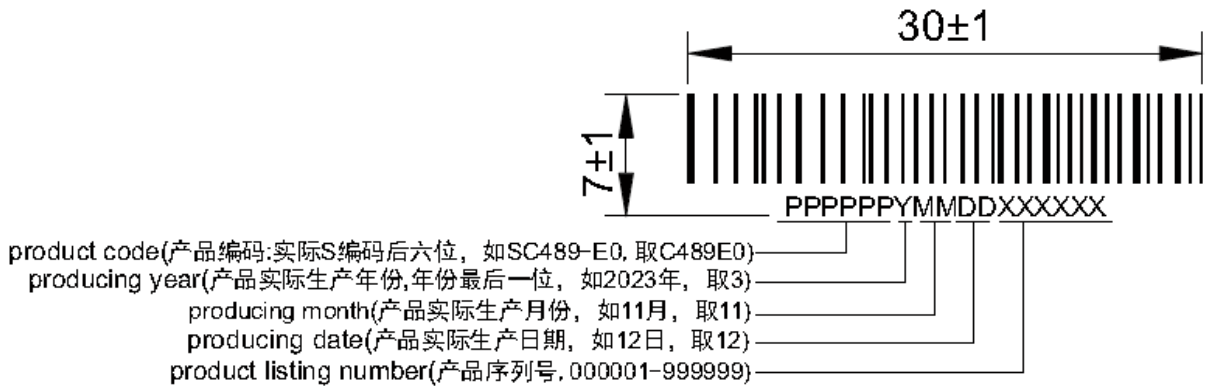
10. I/O Marking Drawing



Remark:
1.Above label is laser engraved.
2.The dimension of garbage bin mark
can NOT less than 7mm.



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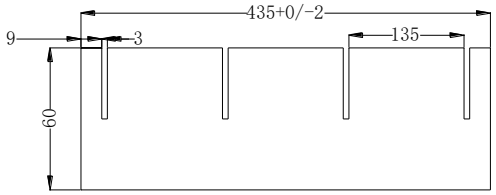
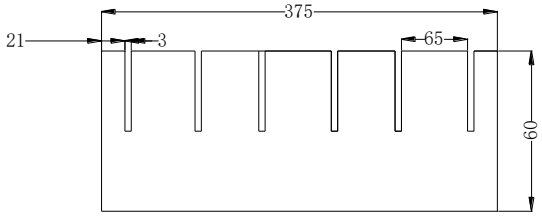
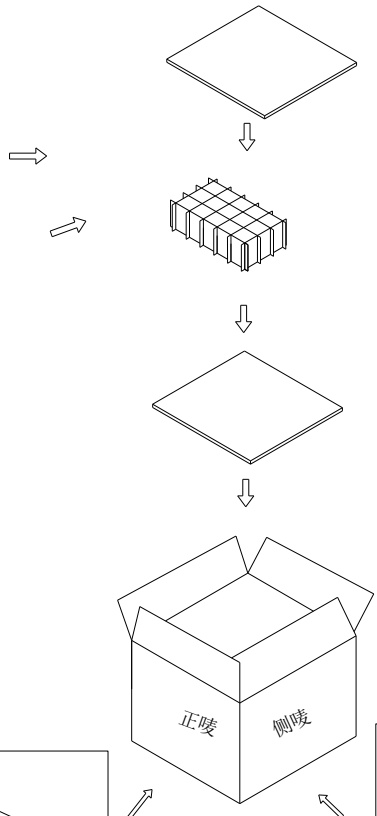
11. Package Drawing



四刀卡435*60



六刀卡375*60

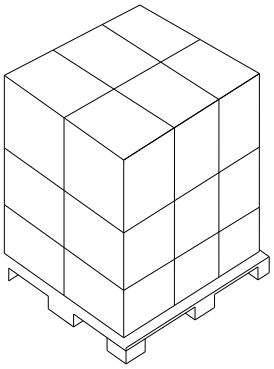


包装说明：

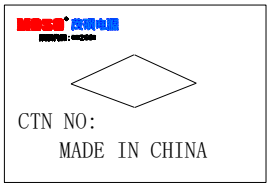
一、将产品每PCS装入250*120（mm)PE袋中包好，
再将包装的产品放入刀卡槽中，每层装15PCS，
共装5层，每箱装75PCS
即： 15pcs/层*5层=75PCS/箱

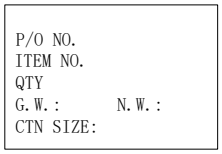
二、包装材料使用说明为：
1、四刀卡435*60用量：30PCS
2、六刀卡375*60用量：20PCS
3、PE袋250*120用量：75PCS
4、平卡435*375用量:6PCS
6、纸箱450*390*335：1PCS

三、栈板堆放说明为：
1、栈板尺寸为：L1150*W1050*H160mm
2、每层放2行*3列=6箱
3、坚直堆放3层*6箱共18箱



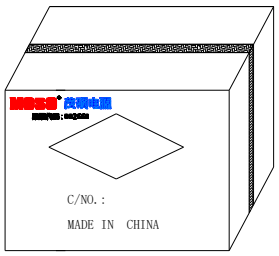
栈板堆放示意图





450*390*335MM

纸箱的外尺寸：450L*390W*335H



产品装入包装箱用胶袋封箱，位置参考图中所示.

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

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