

## SPECIFICATION FOR REFERENCE

<b>CUSTOMER:</b>	
<b>CUSTOMER P.N.:</b>	
<b>MODEL NO.:</b>	<b>P30-V3000R200-060Q0-US</b>
<b>PRODUCT NO.:</b>	<b>SDXXX-U0</b>
<b>SAMPLE DATE:</b>	<b>2025-05-19</b>

### CUSTOMER AUTHORIZED SIGNATURE

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

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### MANUFACTURER AUTOGRAPH

<b>Reviser</b>	<b>Confirm</b>	<b>Checked</b>	<b>Approval</b>



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## 1. SCOPE

The document detail the electrical, mechanical and environmental specifications of a Fast Charger, the Fast Charger provide 60W continuous output power.

The Fast Charger shall meet the HSF requirement. without red/yellow phosphorus.

### 1.1.Supports fast charge protocol

PD3.1

### 1.2.Description

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> SMPS Adaptor(Wall mount) | <input type="checkbox"/> SMPS Adaptor(Desk-top) |
| <input type="checkbox"/> Open Frame                          | <input type="checkbox"/> SMPS Unit (With Case)  |
| <input type="checkbox"/> Others                              |   |

### 1.3.Green Requirements

- RoHS:2011/65/EU & (EU) 2015/863;
- REACH:1907/2006/EC;
- Halogen-free:IEC 61249-2-21;
- CA Prop 65;
- POPs:(EU)2023/1608;
- PAHs: 2005/69/EC;
- Packaging Directive:94/62/EC;
- US EPA Toxic Substances Control Act (TSCA);
- MOSO Environmental standards: WI-QM006-G;
- Others

### 1.4.Energy Efficiency Requirements

No.	Country	Energy efficiency abbreviation	Whether it meets the requirements/(YES/ <input checked="" type="checkbox"/> , NO/ <input type="checkbox"/> )
1	USA	DoE VI	<input checked="" type="checkbox"/>
2		CEC	<input type="checkbox"/>
3	Canada	NRCAN	<input type="checkbox"/>
4	Australia/New Zealand	GEMS	<input type="checkbox"/>
5	Europe	Erp VI	<input type="checkbox"/>
6		CoC V5 Tier 2	<input type="checkbox"/>
7	South Korea	KMEPS	<input type="checkbox"/>
8	Mexico	MEPS	<input type="checkbox"/>
9	Byelorussia	MEPS	<input type="checkbox"/>

## 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

1.7A max. @ 100-240Vac input & Full load

### 2.3. Inrush Current (cold start)

No damage

### 2.4. Averaged Efficiency

5V3A:81.39% min. @ 115V/230Vac input (@25%, 50%, 75% and 100% of max load)

9V3A:86.62% min. @ 115V/230Vac input (@25%, 50%, 75% and 100% of max load)

12V3A:87.4% min. @ 115V/230Vac input (@25%, 50%, 75% and 100% of max load)

15V3A: 87.73% min. @ 115V/230Vac input (@25%, 50%, 75% and 100% of max load)

20V3A:88% min. @ 115V/230Vac input (@25%, 50%, 75% and 100% of max load)

### 2.5. Energy Consumption

5V only: Input Voltage 115Vac 60Hz/230Vac 50Hz , Energy Consumption  $\leq$  0.1W.

## 3. Output Characteristics

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

Output Rate	Rated Load		Output Range	R+N	Remark
	Min. Load	Max. Load			
5.00V	0.0A	3.0A	4.75-5.25V	180mVp-p	
9.00V	0.0A	3.0A	8.55-9.45V	210mVp-p	
12.00V	0.0A	3.0A	11.40-12.60V	250mVp-p	
15.00V	0.0A	3.0A	14.25-15.75V	300mVp-p	
20.00V	0.0A	3.0A	19.00-21.00V	300mVp-p	

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 Rate	Load Condition		Line Regulation	Load Regulation	Remark
	Min. Load	Max. Load			
5.00V	0.0A	3.0A	$\pm$ 3%	$\pm$ 5%	
9.00V	0.0A	3.0A	$\pm$ 3%	$\pm$ 5%	
12.00V	0.0A	3.0A	$\pm$ 3%	$\pm$ 5%	
15.00V	0.0A	3.0A	$\pm$ 3%	$\pm$ 5%	

20.00V	0.0A	3.0A	± 3%	± 5%	
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### 3.3.Turn - on Delay Time

3S max. @ 115Vac input & 5V only

### 3.4.Hold-up Time

5mS min. @ 115Vac input & 20V only with full load

### 3.5.Output Overshoot / Undershoot

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

### 3.6.Output Transient Response

(1) For 5V Mode

0~25%, 25%~50%, 50%~75%, 75%~100%.Frequency be operated 100Hz , 2.5A/uS

Vo: 4.5V~5.5V

(2) For 9V Mode

0~25%, 25%~50%, 50%~75%, 75%~100%.Frequency be operated 100Hz , 2.5A/uS

Vo: 8.1V~9.9V

(3) For 12V Mode

0~50%, 50%~100%.Frequency be operated 100Hz , 2.5A/uS

Vo: 10.8V~13.2V

(4) For 15V Mode

0~50%, 50%~100%.Frequency be operated 100Hz , 2.5A/uS

Vo: 13.5V~16.5V

(5) For 20V Mode

0~50%, 50%~100%.Frequency be operated 100Hz , 2.5A/uS

Vout: 18V~22V

## 4. Protection Requirements

### 4.1.Over Current Protection

Output Rate	Rated Load		Over Current	Input Voltage	Remark
	Min. Load	Max. Load			
5.00V	0.0A	3.0A	3.2-4.6A	100-240VAC	
9.00V	0.0A	3.0A	3.2-4.6A	100-240VAC	
12.00V	0.0A	3.0A	3.2-4.6A	100-240VAC	
15.00V	0.0A	3.0A	3.2-4.6A	100-240VAC	
20.00V	0.0A	3.0A	3.2-4.6A	100-240VAC	

### 4.2.Over Voltage Protection (auto-recovery)

Output Rate	Test load	Over Voltage	Input Voltage	Remark
5.00V	0.0A	5.0V-9.0V	100-240VAC	
9.00V	0.0A	9.0V-16.2V	100-240VAC	
12.00V	0.0A	12.0V-21.6V	100-240VAC	

15.00V	0.0A	15.0V-27.0V	100-240VAC	
20.00V	0.0A	20.0V-36.0V	100-240VAC	

#### 4.3.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°C to +40°C

10%RH to 90%RH

#### 5.2.Storage Temperature and Relative Humidity

-30°C to +80°C

5%RH to 95%RH

#### 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: 75cm; 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 one times on all surfaces, total 6 times. 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 40°C

#### 6.2.MTBF Qualification

The MTBF shall be at least 10,000hours at 25°C, Full load and 115Vac/60Hz input

#### 6.3.E-caps lifetime

The E-caps used in this PSU must be with lifetime of 3 years @25°C @100% load@ 115Vac/60Hz&230Vac/50Hz

\* Standard: Life Time=Lr \*2<sup>(To-Tx)/10</sup> \* 2<sup>(ΔTo-ΔT)/5</sup>

$$(\Delta T_o - \Delta T) / 5 = 1 - [I_a / (I_s * T_f * F_f)]^2$$

Note-3 CE Capacitor Life time      ΔTo: Self Heat Coefficient (85°C =10, 105°C = 5)

Lr : Capacitor Life Spec              Ia : Measured Ripple Current

To : Capacitor Temp Spec            Is : Ripple Current spec

Tx : Capacitor case Temp            Ff : Frequency Factor

## 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	Test criteria
Air discharge	+/-8KV	A
Contact discharge	+/-4KV	A

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	+/-1KV	A

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

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

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 / 60 second (when safety testing).

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

### 8.2.Leakage Current

0.25mA max. at 264Vac / 50Hz

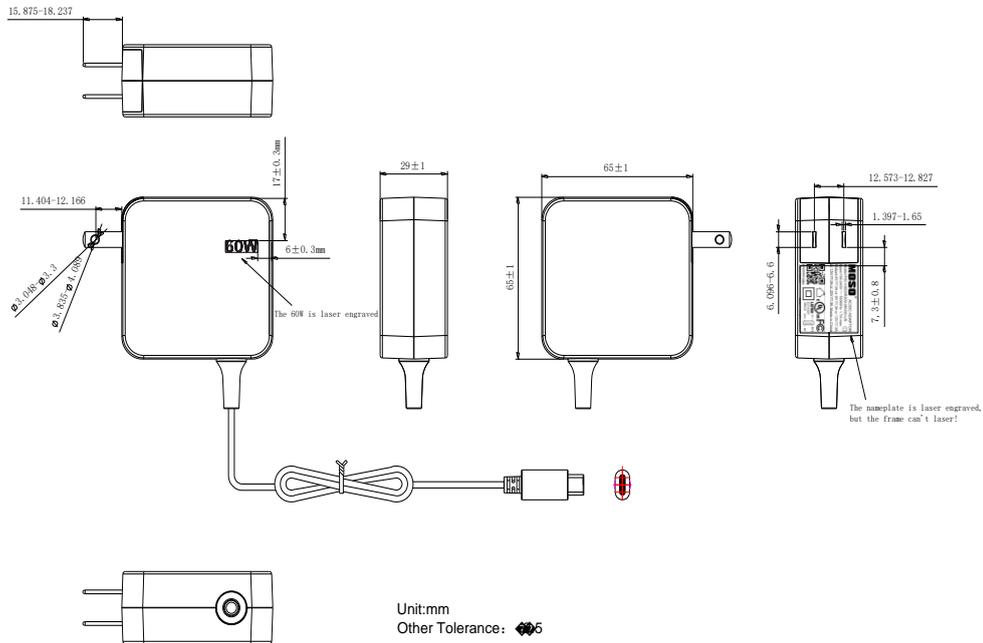
### 8.3.Insulation Resistance

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

### 8.4.Regulatory Standards

Type	Country	Standard	Statue	Mark
UL	USA	UL62368-1	APPROVAL	

## 9. Mechanical Outline Drawing



Case material:  PC temperature resistance: 120°C

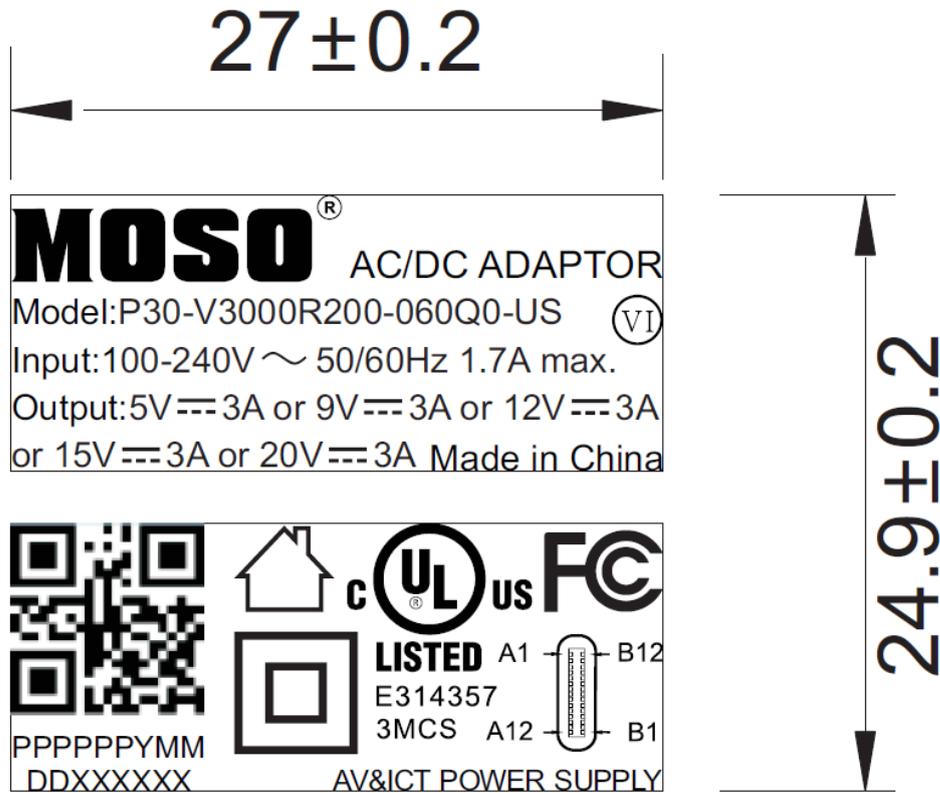
PC+ABS temperature resistance: 95°C

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

2) The colour of Case is white.

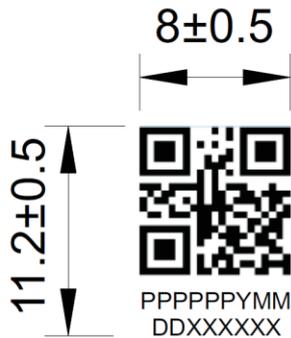


### 11. I/O Marking Drawing



#### Remark:

1. Above label is laser engraved.
2. The height dimension of double insulation mark can NOT less than 5mm.



下方内容与二维码居中  
字体Arial

二维码格式/Code format: QR code

二维码尺寸/Code size :8\*8mm(±0.2)

二维码扫描内容/Code content:PPPPPPYMMDDXXXXXX 总共17位/17digits in total

二维码解析如下/Code analysis:

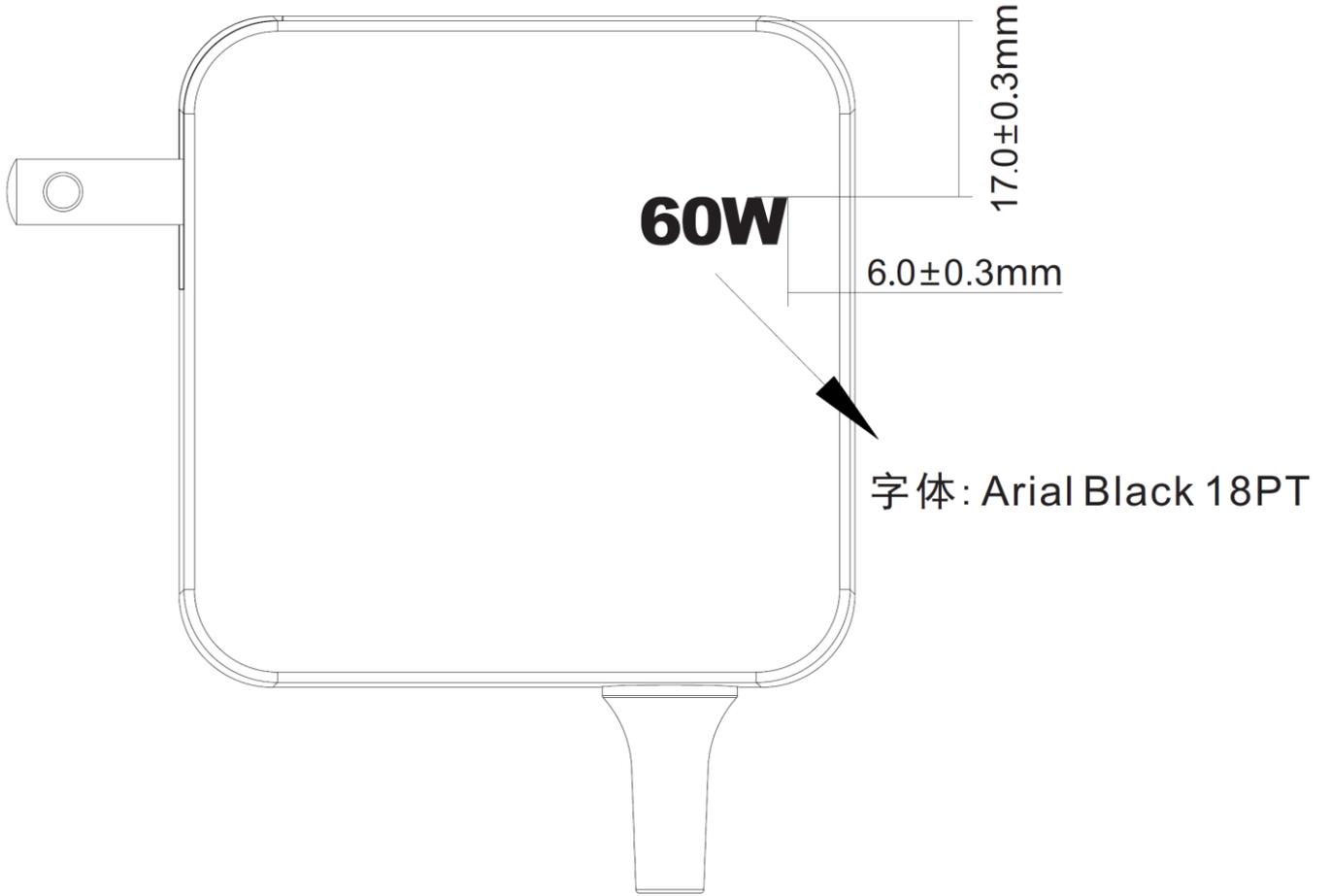
PPPPPP:product code(产品编码:实际S编码后六位,如SC938-U0,取C938U0)

Y:producing year(产品实际生产年份,年份最后一位,如2023年,取3)

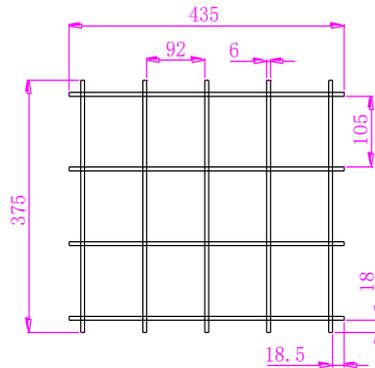
MM:producing month(产品实际生产月份,如02月,取02)

DD:producing date(产品实际生产日期,如15日,取15)

XXXXXX:product listing number(产品序列号,000001-999999)



## 12. Package Drawing



**Packing Instruction:**

I. the product put in the PE bag, then the packing product put in the partitioning card groove, 12PCS/floor, 5 floors in all, 60PCS/box

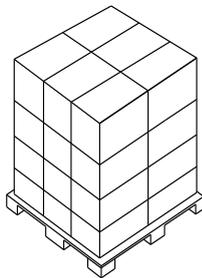
such as: 12pcs/floor\*5floor=60PCS/box

II. the usage of the packing materials:

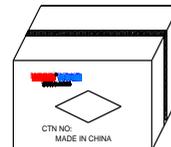
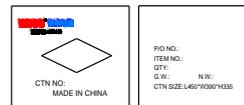
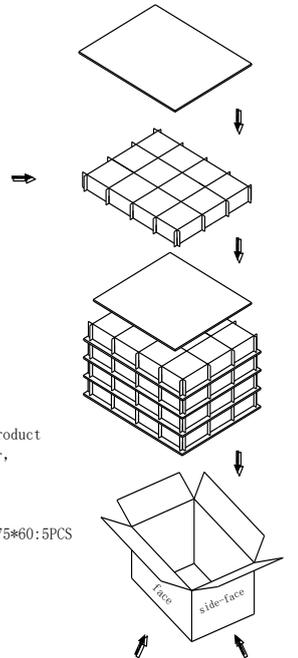
1. the usage of the five partitioning card 435\*375\*60: 5PCS
2. the usage of the PE bag 250\*120: 60PCS
3. the usage of the flat 435\*375: 6PCS
4. carton box 450\*390\*335: 1PCS

III. Pallet stack instruction:

1. Pallet size is: L1200\*W950\*H135mm
2. per floor set 6pcs
3. stacke per 4floor\*6pcs carton total 24 pcs carton



The pallet stack drawing



The product will be packed in the carton box and the box will be sealed 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