



# **SURE STAR COMPUTER CO., LTD**

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Version: VA2

## **Model Name:SS-1U52ES**

### **520W Power Supply for Single 1U with High Efficiency**

#### **1. Specification**

1.1.AC Input Voltage Range: 100VAC ~ 240VAC,  $\pm 10\%$ , 47 to 63 Hz.

1.2.INPUT CURRENT:8.0 A ( RMS ) FOR 115VAC /4.0 A ( RMS ) FOR 230VAC.

1.3. Input Power Factor: The minimum power factor at full load shall be  
0.98/115V 60 Hz and 0.95/230V 50 Hz.

1.4. Inrush current: 35A MAX. FOR 115 VAC / 55A MAX. FOR 230 VAC.

1.5.DC Output: 520W maximum

	Output-1	Output-2	Output-3	Output-4	Output-5
Output Voltage	+5V DC	+12V DC	-12V DC	+3.3V DC	+5VSB
Output Current(Max)	25A	40A	0.8A	25A	3.5A
Output Current(Min.)	0.5A	2A	0A	0.5A	0.1A
Ripple/Noise Max.(P-P):	60mV	120mV	120mV	60mV	60mV
Line Regulation:	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$
Load Regulation:	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$

#### **Note:**

1. Noise Test – Noise bandwidth is from DC to 20 MHz.
2. Ripple frequencies greater than 1MHz shall be attenuated by the measurement System.
3. Add 0.1uF/10uF capacitor at output connector terminals for ripple and noise measurements.
4. The combined total power from 5V & 3.3V shall not exceed 170W.

## 1.6. PS-ON

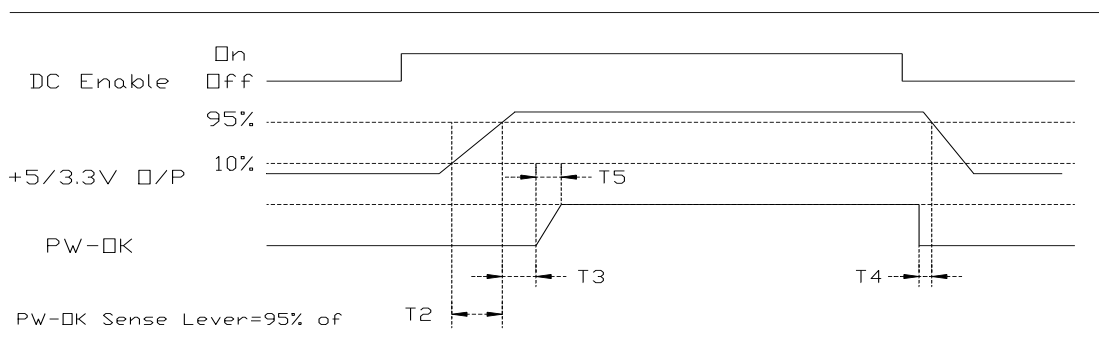
### Remote On/Off Control:

When PS-ON is pulled to TTL Low, the DC output is to be enabled.

When PS-OFF is pulled to TTL high, the DC output is to be disabled.

## 1.7. PW-OK

PW-OK is power good signal and should be asserted high by the power supply to indicate that +5VDC and +3.3VDC output are above the under voltage thresholds of the power supply TTL. compatible signal out with 100ms to 500ms.



### Timing of PS-ON, PW-OK, and Germane Voltage Rails

Although there is no requirement to meet specific timing parameters,

The following signal timings are recommended:

$$2\text{ms} \leq T2 \leq 200\text{ms}$$

$$100\text{ms} \leq T3 \leq 500\text{ms}$$

$$T4 > 1\text{ms}$$

$$T5 \leq 10\text{ms}$$

1.8. Efficiency: 87.29% AT 115VAC , FULL LOAD.

1.9. Hold-Up Time: 16ms at maximum load & normal input voltage.

## 2. PROTECTIONS

### 2.1 OVER-VOLTAGE PROTECTION

OUTPUT	Min	Max
+3.3V	3.7V	4.1V
+5V	5.7V	6.5V
+12V	13.1V	14.5V

### 2.2 SHORT CIRCUIT PROTECTION

A short circuit placed between the DC Return and the output shall cause No damage and the power supply shall shutdown.

### 2.3 OVER POWER PROTECTION

The power supply shall shut down when output power exceeds 110% to 160% of full load and require a power on cycle be performed by the operate

## 3. ENVIRONMENT TEMPERATURE

3.1 Operation Temperature: 0°C to 45°C

3.2 Cooling: ONE 40mm DC FANS.

3.3 Storage Temperature:-20°C to 70°C

3.4 Humidity: 5 to 90% non-condensing.

## 4. Mean Time Between Failure(MTBF)

Using MIL - HDBK -217F the calculated MTBF=100,000 hours at 25°C 75% loading.

## 5. SAFETY:

CB 、 CE 、 TUV 、 UL 、 BSMI 、 CCC.

Please visit our website and get the latest safety certificate.

## 6. EMC:

CE 、 FCC 、 BSMI 、 CCC.

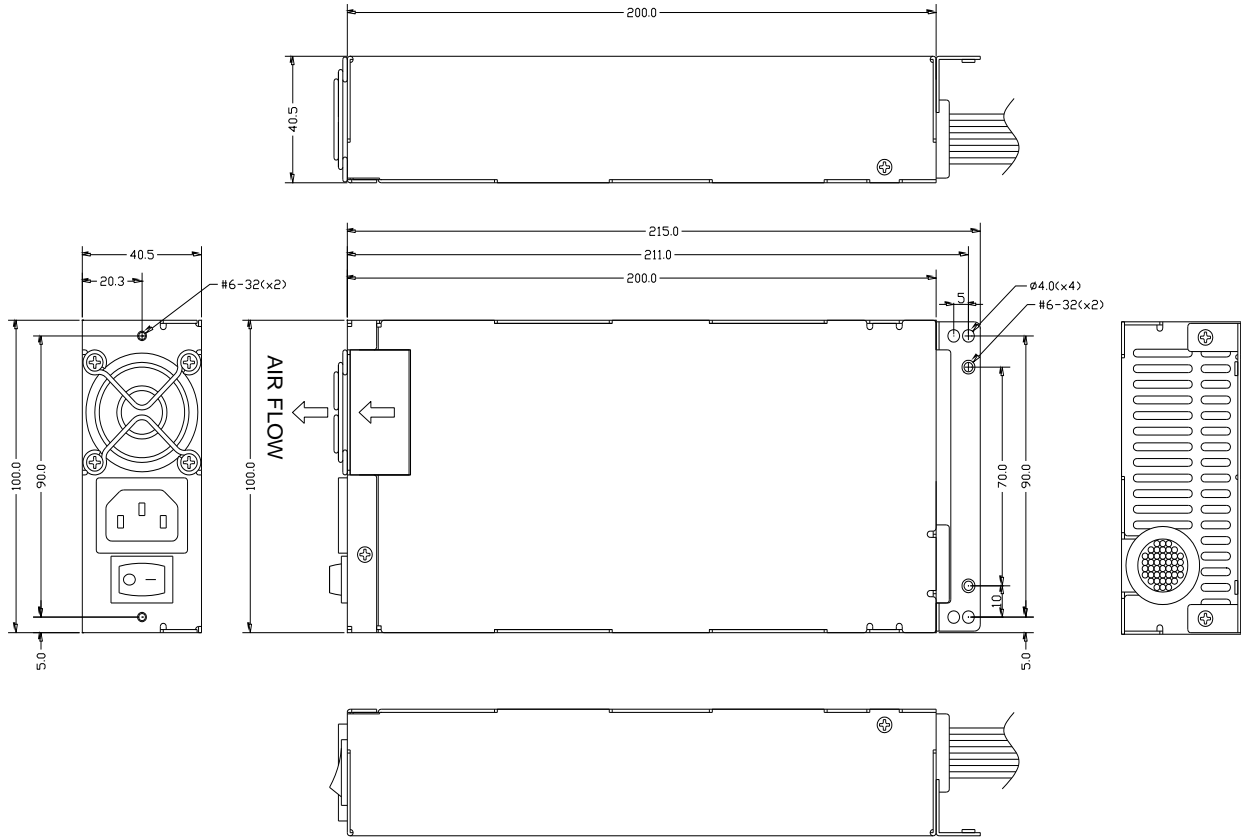
Please visit our website and get the latest EMC certificate.

## 7. DIMENSION

L 200 x W 100 x H 40.5 mm

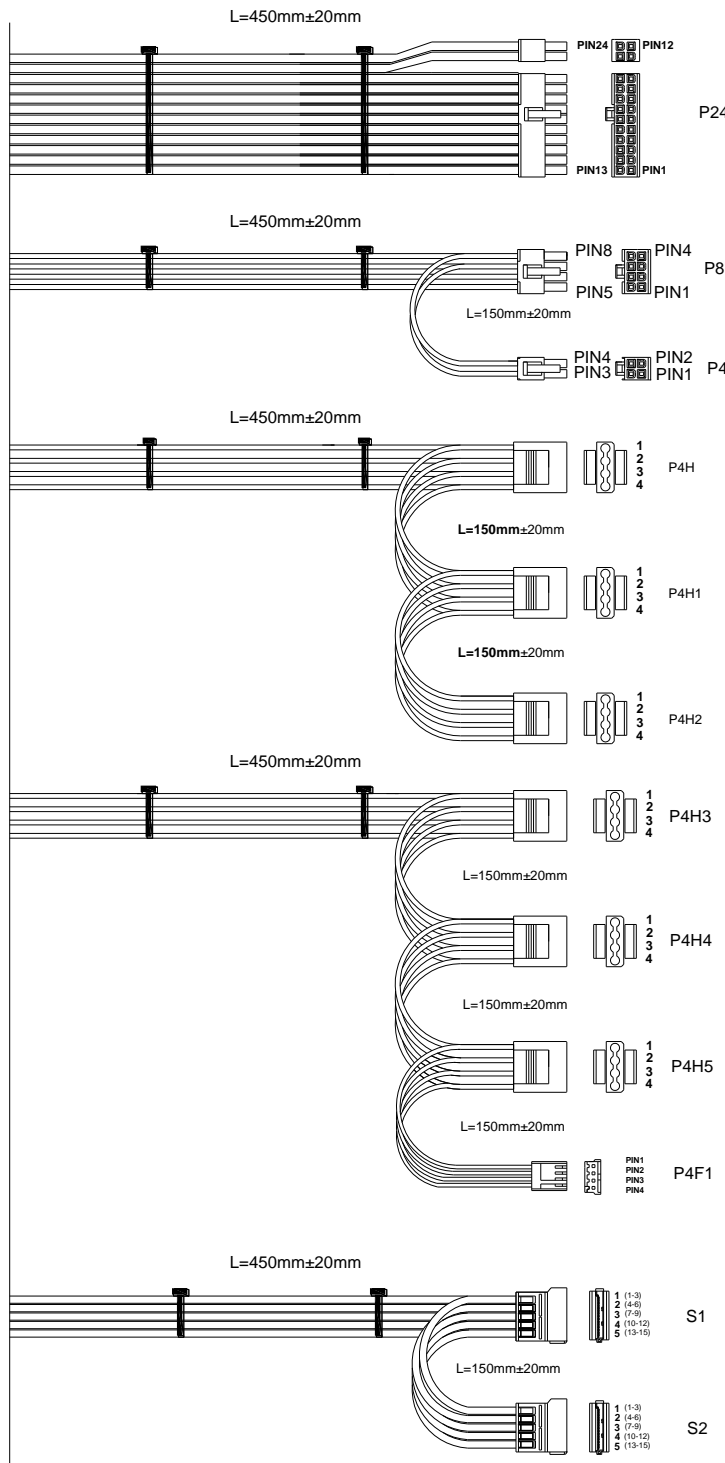
SS-1U52ES  
SS-1U46ES  
SS-1U40ES

REVISIONS			
REV	DESCRIPTION	SIGN	DATE
A1	後支架貼平下蓋底		Mar/29/2012
A2	增加後支架4mm兩孔		Apr/03/2012



公差標準 TOLERANCES:	材料規格 MATERIAL	SPCC T1.0 鍍線	單位 UNITS	mm	
.XXX± .025 .XX± .05 X± .1	標定者 APPROVE BY:	審核者 CHECK BY:	繪圖者 DRAW NO		
投影法: PROJECTION:			版本 REV NO	A2	姓名 MODEL NO
第三角法		JACKY	日期 DATE	Mar.29.2012	SS-1UXXES-3
					料號 PART NO

# 8. PINOUTS OF CONNECTORS



20+4Pins(EPS12V)						
Connector HOUSING(BLACK): MOLEX 39-01-2240 or equivalent						
TERMINAL: MOLEX 39-00-0039 or equivalent						
WIRE:UL1007						
Housing	Pin No.	WIRE COLOR	LENGTH	Pin No.	WIRE COLOR	LENGTH
P24	1	ORANGE(+3.3V)	450mm/18AWG	13	ORANGE(+3.3V)	450mm/18AWG
	2	ORANGE(+3.3V)	450mm/18AWG	14	BLUE(-12V)	450mm/18AWG
	3	BLACK(GND)	450mm/18AWG	15	BLACK(GND)	450mm/18AWG
	4	RED(+5V)	450mm/18AWG	16	GREEN(PS-ON)	450mm/20AWG
	5	BLACK(GND)	450mm/18AWG	17	BLACK(GND)	450mm/18AWG
	6	RED(+5V)	450mm/18AWG	18	BLACK(GND)	450mm/18AWG
	7	BLACK(GND)	450mm/18AWG	19	BLACK(GND)	450mm/18AWG
	8	GRAY(PG)	450mm/20AWG	20	NC	
	9	PURPLE(+5VSB)	450mm/18AWG	21	RED(+5V)	450mm/18AWG
	10	YELLOW(+12V)	450mm/18AWG	22	RED(+5V)	450mm/18AWG
	11	YELLOW(+12V)	450mm/18AWG	23	RED(+5V)	450mm/18AWG
	12	ORANGE(+3.3V)	450mm/18AWG	24	BLACK(GND)	450mm/18AWG
8Pins(EPS12V)						
Connector HOUSING(BLACK): MOLEX 39-01-0280 or equivalent						
TERMINAL: MOLEX 39-00-0060 or equivalent						
WIRE:UL1007						
4Pins(ATX12V, FOR P4)						
Connector HOUSING(BLACK): MOLEX 39-01-2040 or equivalent						
TERMINAL: MOLEX 39-00-0059/79 or equivalent						
WIRE:UL1007						
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±20mm	
	2	BLACK	COM	18AWG		
	3	YELLOW	+12V	18AWG		
	4	YELLOW	+12V	18AWG		
4Pins(HD/CD-ROM/RW):P4H1-P4H4						
Connector HOUSING(BLACK):AMP 480424-0 or equivalent						
TERMINAL:AMP 60619-4 or equivalent						
WIRE:UL1007						
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 ±20mm	
	2	BLACK/BLACK	COM	18AWG		
	3	BLACK/BLACK	COM	18AWG		
	4	RED/RED	+5V	18AWG		
P4H2	1	YELLOW	+12V	18AWG	150mm ±20mm	
	2	BLACK	COM	18AWG		
	3	BLACK	COM	18AWG		
	4	RED	+5V	18AWG		
4Pins(HD/CD-ROM/RW):P4H10-P4H12						
Connector HOUSING(BLACK):AMP 480424-0 or equivalent						
TERMINAL:AMP 60619-4 or equivalent						
WIRE:UL1007						
4Pins(FLOPPY DISK):P4F1						
Connector HOUSING(BLACK): AMP 171822-4 or equivalent						
TERMINAL: AMP 170262-2 or equivalent						
WIRE:UL1007						
Housing	Pin No.	WIRE COLOR	SIGNAL	WIRE SIZE	LENGTH	
P4H3	1	YELLOW/YELLOW	+12V	18AWG	450mm±20mm	
	2	BLACK/BLACK	COM	18AWG		
	3	BLACK/BLACK	COM	18AWG		
	4	RED/RED	+5V	18AWG		
P4H4	1	YELLOW/YELLOW	+12V	18AWG	150mm ±20mm	
	2	BLACK/BLACK	COM	18AWG		
	3	BLACK/BLACK	COM	18AWG		
	4	RED/RED	+5V	18AWG		
P4H5	1	YELLOW/YELLOW	+12V	18AWG	150mm ±20mm	
	2	BLACK/BLACK	COM	18AWG		
	3	BLACK/BLACK	COM	18AWG		
	4	RED/RED	+5V	18AWG		
P4F1	1	YELLOW	+12V	22AWG	150mm ±20mm	
	2	BLACK	COM	22AWG		
	3	BLACK	COM	22AWG		
	4	RED	+5V	22AWG		
SATA HDD						
Connector HOUSING(BLACK): MOLEX 675820000 or equivalent						
TERMINAL: MOLEX 675810000 or equivalent						
WIRE UL 1007						
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 ±20mm	
	2	BLACK	COM	18AWG		
	3	RED	+5V	18AWG		
	4	BLACK	COM	18AWG		
	5	YELLOW	+12V	18AWG		

Note: Specification and wiring diagram subject to change without notice.

Jul. 15, 2016