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
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.: MS-V2530R190-048L0-US

PRODUCT NO.: SCXXX-U0

SAMPLE DATE: 2021-12-21

Weight: 242g+/-5%

CUSTOMER AUTHORIZED SIGNATURE		

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

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

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E. C. LIST

Rev.	Description of Change		Changed Date	ECN No.
	Before	After		
A.1	Original Release---	---	2021-12-21	---

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1. SCOPE

The document details the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 48.07W continuous output power.

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

1.1. Description

■ SMPS Adaptor(Wall mount) □ SMPS Adaptor(Desk-top)

□ Open Frame □ SMPS Unit (metal 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	50Hz /60Hz	63Hz

2.2. Input AC Current

1.5A max. @ 100-240Vac input & Full load.

2.3. Inrush Current (cold start)

The energy of inrush current should not be over the I^2T of fuse &bridge diodes

2.4. Averaged Efficiency

87.77% min. @115Vac/60Hz, 230Vac/50Hz input (@25%, 50%, 75% and 100% of max load).

2.5. Energy Consumption

No load Consumption ≤0.075W(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			
+19.0V	0.0A	2.53A	18.05V~ 19.95V	190mVp-p	100-240V

Ripple & Noise: Measurement is done by 20MHz b width oscilloscope paralleled a 0.1uF ceramic capacitor and a 10uF electrolytic 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			
+19.0V	0.0A	2.53A	±2%	±5%	

3.3. Turn - on Delay Time

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

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3.4. Hold-up Time

10mS min. @115V/230V at 90 degree.

3.5. Rise Time

30mS max. @ Rated load

3.6. Fall Time

30mS max. @ Full load

3.7. Output Overshoot / Undershoot

10% max. When the power on or off, when it is the full input voltage and full load.

3.8. Output Load Transient Response

Output voltage within 17.1V~ 20.9V for load step from 20% to 80% R/S: 0.8A/uS, frequency: 100Hz duration and 8mS at 80%.

4. Protection Requirements

4.1. Over Current Protection

Over Current Point Limited : 5.0A＞I＞3.3A (90 to 264Vac).

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.

4.3. Over Voltage Protection

The power supply has to be protected against over voltage conditions. No damage allowed. The power supply must come back to nominal working without on/off powering after removal of the over voltage condition.

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 +70℃, 5%RH to 95%RH non-condensing @ Sea level shall be low 5,000m.

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.

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6. Reliability Requirements

6.1. Burn-in

The power supply shall be burn-in for 2 hours under nominal input and 70%~80% load at ambient temperature of 40℃.

6.2. MTBF Qualification

The MTBF of power supply shall be over than 50,000 Hours @ 25℃ 100% load.

6.3. E-caps lifetime

The E-caps used in this PSU must be with lifetime of 3 years @25℃@100% load@ 115Vac/60Hz and 230Vac/50Hz input.

7. EMI/EMS Standards

7.1. EMI Standards

FCC Part15

7.2. EMS Standards

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

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

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

Test level	judgment 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	judgment criteria
AC-input	1KV	A
AC-input	2KV	B

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

Surge voltage	judgment 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	judgment 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: 1500Vac / 10mA max. / 60 second.

Primary to Secondary: 1800Vac / 10mA max. / 3 S. for production.

8.2. Leakage Current

0.5mA max. at 264Vac / 60Hz..

8.3. Earthing Resistance

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

8.4. Insulation Resistance

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

8.5. Regulatory Standards

Type	Country	Standard	State	Note
UL	USA	UL62368-1	APPROVAL	

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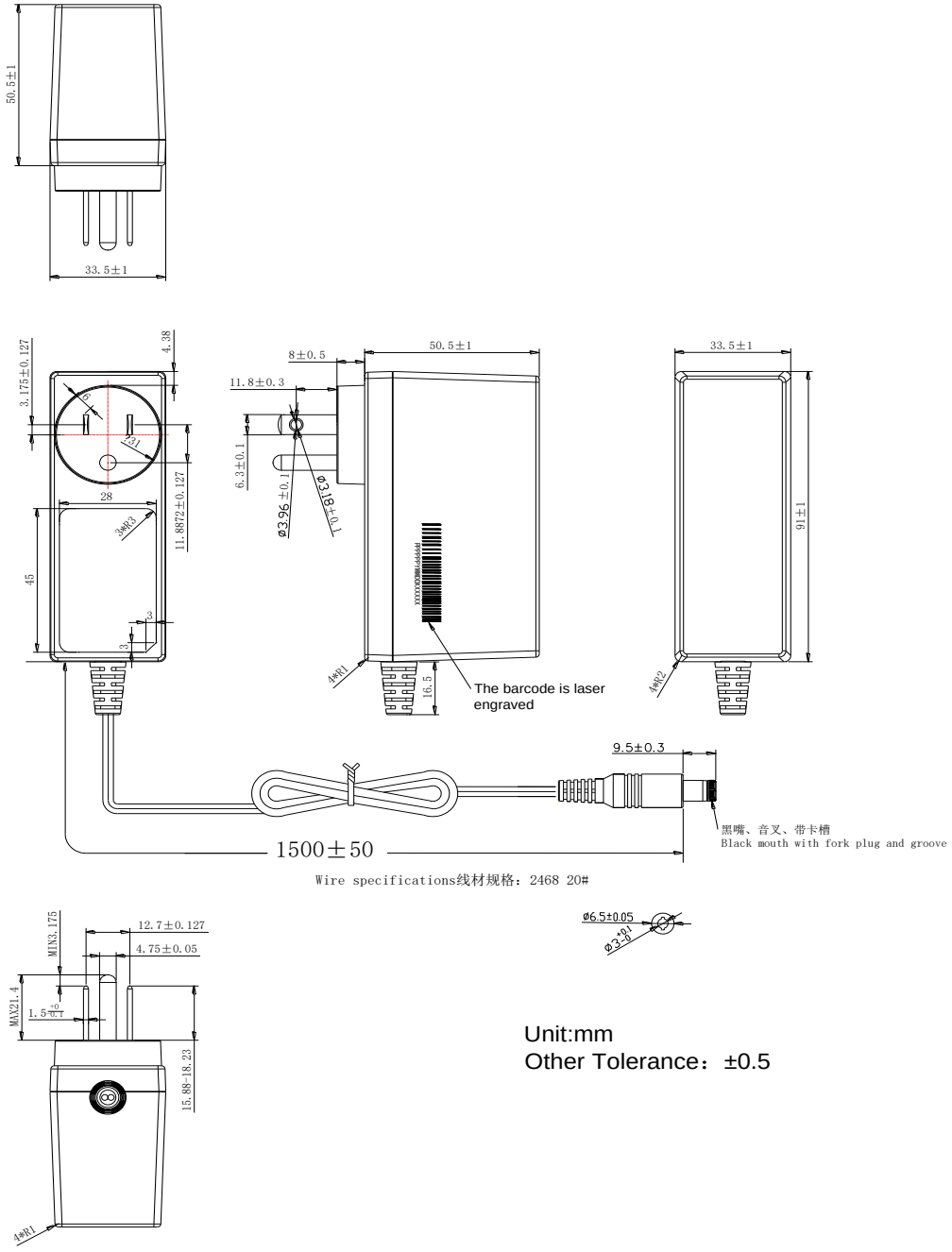
9. Mechanical Outline Drawing



Unit:mm
Other Tolerance：±0.5

Case material: ■PC temperature resistance: 125℃
□PC+ABS temperature resistance: 95℃

Remark: 1. PC material compliances with ball pressure testing requirement.
2.The Enclosure and DC cable are Black.

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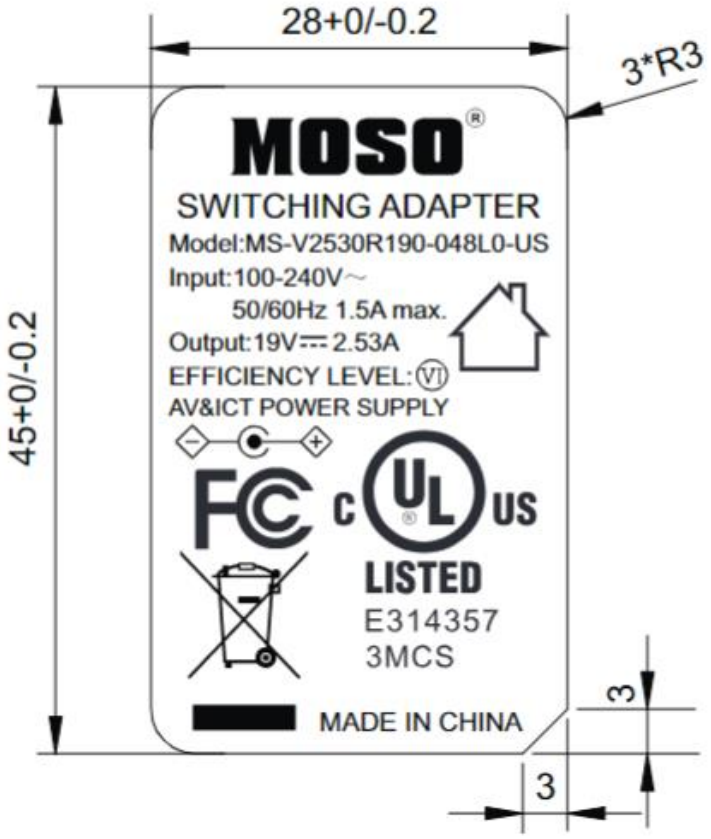
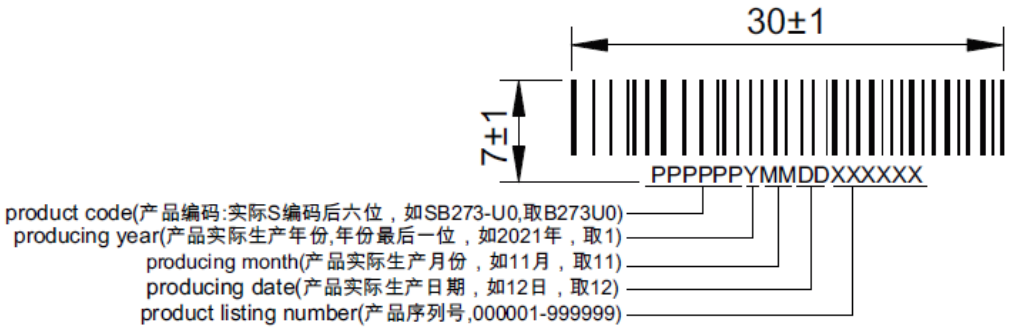
10. I/O Marking Drawing



Remark:
1. Above label is laser engraved.
2. The dimension of double insulation mark can NOT less than 5mm.
3. The dimension of garbage bin mark can NOT less than 7mm.



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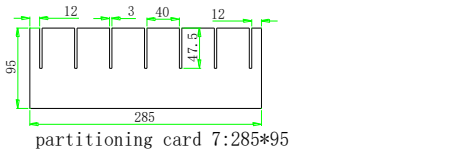
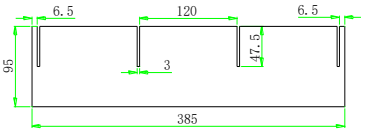
11. Package Drawing



partitioning card 7:285*95



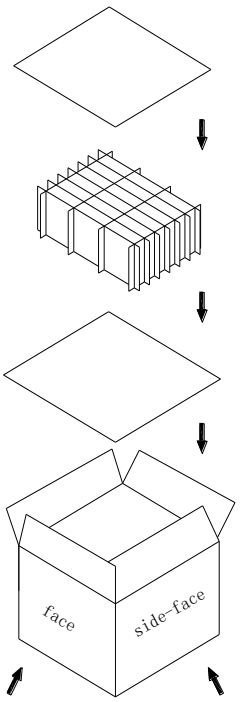
partitioning card 4:385*95

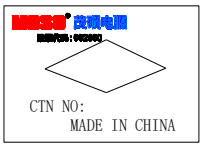
Packing Instruction:

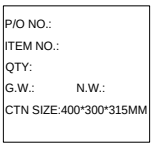
I. the product put in the PE bag, then the packing product put in the pattitioning card groove, 18PCS/floor, 3 floors in all, 54PCS/box
such as:18pcs/floor*3floor=54 PCS/box

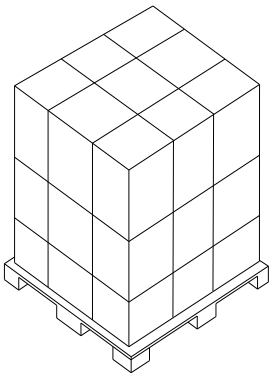
II. the usage of the packing materials:
1. the usage of the sever partitioning card 285*95: 12PCS
2. the usage of the four partitioning card 385*95: 21PCS
3. the usage of the PE bag 350*120: 54PCS
4. the usage of the flat 385*285:4PCS
5. carton box 400*300*315: 1PCS

III. Pallet stacke instruction:
1. Pallet size is:L1200*W950*H135mm
2. per floor set 9pcs
3. stacke per 3floor*9pcs carton
total 27 pcs carton

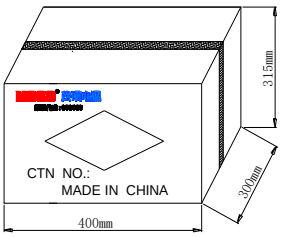








The pallet stact drawing



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 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