

規格書


SPECIFICATION

品名 REDUNDANT SWITCHING POWER SUPPLY
STYLE NAME :

型號 R1S2-5120V0H
MODEL NO. :

料號
PART NO. :

版次 A4
REVISION :

APPROVE 核准	張裕淵	正式 資料 用 章	
CHECK BY 審核	張恒嘉		
FORM MAKER 經辦	陳品文		

新巨企業股份有限公司
電源事業處
ZIPPY TECHNOLOGY CORP.
POWER DIVISION

Revision

Rev.	Page	Item	Date	Description
A2	6	4.0	DEC-21-2011	Update Protection
A2	7	8.0	DEC-21-2011	Update Safety
A2	10		DEC-21-2011	Update timing
A3	6	4.0	MAR-12-2012	Update Protection
A3	7	4.3	MAR-12-2012	Delet Over Current Protection
A3	8	8.5	MAR-12-2012	Update RFI / EMI Standards
A4	8	8.5	JUN-20-2016	Update RFI / EMI Standards

MODEL NO. R1S2-5120V0H

- 1.0 Scope
- 2.0 Input requirements
 - 2.1 Voltage
 - 2.2 Frequency
 - 2.3 Stead-state current
 - 2.4 Inrush current
 - 2.5 Power factor correction
- 3.0 Output requirements
 - 3.1 Output characteristics
 - 3.2 Regulation
 - 3.3 Ripple and noise
 - 3.3.1 Specification
 - 3.3.2 Ripple voltage test circuit
 - 3.4 Overshoot
 - 3.5 Efficiency
- 4.0 Protection
 - 4.1 Over power protection
 - 4.2 Over voltage protection
 - 4.3 Short circuit protection
- 5.0 Power supply sequencing
 - 5.1 Power on
 - 5.2 Hold up time
- 6.0 Signal requirements
 - 6.1 Power good (POK)
- 7.0 Environment
 - 7.1 Temperature
 - 7.2 Humidity
 - 7.3 Insulation resistance
 - 7.4 Dielectric withstanding voltage
- 8.0 Safety
 - 8.1 UL & UL+C
 - 8.2 TUV
 - 8.3 CCC
 - 8.4 Power Line Transient
 - 8.5 RFI / EMI Standards
- 9.0 Reliability
 - 9.1 Burn in

10.0 Mechanical requirements

10.1 Physical dimension

11.0 Warning method

11.1 Audio alarm

11.2 Power defective signal delivery

1.0 Scope

This specification defines the performance characteristics of a grounded , single-phase , 120watts , 5 output level power supply. This specification also defines world wide safety requirements and manufactures process test requirements.

R1S2-5120V0H power system is a 1+1 Redundant power system consisting of two R1S-1120V power modules and one R1S2-5120V0H power system frame.

2.0 Input requirements

2.1 Voltage (sinusoidal)

Full range 100~240 VAC

2.2 Frequency

The input frequency range will be 47Hz~63Hz.

2.3 Steady-state current

2 / 1 amps maximum at any low/high range input voltage.

2.4 Inrush current

35/70 amps @115/230 VAC (at 25 degrees ambient cold start for each power unit)

2.5 Power factor correction

PFC can reach the target of 95% @110V,full load, following the standard of EN 61000-3-2

3.0 Output requirements

3.1 OUTPUT CHARACTERISTICS :

OUTPUT VOLTAGE	OUTPUT CURRENT		REGULATION
	MIN.	MAX.	LOAD
+5V	0A	10A	±5%
+12V	2A	10A	±5%
-12V	0A	0.3A	±5%
+3.3V	0A	10A	±5%
+5VSB	0.1A	3.0A	±5%

REMARK: 1. POWER MODULE TOTAL OUTPUT POWER OF +5V AND +3.3V NOT EXCEED 80W.
2. POWER MODULE TOTAL OUTPUT POWER NOT EXCEED 120W.

3.2 Regulation

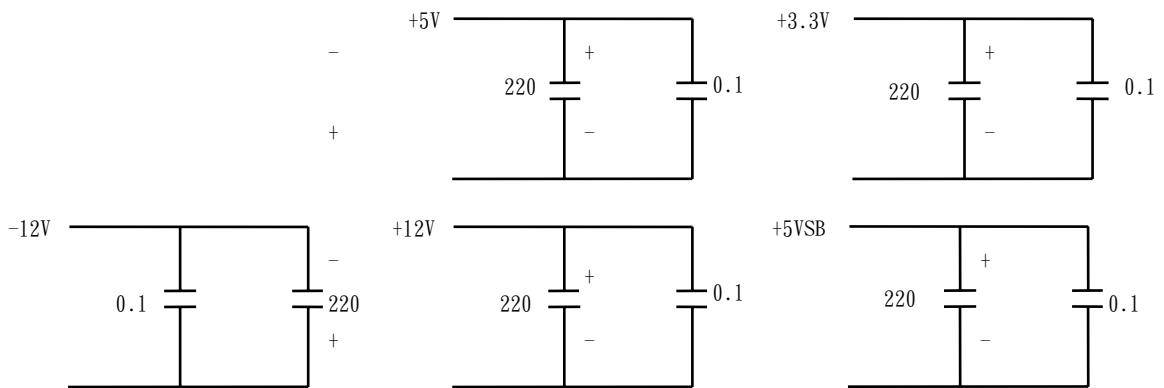
Output DC voltage	Line regulation
+5V	±50mV
12V	±120mV
-12V	±120mV
+3.3V	±50mV
+5Vsb	±50mV

3.3 Ripple and noise

3.3.1 Specification

+5V	50mV (P-P)
+12V	120mV (P-P)
-12V	120mV (P-P)
+3.3V	50mV (P-P)
+5Vsb	50mV (P-P)

3.3.2 Ripple voltage test circuit



0.1uf is ceramic the other is electrolytic capacitor .

3.4 Overshoot

Any overshoot at turn on or turn off shall be less 10% of the nominal voltage value , all output shall be within the regulation limit of section 3.2 before issuing the power good signal of section 6.0.

3.5 Efficiency(per set)

Power supply efficiency typical 85 % at 230V , 50% of full load.

When calculating output power,internal fan current shall be included with 12V output current .output voltage measure on output connector of PSU.

Note: The different harness conditions and/or the accuracy of measurement instruments affect the test result of output voltage and efficiency. Harness conditions are such as cable length, wire gauge, the connector types, total harness amounts.

4.0 Protection

Protection circuits inside the power supply shall cause only the power supply's main outputs to shutdown. If the power supply latches off due to a protection circuit tripping, either a AC cycle OFF for 15 sec, or PSON# cycle HIGH for 1 sec must be able to restart the power supply.

Note: Sometimes the Short Circuit Protection ,Over Current Protection or Over power Protection test, will trigger internal other protection function then the shutdown mode will be autorecover

4.1 Over power protection

The power supply shall provide over power protection on the power supply latches all DC output into a shutdown state. Over power of this type shall cause no damage to power supply, after over load is removed and a power on/off cycle is initiated, the power supply will restart.

Trigger point total power min. 110%, max. 150%.

4.2 Over voltage protection

The power supply shall shut down in a Latch Off mode when the output voltage exceeds the over voltage limit shown in Table 10.

Voltage	Minimum	Maximum	Shutdown Mode
+3.3V	+3.7V	+4.1V	Latch Off
+5V	+5.7V	+6.5V	Latch Off
+12V	+12.8V	+15V	Latch Off

Table 10 -Over Voltage Protection

4.3 Short Circuit Protecton

4.3.1: A short circuit placed on any DC output to DC return shall cause no damage.

4.3.2: The power supply shall be Latch Off d in case any short circuit is taken place at +5V,+3.3V,+12V ,-12Voutput.

4.3.3: The power supply shall be Auto-recovered in case any short circuit is taken place at +5VSB.

5.0 Power supply sequencing

5.1 Power on (see Figure 1)

5.2 Hold up time

When power shutdown DC output 12V must be maintain 17 msec in regulation limit at 115 VAC input voltage.

6.0 Signal requirements

6.1 Power good signal (see Figure 1)

The power supply shall provide a "power good" signal to reset system logic , indicate proper operation of the power supply.

At power on , the power good signal shall have a turn on delay of at least 100ms but not greater than 600ms after the output voltages have reached their respective minimum sense levels.

7.0 Environment

7.1 Temperature

Operating temperature	0 to 50 degrees centigrade
Storage temperature	-20 to 80 degrees centigrade
Safety regulation temperature	Applied at room temperature (25°C)
Operating temperature from 0°C should start from AC 90V	

7.2 Humidity

Operating humidity	20% to 80%
Non-operating humidity	10% to 90%

7.3 Insulation resistance

Primary to secondary	: 20 meg. ohm min. 500 VDC
Primary to FG	: 20 meg. ohm min. 500 VDC

7.4 Dielectric withstanding voltage

For approval purpose :

Primary to secondary	: 3000 VAC for 60 sec.
Primary to FG	: 1500 VAC for 60 sec.

For production purpose:

Primary to FG	:1500VAC for 1 sec.
---------------	---------------------

8.0 Safety

The power supply must be certified to the safety standard listed following:

8.1 Recognized to U.S. and Canadian requirements under the component recognition program of Underwriters Laboratories Inc.
The power supply shall be designed to meet UL 60950.

8.2 TUV approval TUV EN-60950.
CB approval IEC-60950.

8.3 Certificate for China compulsory product certification
GB9254-2008, GB4943.1-2011, GB17625.1-2012

8.4 Power Line Transient.

The power supply shall be designed to meet the following standards

1. EN 61000-4-2(ESD) Criterion B, $\pm 4KV$ by contact, $\pm 8KV$ by air.
2. EN 61000-4-4(EFT) Criterion B, $\pm 1KV$.
3. EN 61000-4-5(SURGE) Criterion B, Line-Line $\pm 1KV$
Line-Earth $\pm 2KV$.

8.5 RFI / EMI Standards

The power supply shall comply with the following radiated and conducted

Emissions standards,

1. FCC part 15. class A
2. CISPR 22 (EN 55022). class A

9.0 Reliability

9.1 Burn in

All products shipped to customer must be burn in. The burn in shall be performed at high line voltage.

10.0 Mechanical requirements

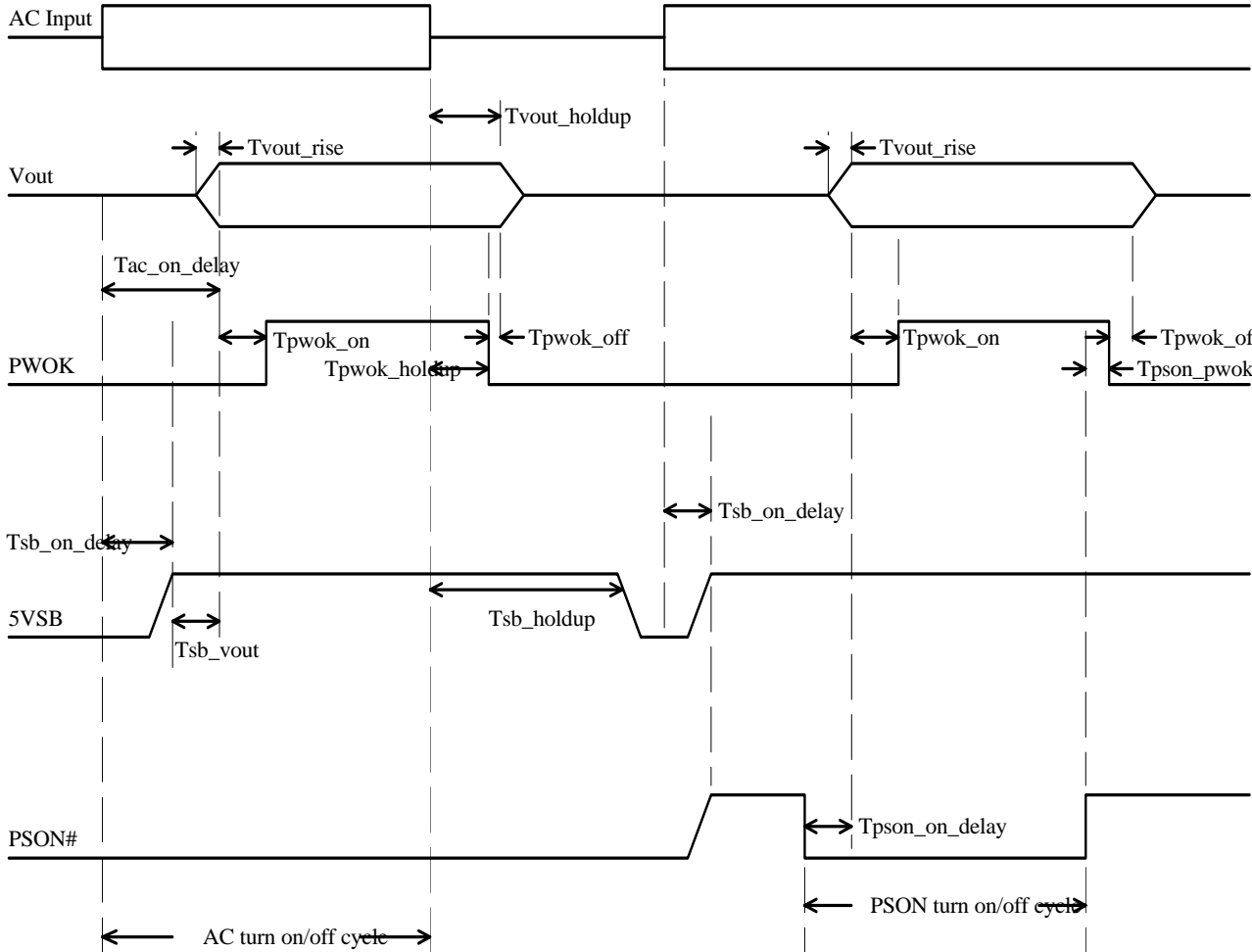
10.1 Physical dimension : 150mm * 176mm * 41.8mm(D*W*H)

11.0 Warning method

11.1 Audio alarm(buzzer sound , resetable).

11.2 Power defective signal delivery(TTL , low active).

Item	Description	MIN	MAX	UNITS
Tsb_on_delay	Delay from AC being applied to 5VSB being within regulation.		2500	ms
Tac_on_delay	Delay from AC being applied to all output voltages being within regulation.		3000	ms
Tvout_holdup	Time all output voltages stay within regulation after loss of AC.	17		ms
Tpwok_holdup	Delay from loss of AC to deassertion of PWOK.	16		ms
Tpson_on_delay	Delay from PSON# active to output voltages within regulation limits.	5	400	ms
Tpson_pwok	Delay from PSON# deactive to PWOK being deasserted.		50	ms
Tpwok_on	Delay from output voltages within regulation limits to PWOK asserted at turn on.	100	700	ms
Tsb_vout	Delay from 5VSB being in regulation to O/Ps being in regulation at AC turn on.	5	1000	ms
Tsb_holdup	Time 5VSB output voltage stays within regulation after loss of AC.	20		ms
Tpwok_off	Delay from PWOK deasserted to output voltages (3.3V, 5V, 12V, -12V) dropping out of regulation limits.	1		ms



《Figure 1》