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# SPECIFICATION FOR REFERENCE

| | |
|---|---|
| **CUSTOMER:** | |
| **CUSTOMER P.N.:** | |
| **MODEL NO.:** | **P30-V3250U200-065W0-US** |
| **PRODUCT NO.:** | **SDXXX-U0** |
| **SAMPLE DATE:** | **2025-04-11** |

| **CUSTOMER AUTHORIZED SIGNATURE** | | |
|---|---|---|
| | | |

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

**ADD: MOSO Industrial Park, Nanshan District, Shenzhen, Guangdong 518108, P. R. China**

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| **MANUFACTURER AUTOGRAPH** | | | |
|---|---|---|---|
| **Reviser** | **Confirm** | **Checked** | **Approval** |
| | | | |

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

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# E. C. LIST

| Rev. | Description of Change | | Changed Date | ECN No. |
|---|---|---|---|---|
| | Before | After | | |
| A1 | Original Release | | 2025-04-11 | --- |
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# 1. SCOPE

The document detail the electrical, mechanical and environmental specifications of a Fast Charger, the Fast Charger provide 65W continuous output power.
The Fast Charger shall meet the HSF requirement.

## 1.1.Description

☐SMPS Adaptor(Wall mount) ☐SMPS Adaptor(Desk-top)
☐Open Frame ☐SMPS Unit (With Case)
☒PD ADAPTER (Wall mount) ☐Others

## 1.2.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

## 1.3.Energy Efficiency Requirements

| No. | Country | Energy efficiency abbreviation | Whether it meets the requirements/(YES/☒，NO/☐) |
|---|---|---|---|
| 1 | USA | DoE VI | ☒ |
| 2 | | CEC | ☐ |
| 3 | Canada | NRCan | ☐ |
| 4 | Australia/New Zealand | GEMS | ☐ |
| 5 | Europe | Erp VI | ☐ |
| 6 | | CoC V5 Tier 2 | ☐ |
| 7 | South Korea | KMEPS | ☐ |
| 8 | Mexico | MEPS | ☐ |
| 9 | Byelorussia | MEPS | ☐ |

# 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 |

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### 2.2.Input AC Current

1.6A max. @ 100-240Vac input & Full load

### 2.3.Inrush Current (cold start)

The inrush current will not exceed 150A at 100-240Vac input and Max load for a cold start at 25℃.

### 2.4.Averaged Efficiency(Erp)

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:87.40% 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)
20V3.25A:88% min. @115V/230Vac input (@25%, 50%, 75% and 100% of max load)

### 2.5.Energy Consumption

Input Voltage115Vac 60Hz/230Vac 50Hz , Energy Consumption≤0.21W.

## 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 | 4.5-5.5V | 200mVp-p | |
| 9.00V | 0.0A | 3.0A | 8.55-9.45V | 200mVp-p | |
| 12.00V | 0.0A | 3.0A | 11.40-12.60V | 200mVp-p | |
| 15.00V | 0.0A | 3.0A | 14.25-15.75V | 200mVp-p | |
| 20.00V | 0.0A | 3.25A | 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 10uF 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 | ±5% | ±10% | |
| 9.00V | 0.0A | 3.0A | ±5% | ±5% | |
| 12.00V | 0.0A | 3.0A | ±5% | ±5% | |
| 15.00V | 0.0A | 3.0A | ±5% | ±5% | |
| 20.00V | 0.0A | 3.25A | ±5% | ±5% | |

### 3.3.Turn - on Delay Time

3S max. @ 100Vac to 240Vac 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

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**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 Transient Response**

The power supply shall maintain output transient response time within 10ms with a loading current change from 20% to 80% of maximum current and 0.5A/μs rise up /drop down test at end of output terminal.

## 4. Protection Requirements

**4.1.Over Voltage Protection**

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

**4.2.Over Current Protection**

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

**4.3.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℃ to +25℃

10%RH to 90%RH

Altitude 2000m

**5.2.Storage Temperature and Relative Humidity**

-30℃ to +70℃

10%RH to 90%RH

**5.3.Vibration**

1.0mm, 10 –55Hz, 15 minutes per cycle for each axis (X, Y, Z).

**5.4.Cooling**

Natural convection cooling

**5.5.Drop in**

Dropped freely from 1 m (for wall mount product) height onto the surface is consisted of hardwood 13 mm thick, mounted on two layers of plywood each 19-20 mm thick, all supported on concrete floor 1 time from 3 different surface, after test, it's no safety damage for product.

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# 6. Reliability Requirements

## 6.1.Burn-in

The power supply shall be burn-in for 4 Hours under normal input and full load at 25℃.

## 6.2.MTBF Qualification

The MTBF(MIL-HDBK-217F) shall be at least 50,000hours at 25℃, Full load and nominal input condition.

# 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 | B |
| Contact discharge | +/-4KV | 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 | 0.5KV | B |
| AC-input | 1KV | B |

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

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

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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 / 60 second (when safety testing).
Primary to Secondary: 3300Vac / 5mA Max /3S (when production).

### 8.2.Leakage Current

0.25mA max. at 264Vac / 60Hz

### 8.3.Insulation Resistance

10MΩ min. at primary to secondary add 500Vdc test voltage

### 8.4.Regulatory Standards

| Type | Country | Standard | Statue | Mark |
|---|---|---|---|---|
| ETL | USA | UL62368-1 | APPROVAL | |
| CETL | CANADA | UL62368-1 | APPROVAL | |

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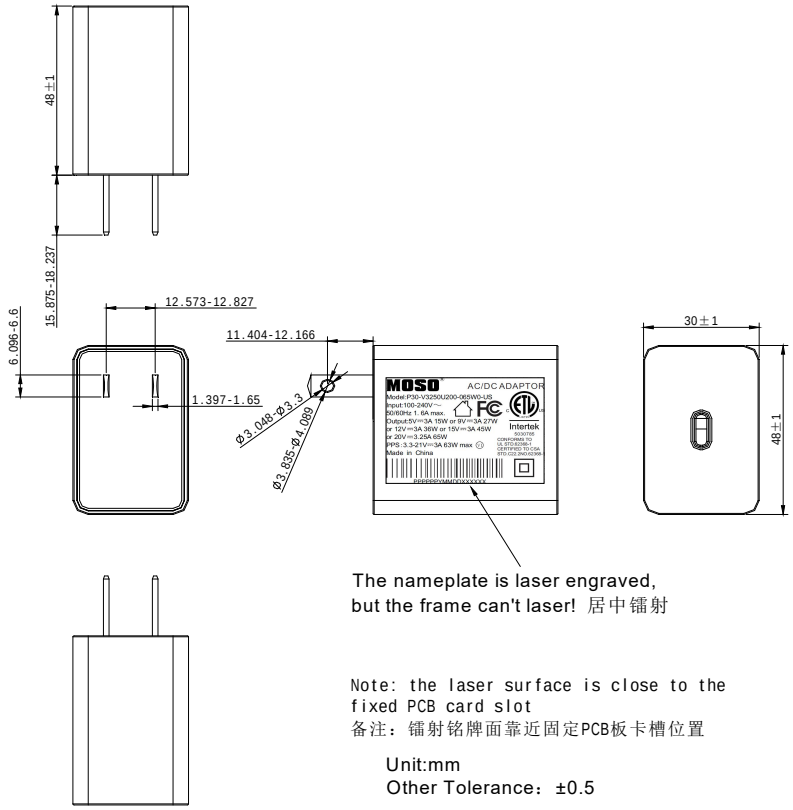
## 9. Mechanical Outline Drawing




Case material: ■PC temperature resistance: 120℃
□PC+ABS temperature resistance: 95℃

Remark: 1)PC material compliances with ball pressure testing requirement.
2) The colour of Case is Black.

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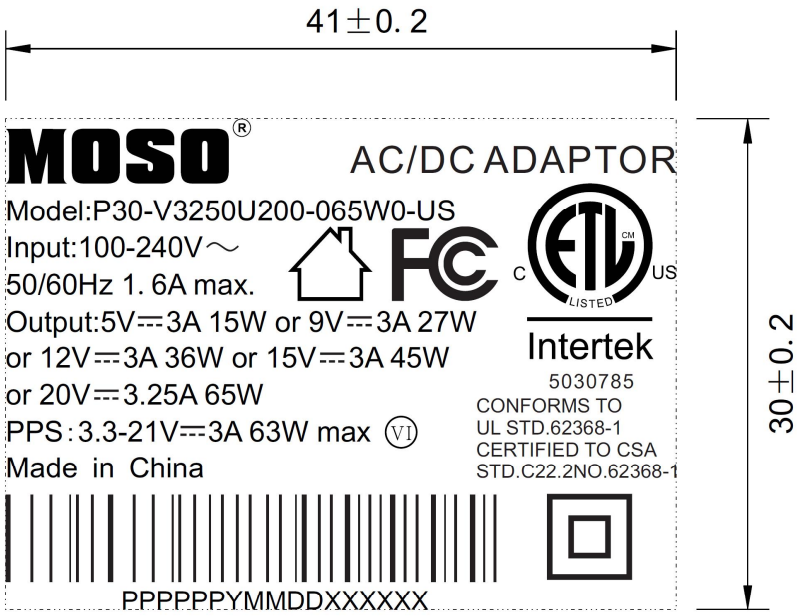
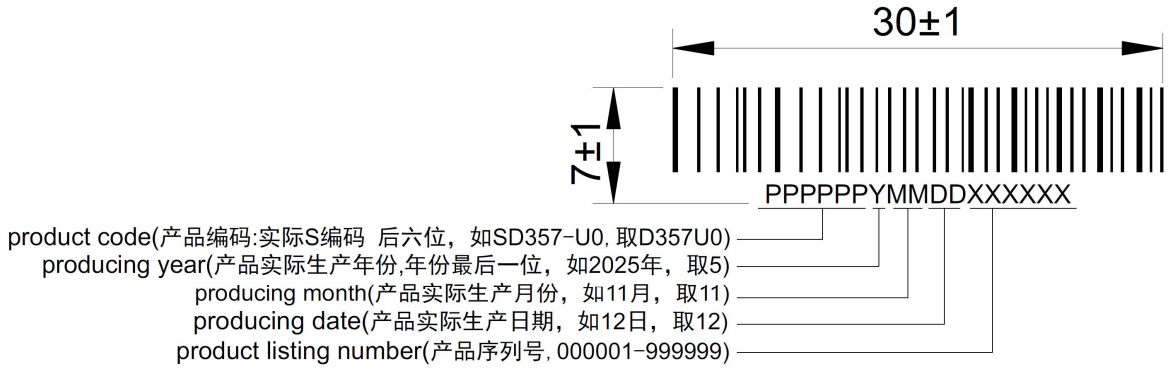
## 10. I/O Marking Drawing




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



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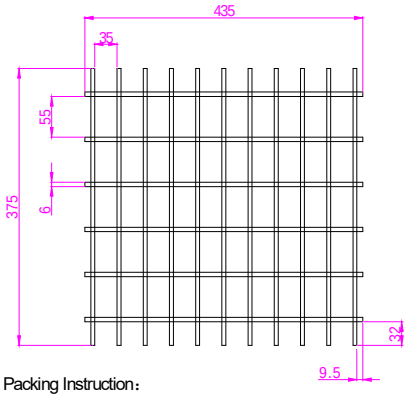
## 11. Package Drawing

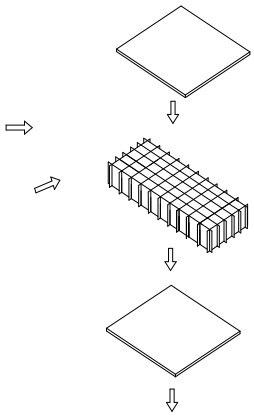


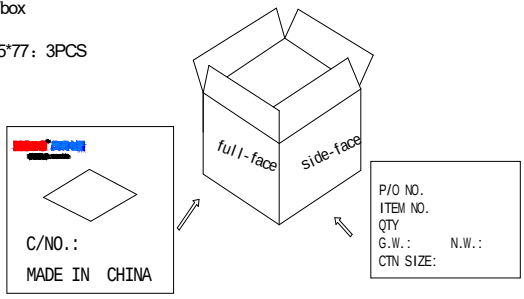

Packing Instruction：

1、the product put in the bag，
then the packing product put in the
pattitioning card groove，50PCS/floor，
3 floors in all，150PCS/box
such as： 50pcs/floor*3floor=150PCS/box

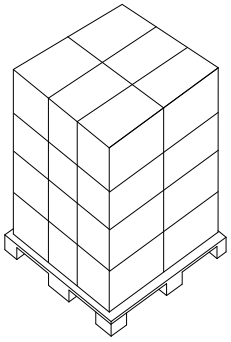
2、the usage of the packing materials：
1)the usage of the partitioning card 435*375*77：3PCS
2)the usage of the bag150*120：150PCS
3)the usage of the flat 435*375:4PCS
4)carton box 450*390*275：1PCS

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

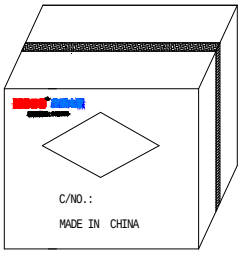





Carton size：450L*390W*275H



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.

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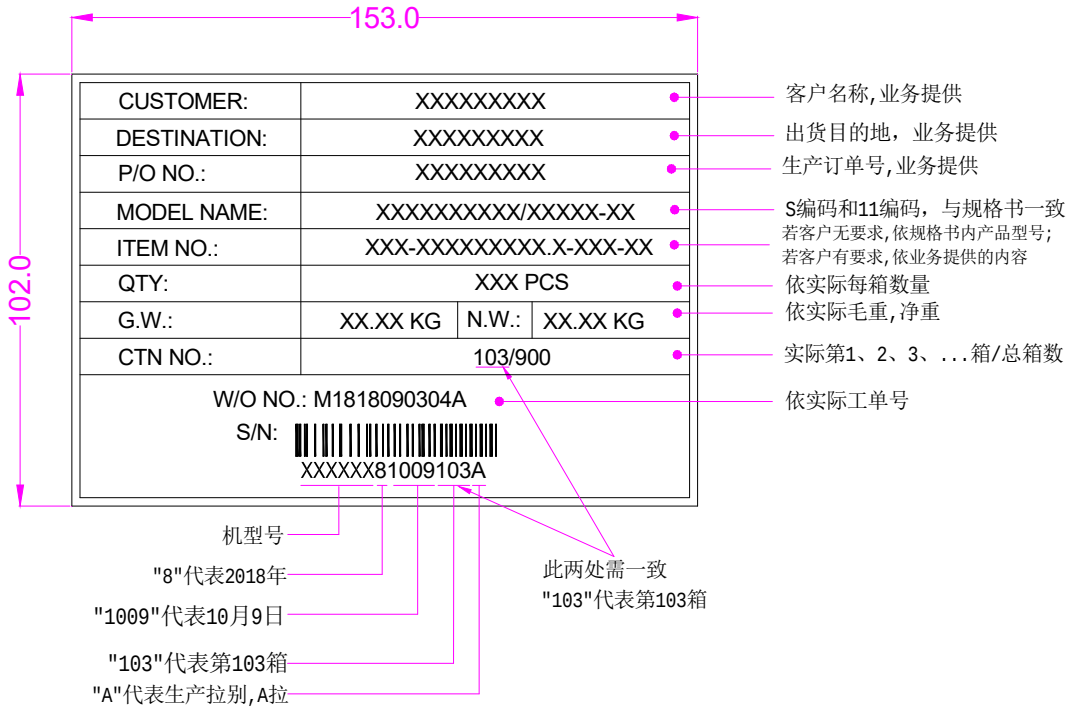
## Carton label




技术要求:

1.材质:80P铜版纸(来料为空白标签)
2.颜色:白底黑字,公司内部打印
3.背附胶,粘贴在纸箱上后,无翘边等不良;
4.符合ROHS标准及茂硕环保要求
5.使用空白料号3230200011