

SPECIFICATION FOR APPROVAL  
AC/DC ADAPTOR

CUSTOMER SPEC: INPUT: 100-240V AC 50/60Hz

OUTPUT: 5.0V-20.0VDC 3.0A max.

CUSTOMER DWG./PART NO. \_\_\_\_\_

KTEC PART NO. KSA-30P-D5 (PAHS 6P NP REACH ROHS PROP65)

SAMPLE NO: S99308      REV.: A ISSUE      DATE: 2024-06-05

PRODUCT NO: KS240367

Unit Color: Black

White

APPROVED SIGNATURES/客户确认		
核准/APPROVED BY	审核/CHECKED BY:	检测/TESTED BY:

Manufacturer/制造商			
业务/SALES	品管/QE	核准/APPROVED BY	制样/MADE BY
Candy	徐海鑫	贺洪明	冯连连

**KTEC GLOBAL CO., LTD.**  
**KTEC 冠德国际科技股份有限公司**

深圳研发中心地址: 中国广东省深圳市光明新区马田街道办合水口社区第四工业区中鹏程大厦四楼  
ADD: 4F Zhong PengCheng Building, No.4 Industrial Park, He shuikou Community, Matian street,  
Guangming New Zone, Shenzhen City, guangdong province, China

台北总部地址: 235024 新北市中和区中板路 23 号 9 楼  
ADD: 9F., No. 23, Zhongban Rd., Zhonghe Dist., New Taipei City 235024

柬埔寨制造据点: 柬埔寨茶胶省当谷县本布乡站波村(三号公路 66 公里处)  
ADD: Phum Chormpul, Khum P'pel, Srok Tramkork, Takeo Province, Kingdom  
of Cambodia(66KM,National Broad Road)

TEL:86-755-27160388    FAX:86-755-27160145  
[Http://www.twktec.com](http://www.twktec.com)



KTEC 冠德國際科技  
KTEC GLOBAL CO., LTD.

**Switching power supply specification(Class B)**

KTEC P/N:

KSA-30P-D5

PRODUCT NO:

KS240367

CUSTOMER P/N:

**Project Modify List**

Item	Content	Rev.	Date	Prepared By	Checked By
1	First Rev.	A	2024-06-05	Liao xiaoyan	Chen qiujian



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**TITLE:**

**REVISION: A**

**DRAWING NO.:**

**PREPARED :** 廖小艳

**CHECKED:** 陈秋健 明奇

**APPROVED :** 贺洪明

**DATE:** 2024-06-05

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## Switching power supply specification(Class B)

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### 1 GENERAL

#### 1.1 Description

This specification defines the performance characteristics for a Class II adapter, single-phase 15.0~30.0 watts. Single of two segment voltage output level power supply.

- Simple design philosophy.
- Reliability level of 50K hours MTBF @ 25°C (rated input voltage and using the Telcordia SR-332 Issue 3 method).
- DC output voltage must be Safe Extra Low Voltage (SELV) & Limited Power as defined by IEC62368-1.
- The USB-PD charger meet PD2.0, PD3.0, BC1.2, QC4+

### 2 INPUT REQUIREMENTS

#### 2.1 Input Conditions

The supply shall operate over the voltage ranges as follows:

Rated input voltage	100-240Vac
Operating range	90-264Vac
Rated input frequency	50/60Hz +/- 3Hz
Rated input current	0.8A max. @ 100Vac to 240Vac
Power consumption (no-loading at 5V)	0.075W Max.
Primary current protection	An adequate internal fuse on the AC input line is provide.
Input configuration	<u>2</u> Conductor

#### 2.2 AC Inrush Current

No damage shall be occurred and the input fuse shall not be blown up nominal input voltage full load 25°C cold start.

### 3 OUTPUT REQUIREMENTS

3.1	Nominal DC output voltage	Fixed PDO					PPS	
		5.0V	9.0V	12.0V	15.0V	20.0V	3.3-11.0V	3.3-16.0V
3.2	Minimum load current	0.0A					0.0A	
3.3	Rating load current	3.0A	3.0A	2.5A	2.0A	1.5A	3.0A max.	2.0A max.
3.4	Rating output power	15.0W~30.0W					30.0W max.	
3.5	Line regulation	The line regulation is less than <u>±5%</u> while measuring at rated load						
3.6	Load regulation	The load regulation for +5.0V,+9.0V,+12.0V,+15.0V,+20.0V is less than <u>±5%</u> , at measured output load from 0% to 100% rated load.						

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3.7	Ripple and noise	Fixed PDO					PPS	
		5.0V	9.0V	12.0V	15.0V	20.0V	3.3-11.0V	3.3-16.0V
		150 mVp-p	150mVp-p	200 mVp-p	250mVp-p	300 mVp-p	250mVp-p	300mVp-p
		Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor in parallel the output terminal. Measured with 20MHz Bandwidth Oscilloscope at full load land rated input voltage 115Vac & 230Vac.						
3.8	Average efficiency	Meet COC V2 AC115V/60Hz and 230V/50Hz, output Load current from 100%,75%,50%,25%. The test point: end PCBA board, no include DC cable.						
3.9	Turn on delay time	4000 mS max. at nominal input AC voltage and Output Full load						
3.10	Rise time	The supply shall have a start-up rise time of less than <u>100 mS</u> to rise to within regulation limits for all DC outputs.						
3.11	Hold up time	When power off, DC output must be maintain <u>8 mS min</u> in regulation limit at 115V/230Vac and full load.						
3.12	Output over-shoot	Less than <u>10%</u> of nominal voltage value						
3.13	Protection function							
	Over-voltage protection	The output voltage shall be clamped by internal protection.						
	Short-circuit protection	The adapter shall not be damaged by short the DC output to Ground. The adapter shall resume normal operation when a short circuited fault condition is removed.						
	Over current protection	When overload is applied to the output, the power supply shall be shut down and enter auto-recovery or latch mode 4.0A max.						

**4 MECHANICAL**

**4.1 Enclosure and Layout**

Plastic case: UL94V-0  
 Weight: /g (Max.)  
 Dimensions: 45\*45\*30mm  
 Colour : WHITE(WT-07)

**4.2 Input and Output Configuration**

Input pin: International Pin  
 Output connector: DC plug Type: USB Type-C  
5.0V/3.0A,9.0V/3.0A,12.0V/2.5A,15.0V/2.0A,20.0V/1.5A  
3.3-11.0V/3.0A Max. 30.0W Max., 3.3-16.0V/2.0A Max. 30.0W Max..

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**5 REGULATORY COMPLIANCE**

**5.1 EMC Specifications**

The external power supply must meet all specification in this section. It is required that the external power supply work closely with the customer's equipment in order to get the best EMC solution.

**5.1.1 Radiated and Conducted Emission**

FCC part 15: Class B for radiated and conducted emissions.  
EN55032, Class B for radiated and conducted emissions.

**5.2 Immunity**

**5.2.1 Electrostatic Discharge Immunity**

EN 55035, EN 61000-4-2

- Air Discharge: ±8kV
- Contact Discharge: ±4kV
- Performance Criteria B

Electrostatic-discharge test by contact or air should be conducted with Static-discharge tester(energy storage capacitance of 150Pf and discharge resistance of 330Ω) 8kV air discharge, 4kV contact discharge.

**5.2.2 Radiated Field Immunity**

EN 55035, EN 61000-4-3

Frequency Range: 80-1000MHz, still need test singly 1800MHz, 2600MHz, 3500MHz, 5000MHz  
Field Strength: 3 V/m with 80% amplitude modulation of 1kHz

Performance Criteria A

Radio-frequency electromagnetic field susceptibility test, RS 80-1000MHz, 3V/m, 80%AM(1KHz).

**5.2.3 Conducted Field Immunity**

EN 55035, EN 61000-4-6

Frequency Range: 0.15-80MHz(0,15 to 10 MHz, 3V; 10 to 30 MHz, 3-1V; 30 to 80 MHz, 1V)

Field Strength: 3A/m with 80% amplitude modulation of 1KHz

Performance Criteria A

**5.2.4 Fast Transient Immunity**

EN 55035, EN 61000-4-4

- Power line: 1kV
- Performance Criteria B

**5.2.5 Surge Immunity**

EN 55035, EN 61000-4-5

- Line to line: ±1kV
- Line to Earth: ±2kV

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- + 90°/ -270°

Lightning Surge Voltage shall be applied in differential and common mode to AC input lines and cross primary AC input and secondary GND.

**5.3 Safety Requirements and Certification**

**5.3.1 Regulatory Standard**

The power supply shall comply with the following international regulatory standards:

for short	Country or Region	Certified Status	Standard
UL	USA	Meet	UL 62368-1
CUL	Canada	Meet	CSA C22.2 NO.62368-1

**5.3.2 Additional Safety Requirements**

- ⊙ Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short): 3000 Vac, 10mA, 1 minute.
- ⊙ Insulation Resistance, Input to output: 50M Ω(MIN.) at 500 VDC.
- ⊙ Reinforced insulation system, Primary-to-Ground and Primary-to-Secondary.
- ⊙ The leakage current shall not exceed 0.25mA max.

**6 ENVIRONMENTAL REQUIREMENTS**

**6.1 Temperature**

- ⊙ Operating : 0 °C +40 °C
- ⊙ Non-Operating : -20 °C +70 °C

**6.2 Humidity**

- ⊙ Operating : 5%~95% (Non Condensing)
- ⊙ Non-Operating : 5%~95% (Non Condensing)

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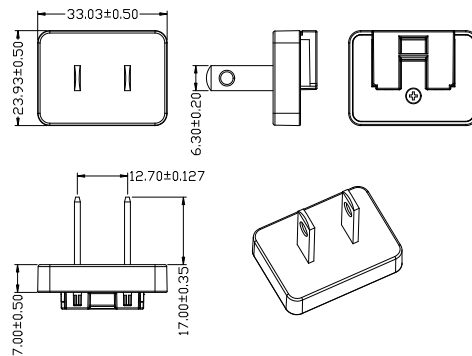
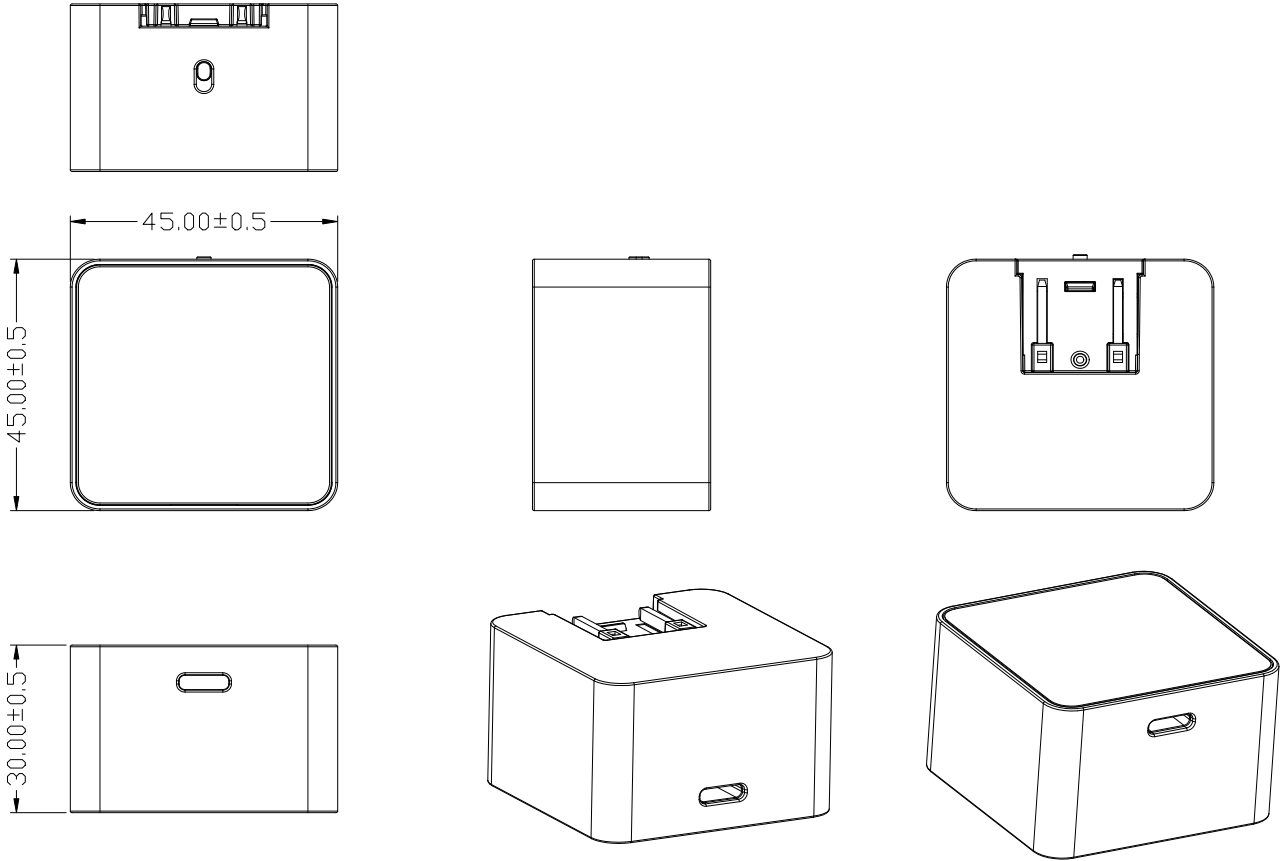
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**7 APPEARANCE DRAWING: (UNIT: MM)**



**UL PLUG**

- NOTE: 1. Case cover & chassis material  
PC WHITE(WT-07) (NO KTEC)  
2. AC PIN MATERIAL: BRASS (NI PLATED)  
3. PAHS 6P NP REACH ROHS PROP65  
4. Satin Finish  
5. Top mold: MSS017112 Bottom mold: MSS019005

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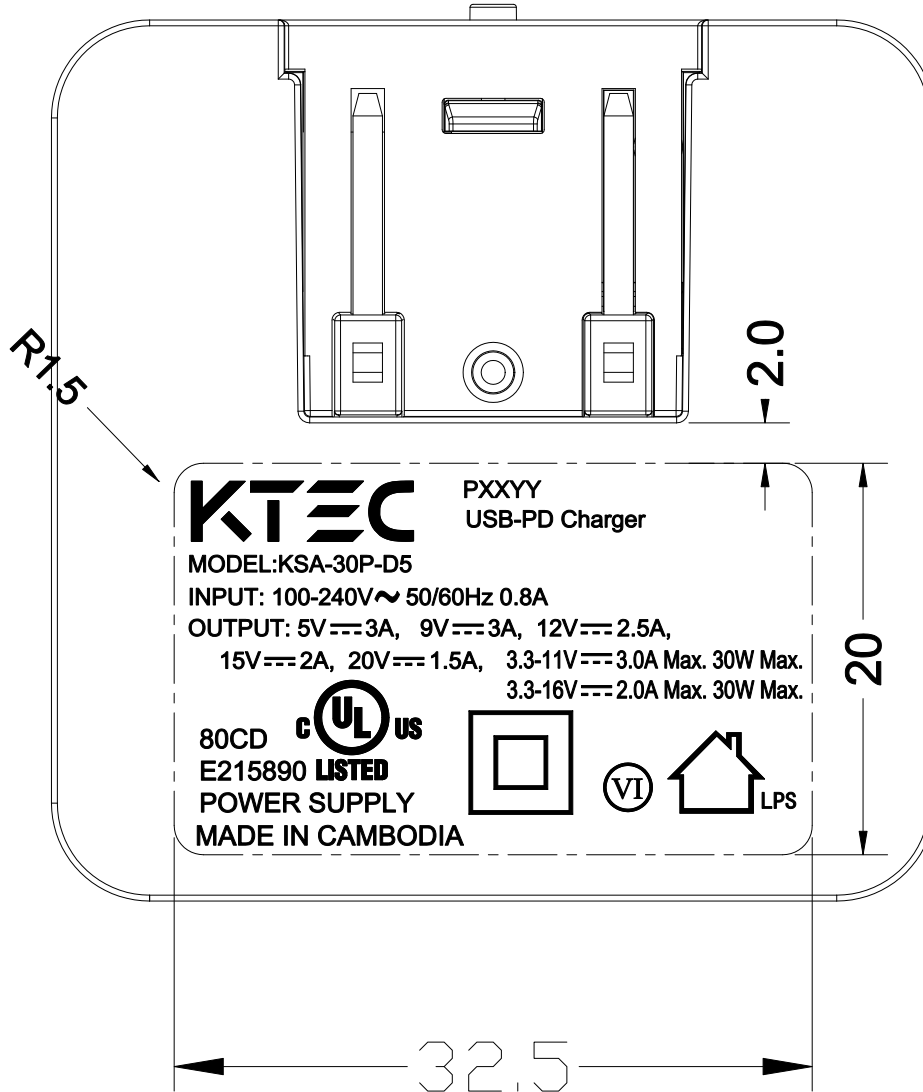
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**8 NAME PLATE:**



Note: Laser (鐳射)

PXXYY (P=PAHS,6P,NP XX=WEEK, YY=Year) 按实际生产日期制作

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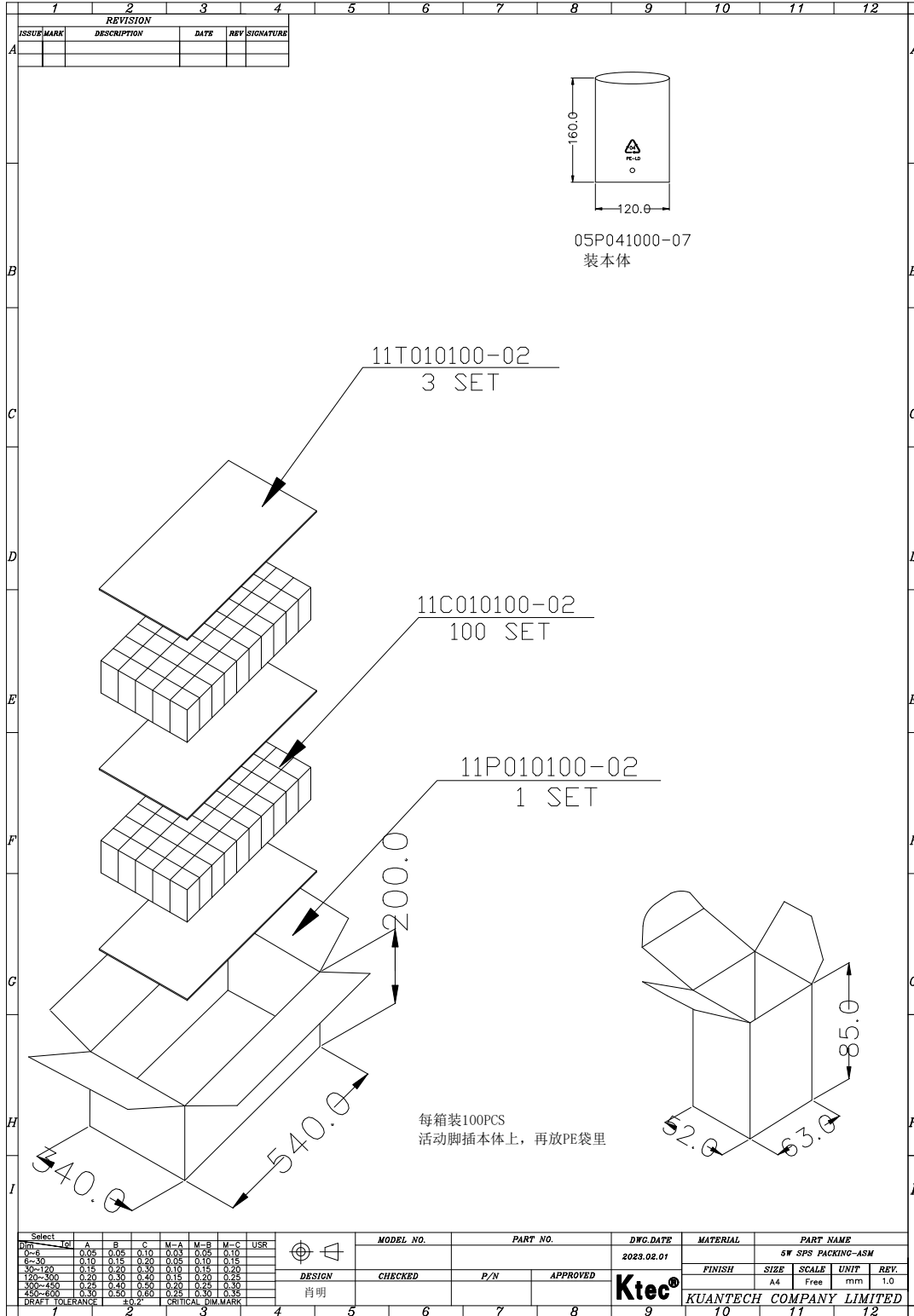
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9 PACKING(UNIT: MM)



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