

規格書

SPECIFICATION

品名 SWITCHING POWER SUPPLY

STYLE NAME :

型號 P2G-6510P


MODEL NO. :

料號

PART NO. :

版次 A3

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Revision

Rev.	Page	Item	Date	Description
A2	4	2.5	DEC-13-2002	Add the description of 2.5 power factor
	4	3.1	DEC-13-2002	Update +12V Current Rating
	6	4.2.3	DEC-13-2002	Update +12V Current Rating
A3	All	11.0	AUG-18-2003	Update Output Power Derating Characteristics

MODEL NO. P2G-6510P

- 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 DC load requirements
 - 3.2 Regulation and protection
 - 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 Input
 - 4.2 Output
 - 4.2.1 OPP
 - 4.2.2 OVP
 - 4.2.3 OCP
 - 4.2.4 Short
- 5.0 Power supply sequencing
 - 5.1 Turn on
 - 5.2 Hold up time
 - 5.3 Power off sequence
- 6.0 Signal requirements
 - 6.1 Power good (POK)
- 7.0 Environment
 - 7.1 Operation
 - 7.2 Insulation resistance
 - 7.3 Dielectric withstanding voltage
 - 7.4 Leakage current
- 8.0 Safety
 - 8.1 UL
 - 8.2 CUL
 - 8.3 TUV

- 9.0 Reliability
 - 9.1 Burn in

- 10.0 Mechanical requirements
 - 10.1 Physical dimension

- 11.0 Output power derating characteristics

1.0 Scope

This specification defines the performance characteristics of a grounded, Ac input, 510 watts , 6 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) : 103~264 VAC full range.

2.2 Frequency

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

2.3 Steady-state current

8.0/4.0A at any low/high range input voltage.

2.4 Inrush current

55/110 Amps @ 110/220 VAC

2.5 Power factor correction

PFC can reach the target of 95% @115 , full load , following the standard of ICE 1000-3-2

3.0 Output requirements

3.1 DC load requirements

Normal Output voltage	Load current(A)		Regulation tolerance	
	Min.	Max.	Min.	Max.
+5V	5.0	33.0	-5%	+5%
+12V	2.5	32.0	-5%	+5%
-5V	0.05	0.8	-5%	+5%
-12V	0.1	1.0	-5%	+5%
+3.3V	1.0	28.0	-5%	+5%
+5Vsb	0.1	2.0	-5%	+5%

*** +5V and +3.3V total output max : 45A ***

*** +5V,+3.3V and +12V total output max : 485W ***

When doing the cross regulation test(one output channel at high load and the other output channels at low load), it is requested to set the higher output channel at 90% max. of its spec., and the lower output channels at 20% min. of theirs.

3.2 Regulation and protection

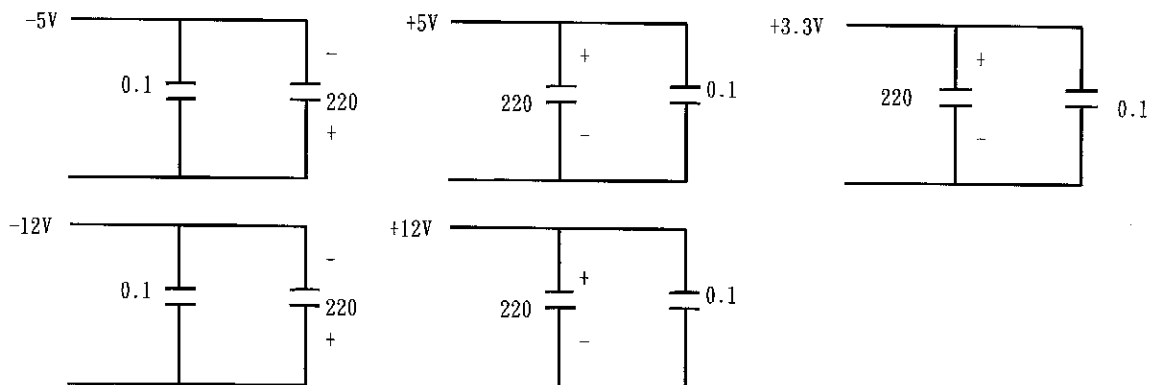
Output DC voltage	Line regulation	Load regulation	Cross regulaion
+5V	±50mV	±250mV	±250mV
-5V	±50mV	±250mV	±250mV
+12V	±50mV	±600mV	±600mV
-12V	±50mV	±600mV	±600mV
+3.3V	±50mV	±165mV	±165mV
+5Vsb	±50mV	±250mV	±250mV

3.3 Ripple and noise

3.3.1 Specification

+5V	Ripple 60mV, Noise 80mV
+12V	100mV (P-P)
-5V	120mV (P-P)
-12V	150mV (P-P)
+3.3V	50mV (P-P)
+5Vsb	60mV (P-P)

3.3.2 Ripple voltage test circuit



0.1µf is ceramic the other is tantalum.

3.4 Overshoot

Any overshoot at turn on or turn off shall be less 15% 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 71% at 115V , full load.

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.

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

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	3.9V	4.1V	4.3V
+5V	5.7V	6.1V	6.5V
+12V	13.6V	14.3V	15.0V

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	30.8A	36.4A	42A
+5V	36.3A	42.9A	49.5A
+12V	35.2A	41.6A	48A

4.2.4 Short circuit

A short circuit placed on +5V,+3.3V,+12V,-5V,-12V output to DC return shall cause no damage and power supply latch.

5.0 Power supply sequencing

5.1 Power on (see fig.1)

5.2 Hold up time

When power shutdown DC output 5V must be maintain 16msec 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 (see fig. 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.

7.0 Environment

7.1 Operation

Temperature 0 to 40 degrees centigrade

7.2 Insulation resistance

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

Primary to PG : 30 meg. Ohm min. 500VDC

7.3 Dielectric withstanding voltage

Primary to secondary : 1800 VAC for 60 Second.

Primary to PG : 1800 VAC for 60 Second.

7.4 Leakage current

3.5 mA max. at nominal voltage VAC

8.0 Safety

8.1 Underwriters laboratory (UL).

The power supply designed to meet UL 1950.

8.2 Canadian standards association (CUL)

The power supply designed to meet CSA 1402C & CSA 950.

8.3 TUV

The power supply shall be designed to meet TUV EN-60950.

9.0 Reliability

9.1 Burn in

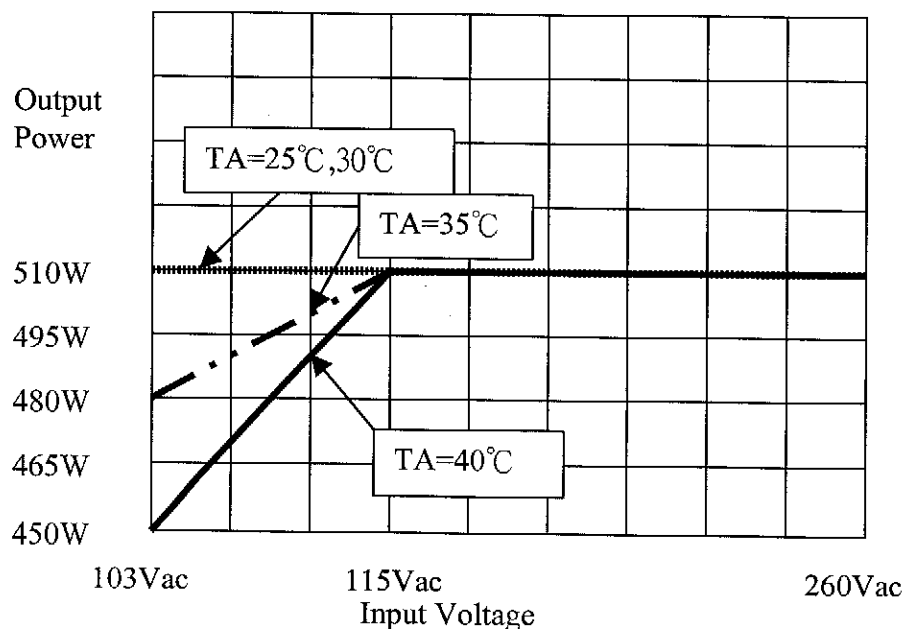
All products shipped to customer must be burn in. The burn in shall be performed at high line voltage.

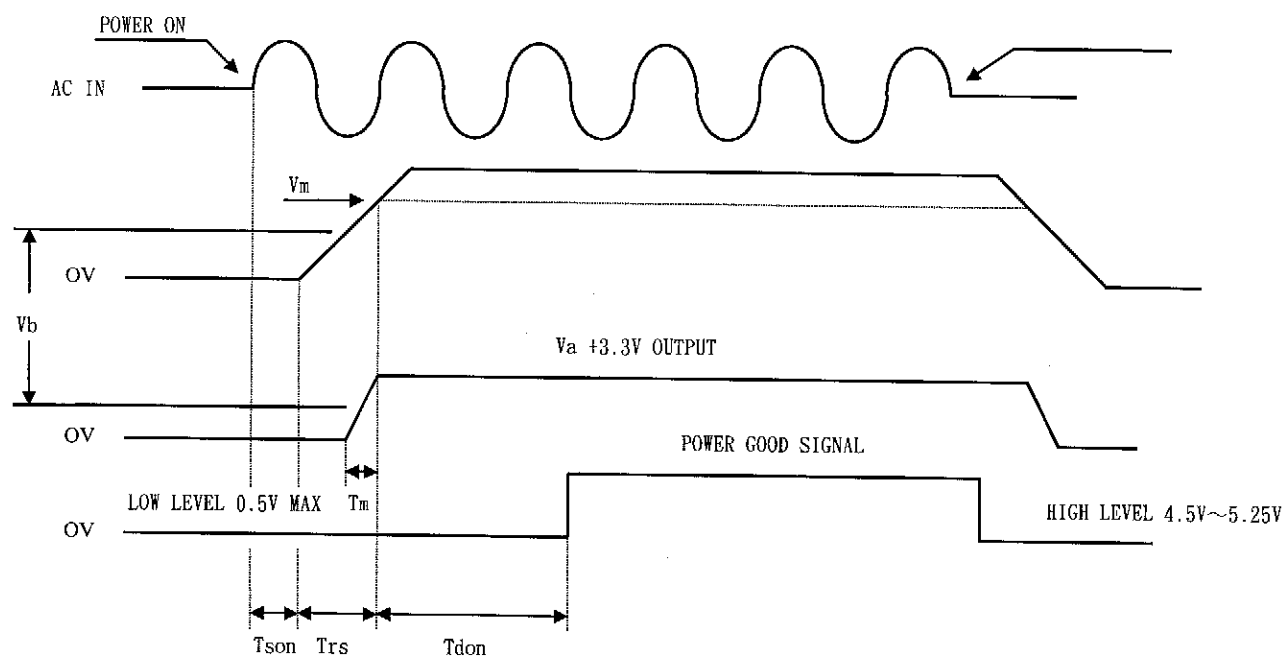
10.0 Mechanical requirements

10.1 Physical dimension : 240 mm(D) * 100 mm(W) * 70 mm(H)

11.0 Output power derating characteristics

Output Power Derating Characteristics





- V_n Nominal voltages +5V
 V_m Minimum voltages +4.5V
 V_a Nominal voltages +3.3V
 V_b +2.0V max
 T_{son} Switch on time (5000 ms. max.)
 T_{rs} +5V rise time (100ms. max.)
 T_{don} Delay turn-on (100ms. < T_{don} < 500ms.)
 T_{doff} Delay turn-off (1 ms. min.)

《Figure 1》