

SPECIFICATION

Model Name :

SS-1UxxEx *series*

Description :

400W 、 460W 、 520W 、 600W 1U Single Power Supply

Version : B0

Issued Date : 20230803

1. General Description

This specification defines the characteristic of Single power supply with 1Unit high.

And model name is SS-1U40ES for 400W、SS-1U46ES for 460W、SS-1U52ES for 520W、SS-1U60EL for 600W output.

2. Input Characteristic

2.1. Input connector

The input connector shall be an IEC60320 C14 inlet, rated for 15A/250Vac.

2.2. Input Voltage and Frequency

<i>Minimum</i>	<i>Nominal</i>	<i>Maximum</i>	<i>Measure</i>
90	100~240	264	Vac
47	50~60	63	Hz

2.3. Input Current and Inrush Current

<i>Input Voltage</i>	<i>MAX. Input Current</i>	<i>Inrush Current</i>
115Vac	8A/8A/8A/10A	25A
230Vac	4A/4A/4A/5A/	50A

2.4. Power Factor

The minimum power factor shall be 0.95 with full load and input 230Vac/50Hz.

3. Output Characteristic

3.1. DC Output Characteristic

<i>Output Voltage</i>	<i>Min. Current</i>	<i>Max. Current</i>	<i>Regulation</i>	<i>Ripple & Noise</i>
+3.3V	1A	25A	±5%	50mV
+5V	1A	25A	±5%	50mV
+12V	1A	32A/34A/40A/48A	±5%	120mV
-12V	0A	0.8A	±5%	120mV
+5VSB	0.1A	3.5A	±5%	50mV

Note: :

1. The combined power from +3.3V and +5V shall not exceed 160W/160W/170W/180W.
2. The max total power shall not exceed 400W/460W/520W/600W.
3. Ripple and noise bandwidth is set to 20MHz.
4. Add a 0.1uF ceramic capacitor in parallel with a 10uF tantalum capacitor at output connector terminals for ripple and noise measurement.

3.2. Efficiency

The minimum efficiency of power supply is 80% with full load and 115Vac/60Hz input.

3.3. Hold up Time

The output voltages stay in regulation at least 16ms with 100% load after loss of AC input.

3.4. Rise Time

The output voltages rise from 10% to 90% with full load shall be in 20ms maximum.

3.5. Dynamic Loading

The output voltages shall remain in regulation for the step loading, and in the limits for the capacitive loading specified below :

<i>Output</i>	<i>Step Load Size</i>	<i>Load Slew Rate</i>	<i>Capacitive Load</i>
+3.3V	30% of max load	0.5A / μ sec	1000uF
+5V	30% of max load	0.5A / μ sec	1000uF
+12V	65% of max load	0.5A / μ sec	2200uF
+5VSB	25% of max load	0.5A / μ sec	1uF

3.6. PSON Remote on/off Control

The PSON signal is required to remotely turn on/off the power supply.

PSON is an active low TTL compatible signal that turns on the main power rails.

	<i>PSU On</i>	<i>PSU Off</i>
PSON Signal	LOW (0.8V max.)	HI (2V min.)

3.7. Power Good Signal

Power Good, also called PG or PWOK, is an active high TTL compatible signal.

PG signal is to indicate that all output voltages are in regulation and ready for use.

Below is for a representation of the timing characteristics of PG signal.

Power Good on delay time	100ms to 500ms
Power Good off delay time	1ms (min.)

4. Protection

4.1. Over Current Protection

<i>Output</i>	<i>Min.</i>	<i>Max.</i>	<i>Comment</i>
+3.3V	110%	150%	PSU shutdown
+5V	110%	150%	PSU shutdown
+12V	110%	150%	PSU shutdown

4.2. Over Voltage Protection

<i>Output</i>	<i>Min.</i>	<i>Max.</i>	<i>Comment</i>
+3.3V	3.7V	4.1V	PSU shutdown
+5V	5.7V	6.5V	PSU shutdown
+12V	13.1V	14.5V	PSU shutdown

4.3. Short Circuit Protection

<i>Output</i>	<i>Comment</i>
+3.3V	PSU shutdown
+5V	PSU shutdown
+12V	PSU shutdown

4.4. Over Temperature Protection

The power supply would be protected against over temperature condition by loss of cooling or excessive ambient temperature. The PSU will shutdown in an OTP condition.

5. Insulation

5.1. Dielectric Withstand Voltage

Primary to Ground	1500Vac (10mA) for 1 second
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5.2. Leakage Current

Leakage current is 3.5mA maximum at 240Vac/50Hz.

6. Safety

CB 、 CE 、 TUV 、 UL 、 BSMI 、 CCC 。

7. EMC

CE 、 FCC 、 BSMI 、 CCC 。（Class A）

8. Environmental Requirement

8.1. Temperature

Operating: 0°C to +45°C.

Non Operating: -20°C to +70°C.

8.2. Humidity

Operating: 20% to 90% ,non-condensing.

Non Operating: 5% to 95% ,non-condensing.

8.3. Altitude

Operating: Up to 2000m.

8.4. Cooling Method

By DC fan.

9. Reliability

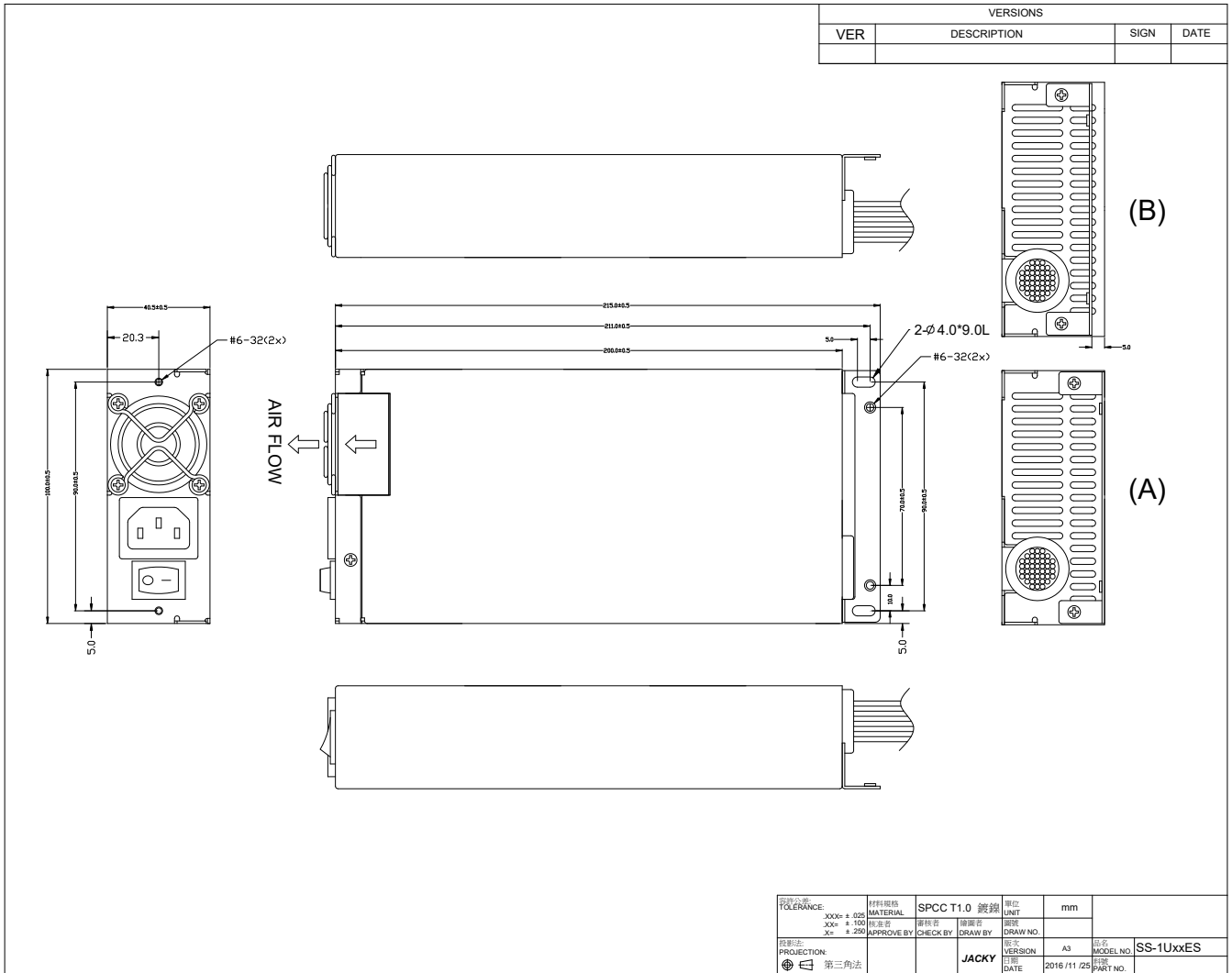
9.1. MTBF

Using MIL - HDBK -217F the calculated MTBF > 100,000 hours at 25°C.

10. Mechanical Drawing and Output Wire

10.1. Outline (bracket optional): L 200 x W 100 x H 40.5 mm.

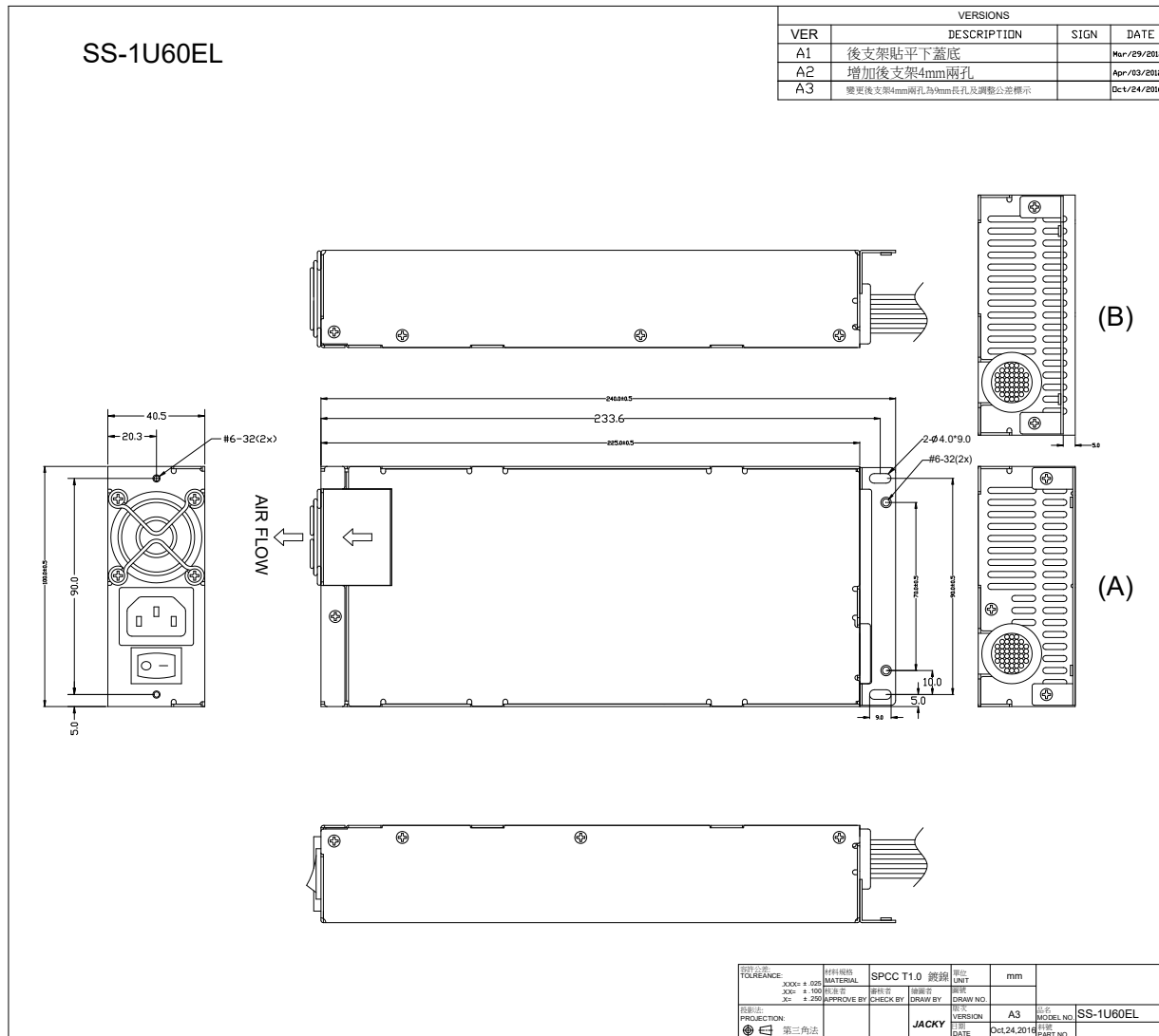
For SS-1U40ES, SS-1U46ES, SS-1U52ES



公差标准: TOLERANCE: XXX± 0.05 XX± 0.100 X± 0.250	材料规格 MATERIAL SPCC T1.0 镀锌	单位 UNIT mm	
投影视图: PROJECTION: 第三角法	审核者 CHECK BY JACKY	制图 DRAW BY 	版本 VERSION A3 日期 DATE 2016/11/25
			名称 MODEL NO. SS-1UxxES 零件 PART NO.

10.2. Outline (bracket optional): L 225 x W 100 x H 40.5 mm.

For SS-1U60EL



10.3. Output Wire (could be customization) :

L=450mm±20mm

L=450mm±20mm

L=150mm±15mm

L=450mm±20mm

L=150mm±15mm

L=450mm±20mm

L=150mm±15mm

L=450mm±20mm

L=150mm±15mm

L=450mm±20mm

L=150mm±15mm

L=450mm±20mm

L=150mm±15mm

VERSIONS					
VER	DESCRIPTION			SIGN	DATE

20+4Pins(EPS12V)					
HOUSING : MOLEX 5557 series or equivalent					
TERMINAL : MOLEX 5556 series or equivalent					
Housing	Pin No.	WIRE COLOR	LENGTH	Pin No.	WIRE COLOR
P24	1	ORANGE(+3.3V)	450mm±18AWG	13	ORANGE(+3.3V)
	2	ORANGE(+3.3V)	450mm±18AWG	14	BLUE(-5V)
	3	BLACK(GND)	450mm±18AWG	15	BLACK(GND)
	4	RED(+5V)	450mm±18AWG	16	GREEN(+5V)
	5	BLACK(GND)	450mm±18AWG	17	BLACK(GND)
	6	RED(+5V)	450mm±18AWG	18	BLACK(GND)
	7	BLACK(GND)	450mm±18AWG	19	BLACK(GND)
	8	GRAY(PG)	450mm±20AWG	20	NC
	9	PURPLE(+5VSB)	450mm±18AWG	21	RED(+5V)
	10	YELLOW(+12V)	450mm±18AWG	22	RED(+5V)
	11	YELLOW(+12V)	450mm±18AWG	23	RED(+5V)
	12	ORANGE(+3.3V)	450mm±18AWG	24	BLACK(GND)

8Pins(EPS12V)					
HOUSING : MOLEX 5557 series or equivalent					
TERMINAL : MOLEX 5556 series or equivalent					
4Pins(ATX12V, FOR P4)					
HOUSING : MOLEX 5557 series or equivalent					
TERMINAL : MOLEX 5556 series or equivalent					
Housing	Pin No.	WIRE COLOR	SIGNAL	WIRE TYPE	LENGTH
P8	1	BLACK/BLACK	COM	18AWG±18AWG	450mm±20mm
	2	BLACK/BLACK	COM	18AWG±18AWG	
	3	BLACK/BLACK	COM	18AWG±18AWG	
	4	BLACK/BLACK	COM	18AWG±18AWG	
	5	YELLOW	+12V	18AWG	
	6	YELLOW	+12V	18AWG	
	7	YELLOW	+12V	18AWG	
	8	YELLOW	+12V	18AWG	
P4	1	BLACK	COM	18AWG	150mm±15mm
	2	BLACK	COM	18AWG	
	3	YELLOW	+12V	18AWG	
	4	YELLOW	+12V	18AWG	

4Pins(HD/CD-ROM/RW)					
HOUSING : MOLEX 8981 series or equivalent					
TERMINAL : MOLEX 8980 series or equivalent					
Housing	Pin No.	WIRE COLOR	SIGNAL	WIRE SIZE	LENGTH
P4H	1	YELLOW/YELLOW	+12V	18AWG	450mm ±20mm
	2	BLACK/BLACK	COM	18AWG	
	3	BLACK/BLACK	COM	18AWG	
	4	RED/RED	+5V	18AWG	
P4H1	1	YELLOW/YELLOW	+12V	18AWG	150mm ±15mm
	2	BLACK/BLACK	COM	18AWG	
P4H2	1	YELLOW	+12V	18AWG	150mm ±15mm
	2	BLACK	COM	18AWG	
P4H3	1	YELLOW	+12V	18AWG	150mm ±15mm
	2	BLACK	COM	18AWG	
P4H4	1	YELLOW	+12V	18AWG	150mm ±15mm
	2	BLACK	COM	18AWG	
P4H5	1	YELLOW/YELLOW	+12V	18AWG	450mm±20mm
	2	BLACK/BLACK	COM	18AWG	
P4H4	1	YELLOW/YELLOW	+12V	18AWG	150mm ±15mm
	2	BLACK/BLACK	COM	18AWG	
P4F1	1	YELLOW/YELLOW	+12V	18AWG	150mm ±15mm
	2	BLACK/BLACK	COM	18AWG	
P4H5	1	YELLOW	+12V	22AWG	150mm ±15mm
	2	BLACK	COM	22AWG	
P4F1	1	YELLOW	+12V	22AWG	150mm ±15mm
	2	BLACK	COM	22AWG	

SATA HDD					
HOUSING : MOLEX 67582 series or equivalent					
TERMINAL : MOLEX 67581 series or equivalent					
Housing	Pin No.	WIRE COLOR	SIGNAL	WIRE TYPE	LENGTH
S1	1	ORANGE	+3.3V	18AWG	450mm±20mm
	2	BLACK/BLACK	COM	18AWG	
	3	RED/RED	+5V	18AWG	
	4	BLACK/BLACK	COM	18AWG	
	5	YELLOW/YELLOW	+12V	18AWG	
S2	1	ORANGE	+3.3V	18AWG	150mm ±15mm
	2	BLACK	COM	18AWG	
	3	RED	+5V	18AWG	
	4	BLACK	COM	18AWG	
	5	YELLOW	+12V	18AWG	

REV. 001	TOLERANCE	0.10mm	0.25mm	0.50mm	1.00mm	2.00mm	3.00mm	4.00mm	5.00mm	6.00mm	8.00mm	10.00mm	12.00mm	15.00mm	20.00mm	25.00mm	30.00mm	40.00mm	50.00mm	60.00mm	80.00mm	100.00mm

REV. 001	TOLERANCE	0.10mm	0.25mm	0.50mm	1.00mm	2.00mm	3.00mm	4.00mm	5.00mm	6.00mm	8.00mm	10.00mm	12.00mm	15.00mm	20.00mm	25.00mm	30.00mm	40.00mm	50.00mm	60.00mm	80.00mm	100.00mm

REV. 001	TOLERANCE	0.10mm	0.25mm	0.50mm	1.00mm	2.00mm	3.00mm	4.00mm	5.00mm	6.00mm	8.00mm	10.00mm	12.00mm	15.00mm	20.00mm	25.00mm	30.00mm	40.00mm	50.00mm	60.00mm	80.00mm	100.00mm

REV. 001	TOLERANCE	0.10mm	0.25mm	0.50mm	1.00mm	2.00mm	3.00mm	4.00mm	5.00mm	6.00mm	8.00mm	10.00mm	12.00mm	15.00mm	20.00mm	25.00mm	30.00mm	40.00mm	50.00mm	60.00mm	80.00mm	100.00mm

11. Customization Note

Customization note shall be listed here.

End of File

NOTE : This data is subject to change without notice.