



冠德科技股份有限公司
KUANTECH INCORPORATED COMPANY

Switching power supply specification(class A)

KUANTECH P/N:	PRODUCT NO.:	CUSTOMER P/N:
KSA-120W-240500M3	KS240365	

1 GENERAL	4
1.1 Description.....	4
2 INPUT REQUIREMENTS	4
2.1 Input Conditions.....	4
2.2 AC Inrush Current.....	4
3 OUTPUT REQUIREMENTS	4
4 MECHANICAL	5
4.1 Enclosure And Layout.....	5
4.2 Input and Output Configuration	5
5 REGULATORY COMPLIANCE	6
5.1 EMC Specifications.....	6
5.1.1 Radiated and Conducted Emission.....	6
5.2 Immunity	6
5.2.1 Electrostatic Discharge Immunity.....	6
5.2.2 Radiated Field Immunity.....	6
5.2.3 Fast Transient Immunity.....	6
5.2.4 Surge Immunity	6
6 REGULATORY COMPLIANCE	7
6.1 Safety Requirements and Certification.....	7
6.1.1 Additional Safety Requirements.....	7
7 ENVIRONMENTAL REQUIREMENTS	7
7.1 Temperature.....	7
7.2 Humidity	7
8 APPEARANCE DRAWING: (UNIT: MM)	8
9 NAME PLATE:	9
10 DIMENSION OF OUTPUT PLUG & DC CORD (UNIT: MM)	10
11 PACKING (UNIT: MM)	11

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED : GUO	CHECKED: 吴尧 吴清雄	APPROVED : 贺洪明	DATE: 2024-05-17	PAGE: 3 OF 11



Switching power supply specification(class A)

KUANTECH P/N:	PRODUCT NO.:	CUSTOMER P/N:
KSA-120W-240500M3	KS240365	

1 GENERAL

1.1 Description

This specification defines the performance characteristics for a class I adapter, single-phase 120.0 watts. Single 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.
- Cooling: natural convection.

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	1.6A Max.
Power consumption (no-loading)	0.21W Max. at 230Vac
Primary current protection	An adequate internal fuse on the AC input line is provide.
Configuration	<u>3</u> Conductor

2.2 AC Inrush Current

No damage shall be occurred and the input fuse shall not be blown up nominal input voltage at 230Vac, full load, 25°C cold start.

3 OUTPUT REQUIREMENTS

3.1	Nominal DC output voltage	+24.0V
3.2	Minimum load current	0.05A
3.3	Rating load current	5.0A
3.4	Peak load current	/
3.5	Rating output power	120.0W
3.6	Line regulation	The line regulation is less than <u>±5%</u> while measuring at rated load and +/-10% of input voltage changing.
3.7	Load regulation	The load regulation for <u>+24.0V</u> is less than <u>+/-5%</u> , at measured output load from 10% to 100% rated load.

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED : GUO	CHECKED: 吴尧 吴清雄	APPROVED : 贺洪明	DATE: 2024-05-17	PAGE: 4 OF 11



Switching power supply specification(class A)

KUANTECH P/N:	PRODUCT NO.:	CUSTOMER P/N:
KSA-120W-240500M3	KS240365	

3.8	Peak load regulation	/
3.9	Ripple and noise	300mVp-p maximum
		Add 0.1Uf/50V ceramic capacitor and 10UF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.
3.10	Average efficiency	<u>88%</u> minimum
		115V/60Hz and 230V/50Hz, output current from 100%, 75%, 50%, 25%.
3.11	Turn on delay time	<u>3000ms</u> max at nominal input AC voltage and full load
3.12	Rise time	The supply shall have a start-up rise time of less than <u>40ms</u> to rise to within regulation limits for all DC outputs.
3.13	Hold up time	<u>8 ms</u> minimum at nominal input 100VAC minimum voltage and full load.
3.14	Output over-shoot	Less than <u>10%</u> of nominal voltage value
3.15	LED indication function	Green LED
3.16	Protection function	
	Over-voltage protection	150% maximum at latch mode.
	Over current protection	170% maximum, output shut down, auto recovery.
	Short-circuit protection	Output shut down, auto recovery.

4 MECHANICAL

4.1 Enclosure and Layout

Plastic case: UL94V-0
 Weight : /g (Max.)
 Dimensions: 168*68.5*35.5mm
 Colour : WHITE(WT-07)

4.2 Input and Output Configuration

Input pin: Mini 3PIN
 Output connector : DC plug type: 5.5*2.5*10mm
 Polarity: Center"+"
 Cable: 1.5M VW-1 80°C 300V 1185 16AWG 4.0Q WT-07(add core)
(PAHS 6P NP REACH ROHS PROP65)

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED : GUO	CHECKED: 吴尧 吴清雄	APPROVED : 贺洪明	DATE: 2024-05-17	PAGE: 5 OF 11



Switching power supply specification(class A)

KUANTECH P/N:	PRODUCT NO.:	CUSTOMER P/N:
KSA-120W-240500M3	KS240365	

5 REGULATORY COMPLIANCE

5.1 EMC Specifications

The external power supply must meet all specification in this section. It is recommended that the external power supply be tested 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, 26000MHz,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 Fast Transient Immunity

EN 55035, EN 61000-4-4

- Power line: 1kv
- Signal line: 0.5kv
- Performance Criteria B

5.2.4 Surge Immunity

EN 55035, EN 61000-4-5

- Line to line: 1kv
- Line to earth: 2kv
- +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.

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED : GUO	CHECKED: 吴尧 吴清雄	APPROVED : 贺洪明	DATE: 2024-05-17	PAGE: 6 OF 11



Switching power supply specification(class A)

KUANTECH P/N:	PRODUCT NO.:	CUSTOMER P/N:
KSA-120W-240500M3	KS240365	

6 REGULATORY COMPLIANCE

6.1 Safety Requirements and Certification

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

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

6.1.1 Additional Safety Requirements

- ⊙ Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short): 1500Vac, 5m A, 1 minute.
- ⊙ Insulation Resistance, Input to output: 10MΩ(MIN.) at 500VDC.
- ⊙ Reinforced insulation system, Primary-to-Ground and Primary-to-Secondary.
- ⊙ The leakage current shall not exceed 0.5mA.

7 ENVIRONMENTAL REQUIREMENTS

7.1 Temperature

- ⊙ Operating: 0 °C +40 °C
- ⊙ Non-Operating: -20 °C +80 °C

7.2 Humidity

- ⊙ Operating: 10%~90% (Non Condensing)
- ⊙ Non-Operating: 10%~90% (Non Condensing)

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED : GUO	CHECKED: 吴尧 吴清雄	APPROVED : 贺洪明	DATE: 2024-05-17	PAGE: 7 OF 11

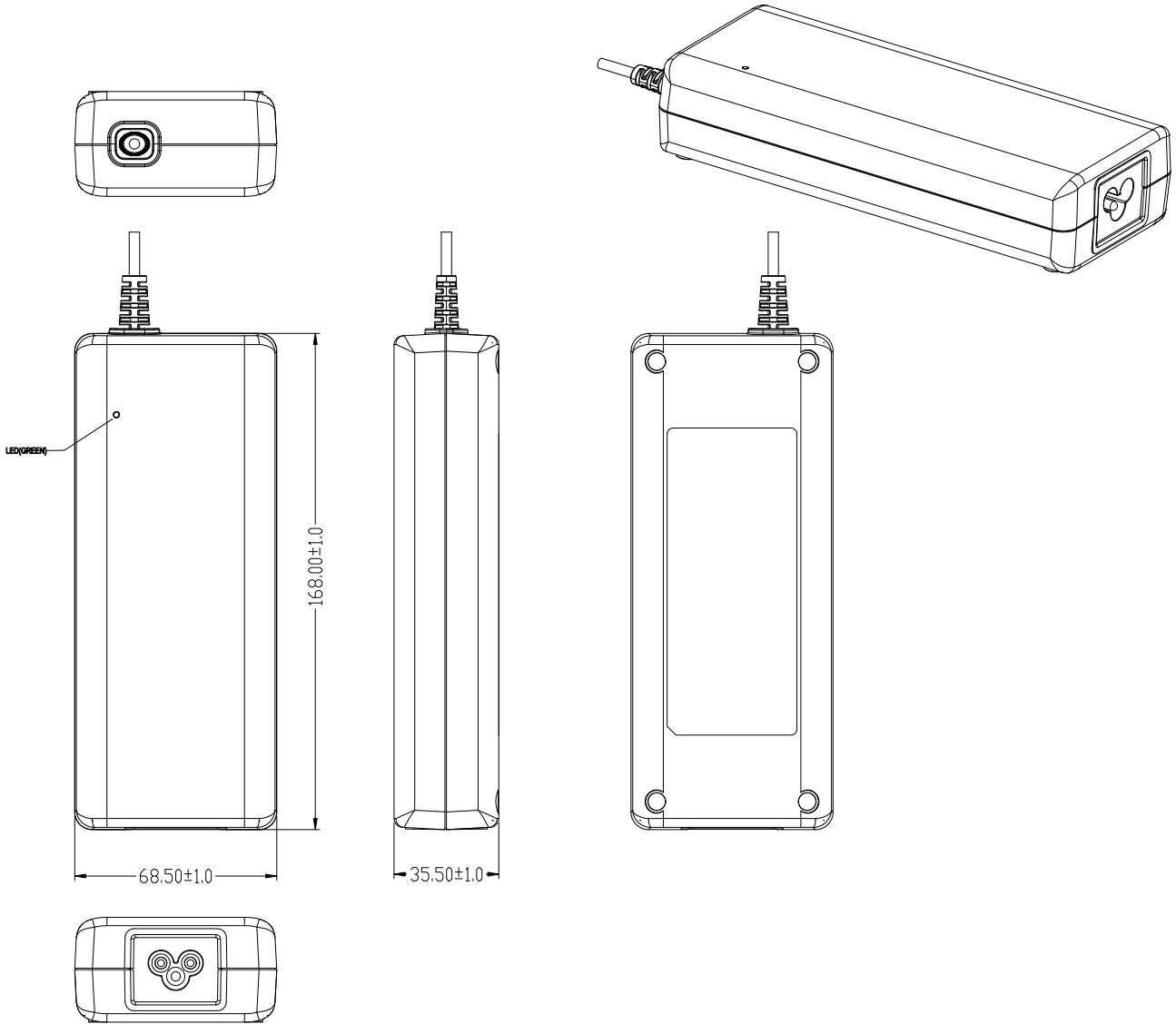


冠德科技股份有限公司
KUANTECH INCORPORATED COMPANY

Switching power supply specification(class A)

KUANTECH P/N:	PRODUCT NO.:	CUSTOMER P/N:
KSA-120W-240500M3	KS240365	

8 APPEARANCE DRAWING: (UNIT: MM)



- NOTE: 1. Case cover & chassis material:
PC WT-07 (NO KTEC)
2. AC PIN MATERIAL: BRASS (NI PLATED)
3. PAHS 6P NP REACH ROHS PROP65
4. Satin finish
5. Top mold: MSS023054; Bottom mold:MSS023055

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED : GUO	CHECKED: 吴尧 吴清雄	APPROVED : 贺洪明	DATE: 2024-05-17	PAGE: 8 OF 11



冠德科技股份有限公司
KUANTECH INCORPORATED COMPANY

Switching power supply specification(class A)

KUANTECH P/N:

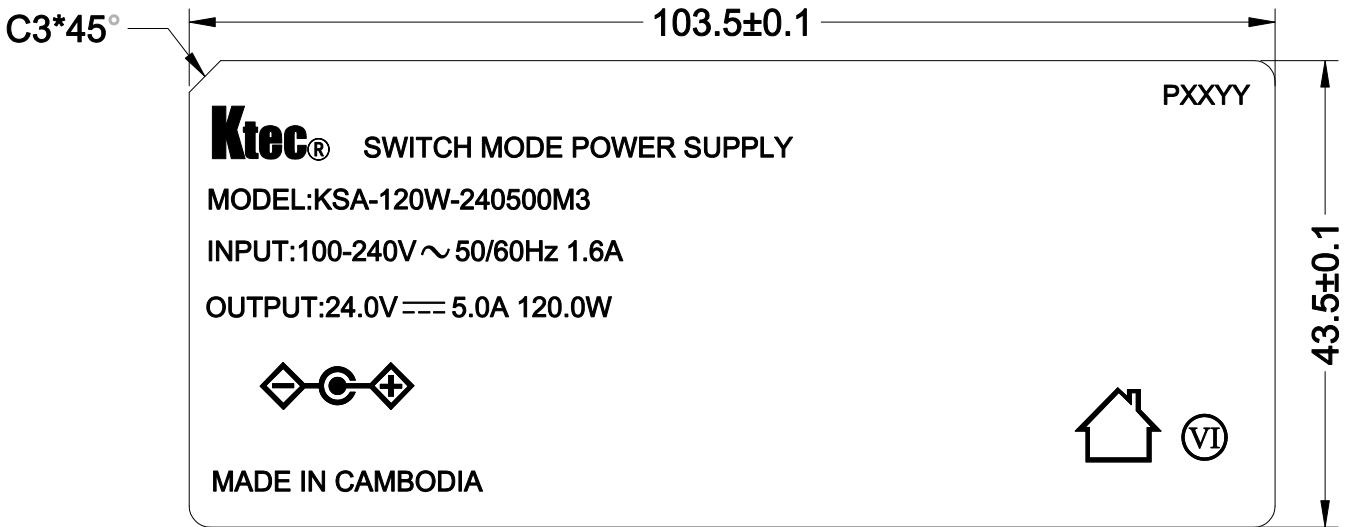
PRODUCT NO.:

CUSTOMER P/N:

KSA-120W-240500M3

KS240365

9 NAME PLATE:



Note: 1. Laser 辐射

DATE CODE (PXXYY: P=PAHS,6P,NP, XX=WEEK, YY=YEAR)按实际生产日期

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED : GUO	CHECKED: 吴尧 吴清雄	APPROVED : 贺洪明	DATE: 2024-05-17	PAGE: 9 OF 11



冠德科技股份有限公司
KUANTECH INCORPORATED COMPANY

Switching power supply specification(class A)

KUANTECH P/N:

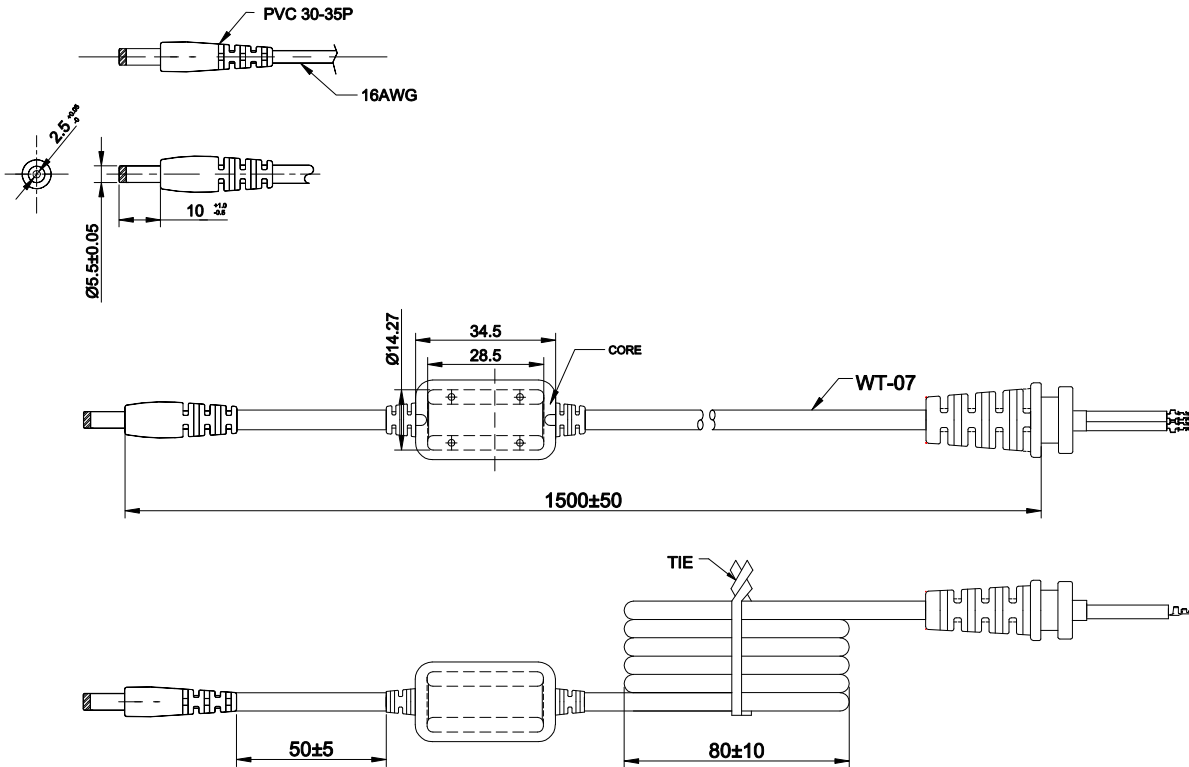
PRODUCT NO.:

CUSTOMER P/N:

KSA-120W-240500M3

KS240365

10 DIMENSION OF OUTPUT PLUG & DC CORD (UNIT: MM)



NOTE: (unit:mm)

- 1).WIRE TYPE:VW-1 1185 80°C 300V L=1500mm Ø4.0 16AWG WT-07(ADD CORE)
- 2).CORE:Ø14.3X7.0X28.5mm
- 2).THE POLARITY:
- 3).PAHS 6P NP REACH ROHS PROP65
- 4).SR MOLD: ML00512

TITLE:

REVISION: A

DRAWING NO.:

PREPARED : GUO

CHECKED: 吴尧 吴清雄

APPROVED : 贺洪明

DATE: 2024-05-17

PAGE: 10 OF 11



冠德科技股份有限公司
KUANTECH INCORPORATED COMPANY

Switching power supply specification(class A)

KUANTECH P/N:

PRODUCT NO.:

CUSTOMER P/N:

KSA-120W-240500M3

KS240365

11 PACKING (UNIT: MM)

11T583423-03

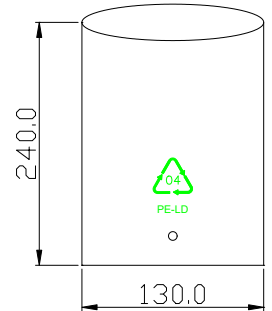
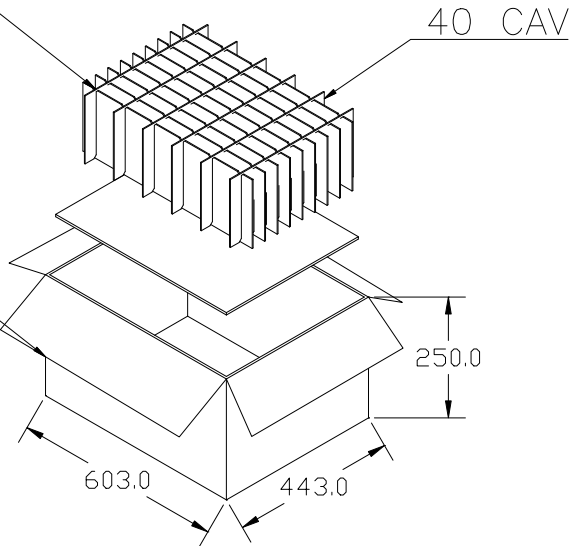
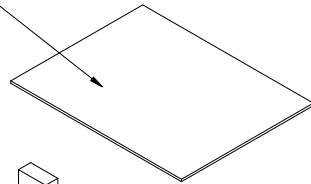
用量 2PCS

11Q584220-04

用量 1SET

11P604425-02

用量 1PCS



CARTON: 40PCS

TITLE:

REVISION: A

DRAWING NO.:

PREPARED : GUO

CHECKED: 吴尧 吴清雄

APPROVED : 贺洪明

DATE: 2024-05-17

PAGE: 11 OF 11