規格書
SPECIFICATION

品名 STYLE NAME :	SWITCHING POWER SUPPLY
型號 MODEL NO. :	P2M-5700V
料號 PART NO. :	
版次 REVISION :	A2

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Revision

Rev.	Page	Item	Date	Description
A2	8	4.2.3	DEC-19-2008	Update +5V OCP

MODEL NO. P2M-5700V

1.0 Scope

This specification defines the performance characteristics of a grounded, Ac input,700 watts, 5 output level power supply. This specification also defines world wide safety requirements and manufactures process test requirements.

2.0 Input requirements

2.1 Voltage (sinusoidal) : 100~240 VAC full range (With ±10% tolcrance).

2.2 Frequency

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

2.3 Steady-state current

11A/5A at any low/high range input voltage.

2.4 Inrush current

35/70 Amps @ 110/220 VAC (at 25 degree C ambient cold start)

2.5 Power factor correction

The power supply modules shall incorporate universal power input with active power factor correction, which shall reduce the line harmonics in accordance with the IEC61000-3-2 standards.
PFC:up to the target of 95% @230V, full load.

3.0 Output requirements

3.1 DC load requirements

Normal Output voltage	Load current(A) Min.	Max.	Regulation tolerance Min.	Max.
+5V	0.5	25	-5%	+5%
+12V	2	50	-5%	+5%
-12V	0	0.8	-10%	+10%
+3.3V	0.5	25	-5%	+5%
+5Vsb	0	3	-5%	+5%

+5V and +3.3V Max. power : 170W
Total power : 700W (MAX)

3.2 Regulation and protection

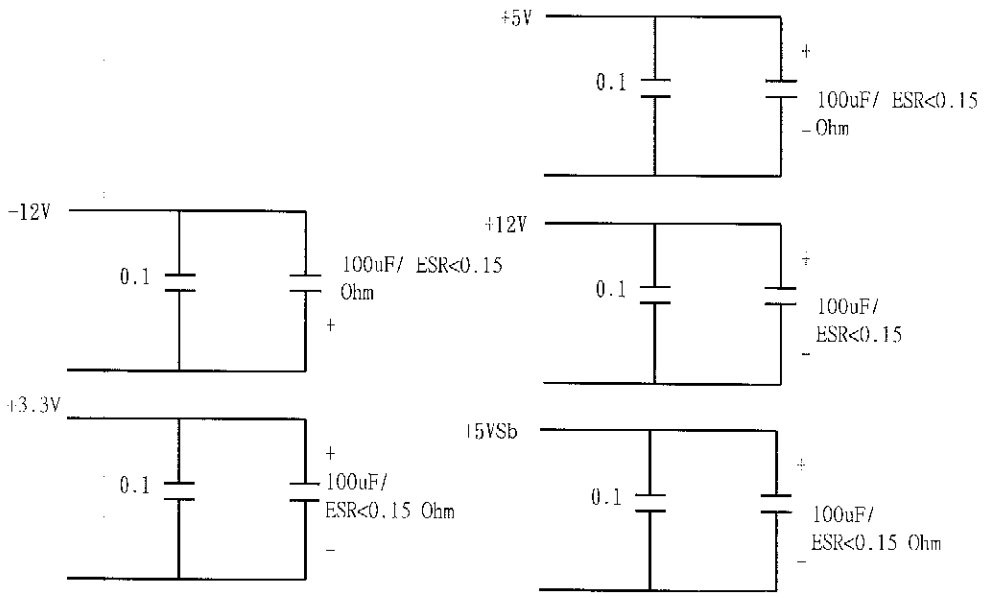
Output DC voltage	Line regulation	Load regulation	Cross regulaion
+5V	±50mV	±250mV	±250mV
+12V	±50mV	±600mV	±600mV
-12V	±50mV	±1200mV	±1200mV
+3.3V	±50mV	±165mV	±165mV
+5Vsb	±50mV	±250mV	±250mV

3.3 Ripple and noise

3.3.1 Specification

Parameter	Ripple	Ripple+Noise
+5V	50mV(P-P)	60mV(P-P)
+12V	120mV(P-P)	120mV(P-P)
-12V	120mV(P-P)	120mV(P-P)
+3.3V	50mV(P-P)	60mV(P-P)
+5Vsb	50mV(P-P)	60mV(P-P)

3.3.2 Ripple voltage test circuit



0.1uf is ceramic the other is tantalum.
Noise bandwidth is from DC to 20MHz

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

Power supply efficiency typical 80-84% at 115V full load.

3.6 Typical Distribution of Efficiency

20% Max load, Efficiency test condition @ Ambient temperature 30 degrees							
Voltage	+12V	+5V	-12V	+3.3V	+5VSB	AC INPUT Voltage	
						115V	230V
Load	8.17A	4.9A	0.13A	4.9A	0.49A	>80%	>80%
50% Max load, Efficiency test condition @ Ambient temperature 30 degrees							
Voltage	+12V	+5V	-12V	+3.3V	+5VSB	AC INPUT Voltage	
						115V	230V
Load	20.4A	12.25A	0.33A	10.2A	1.23A	>83%	>85%
100% Max load, Efficiency test condition @ Ambient temperature 30 degrees							
Voltage	+12V	+5V	-12V	+3.3V	+5VSB	AC INPUT Voltage	
						115V	230V
Load	40.8A	24.5A	0.65A	20.4A	2.45A	>80%	>83%

P.S:
Any difference either on the DC output cable (i.e., length, wire gauge) or on the accurate of instruments will conclude different test result.

4.0 Protection

4.1 Input (primary)

The input power line must have an over power protection device in accordance with safety requirement of section 8.0

4.2 Output (secondary)

4.2.1 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. 160%.

4.2.2 Over voltage protection

If an over voltage fault occurs, the power supply will latch all DC output into a shutdown state.

	Min	Typical	Max
+3.3V	3.6V	3.9V	4.3V
+5V	5.6V	6.1V	6.5V
+12V	13.2V	14.1V	15V

4.2.3 Over current protection

If an over current fault occurs, the power supply will latch all DC output into a shutdown state.

	Min	Typical	Max
+3.3V	27.5A	31.25A	37.5A
+5V	33A	39A	45A
+12V	55A	62.5A	75A

4.2.4 Short circuit

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

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

C: 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 Fig.1)

5.2 Hold up time

When power shutdown any output must be maintain 17m Sec. in regulation limit at full load under 90VAC input voltage.

5.3 Power off sequence (see Fig. 1)

6.0 Signal requirements

6.1 Power good signal (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 500ms after the output voltages have reached their respective minimum sense levels.

6.2 Under voltage (UV) sense levels

Output	Minimum sense voltage
+5V	+4.50V

6.3 Remote on/off control

The power supply DC outputs (except the +5Vsb) shall be enabled with an active-low, TTL-compatible signal ("ps-on")

When ps-on is pulled to TTL low, the DC outputs are enabled.

When ps-on is pulled to TTL high or open circuited, the DC outputs are disabled.

The DC output enable circuit shall be SELV compliant.

7.0 Environment

7.1 Operation

Temperature	0 to 50egrees centigrade
Storage temperature	-20 to 80 degrees centigrade
Safety regulation temperature	Applied at room temperature (25°C)

7.2 Humidity

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

7.3 Insulation resistance

Primary to secondary	: 30 meg. Ohm min. 500 VDC
Primary to FG	: 30 meg. Ohm min. 500VDC

7.4 Dielectric withstanding voltage

Primary to secondary	: 3000 VAC for 1 sec.
Primary to FG	: 1500 VAC for 1 sec.

7.5 Leakage current

3.5 mA. max. at nominal voltage 264 VAC

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.

8.2 TUV approval TUV EN-60950.
CB approval IEC-60950-1:2001

8.3 Certificate for China compulsory product certification

a.) GB4943-2001,GB9254-1998,GB17625.1-2003

8.4 Power Line Transient.

The power supply shall be designed to meet the following standards

b.) EN 61000-4-2(ESD) Criterion B, ± 4KV by contact, ±8KV by air.
c.) EN 61000-4-4(EFT) Criterion B, ± 1KV.
d.) EN 61000-4-5(SURGE) Criterion B, Line-Line ± 1KV
Line-Earth ± 2KV.

8.5 RFI / EMI Standards

The power supply shall comply with the following radiated and conducted Emissions standards,

a.) FCC part 15. class B.
b.) CISPR 22 (EN 55022). class B.

9.0 Reliability

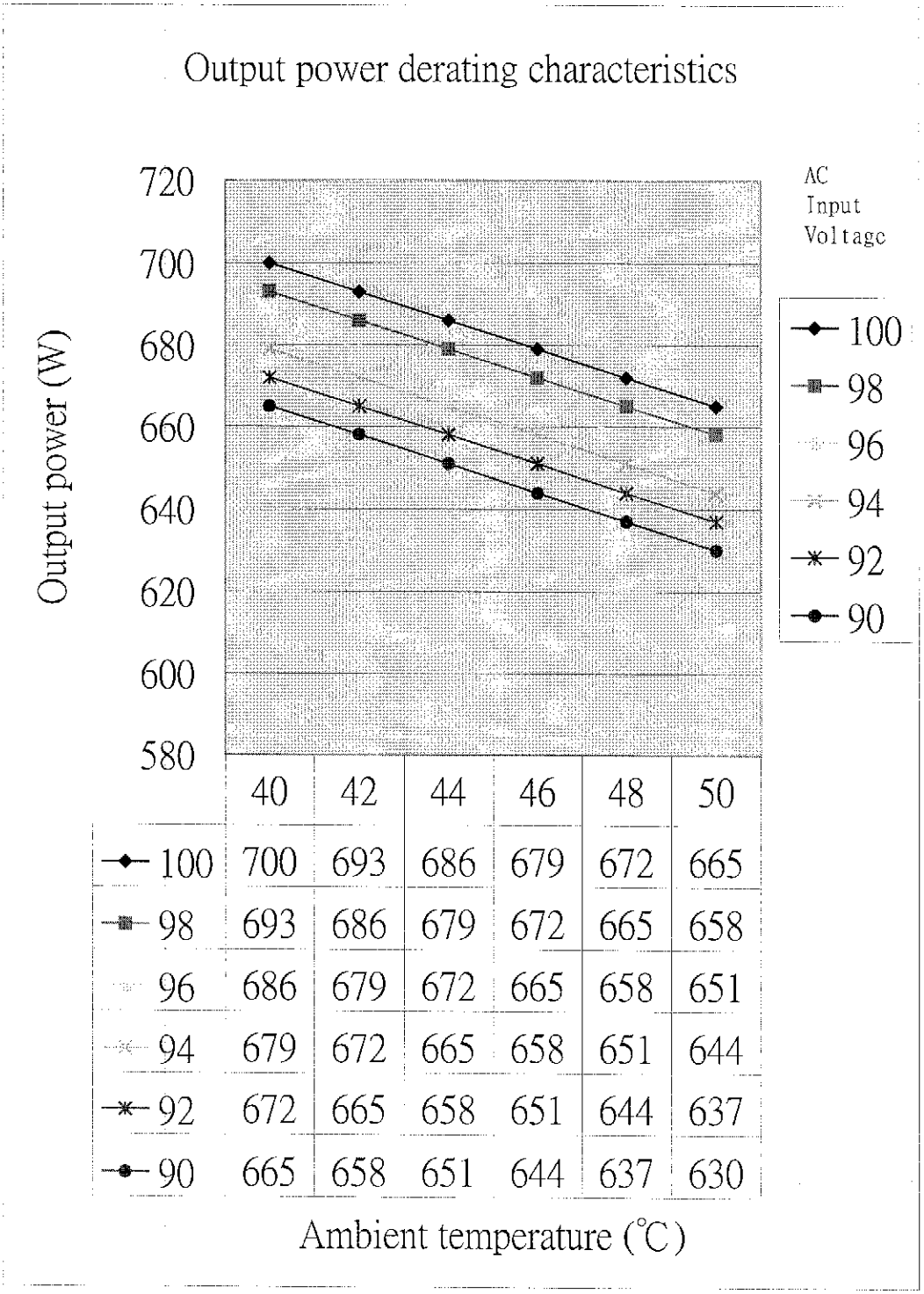
9.1 Burn in

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 : 70mm (H) x 100mm (W) x 280mm (D)

11.0 Output power derating characteristics



12.0 Output voltage Timing

Item	Description	MIN	MAX	UNITS
Tsb_on_delay	Delay from AC being applied to 5VSB being within regulation.		1500	ms
Tac_on_delay	Delay from AC being applied to all output voltages being within regulation.		2500	ms
Tvout_holdup	Time all output voltages stay within regulation after loss of AC.	16		ms
Tpwok_holdup	Delay from loss of AC to deassertion of PWOK.	15		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	500	ms
Tpwok_off	Delay from PWOK deasserted to output voltages (3.3V, 5V, 12V, -12V) dropping out of regulation limits.	1		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.	70		ms
Tvout_rise	Output voltage rise time from each main output.	5	20	ms

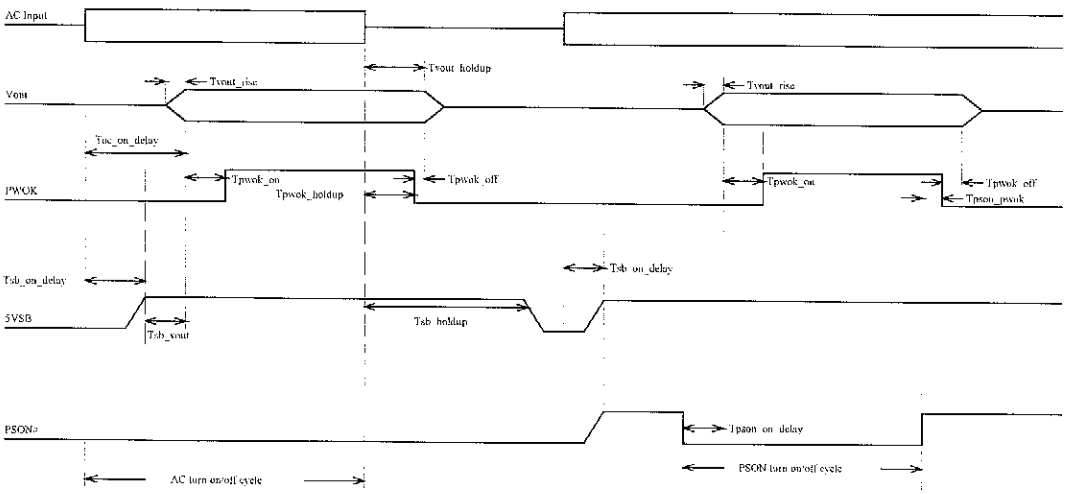


Fig.1