

# 規格書

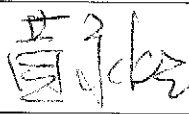

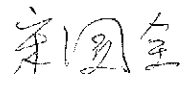
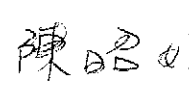
## SPECIFICATION

品名                    SWITCHING POWER SUPPLY  
 STYLE NAME :

型號                    P1G-6300P  
 MODEL NO. :

料號  
 PART NO. :

版次                    A4  
 REVISION :

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# Revision

Rev.	Page	Item	Date	Description
A2	4 6	3.1 4.2.2	AUG-14-2001	Update +12V output rating & output O.V.P.
A3	4	2.1	NOV-22-2001	Update input voltage
A4	7	7.2	SEP-21-2007	Add humidity

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1.0 Scope

This specification defines the performance characteristics of a grounded , single-phase , 300watts , 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)

Full range 100 ~ 240 VAC (With  $\pm 10\%$  tolerance)

2.2 Frequency

The input frequency range will be 50hz /60hz( $\pm 3$ hz)

2.3 Steady-state current

6 ~ 3 amps maximum at any low/high range input voltage.

2.4 Inrush current

60/80 amps @110/220 VAC (at 25 degrees ambient cold start)

2.5 Power factor correction

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

3.0 Output requirements

3.1 DC load requirements

Normal Output voltage	Load current		Regulation tolerance	
	Max.	Min	Max.	Min.
+5V	25	3.0	+5%	-5%
+12V	16	2.0	+8%	-9%
-5V	0.5	0.05	+10%	-10%
-12V	1	0.05	+10%	-12%
+3.3V	14	1.0	+5%	-5%
+5VSB	1.5	0.1	+5%	-5%

\*\*\* +5V and +3.3V total output max : 138W \*\*\*

\*\*\* +5V,+3.3V and +12V total output max : 278W \*\*\*

Cross regulation shall include 80% max. Load & 20% max. Load at associate output

3.2 Regulation

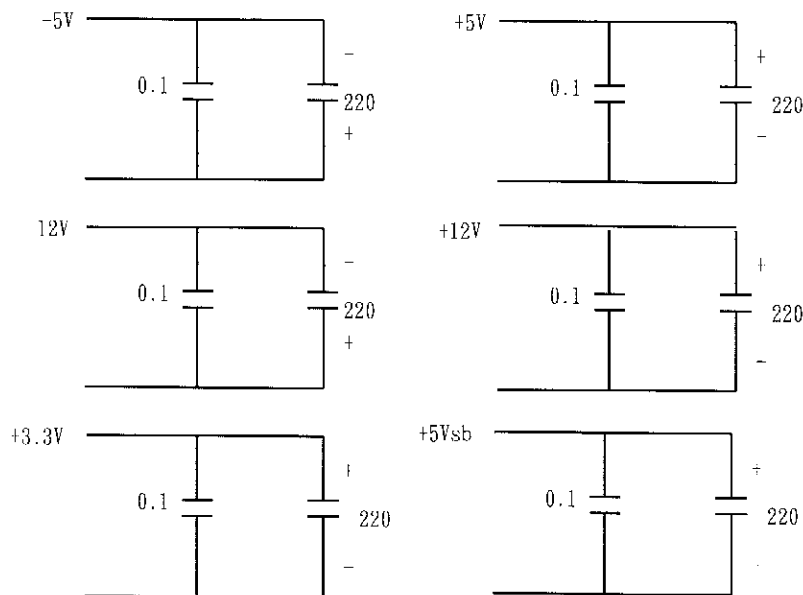
Output DC voltage	Line regulation
+5V	$\pm 50$ mV
-5V	$\pm 50$ mV
+12V	$\pm 50$ mV
-12V	$\pm 50$ mV
+3.3V	$\pm 50$ mV
+5VSB	$\pm 50$ mV

### 3.3 Ripple and noise

#### 3.3.1 Specification

+5V	50mV (P-P)
+12V	120mV (P-P)
-5V	120mV (P-P)
-12V	150mV (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 tantalum.  
Noise bandwidth is from DC to 20Mhz

#### 3.4 Overshoot

Any overshoot at turn on or turn off shall be less than 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 65% at 115V , full load.

#### 3.6 Remote on/off control

The power supply DC outputs (with the exception of +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 to be enabled.

When PS-ON is pulled to TTL high or open circuited , the DC outputs are to be disabled.

The DC output enable circuit shall be SELV compliant.

## 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

Over power protection at 110%~160% of rated output power .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 power is removed and a power on/off cycle is initiated , the power supply will be restarted.

#### 4.2.2 Over voltage protection

If an over voltage fault occurs (inside of the power supply) , the power supply will latch all DC output into a shutdown state at first

+5V : 5.5V ~ 7.2V

+3.3V : 4.0V ~ 5.2V

#### 4.2.3 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 output.

C: The power supply shall be auto-recovered in case any short circuit is taken place at -5V, -12V, +5Vsb

## 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 normal 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 , and give advance warning of impending loss of regulation at turn off. This signal shall be a TTL compatible up level (2.4V to 5.25V) when +5V output voltage are present and above the minimum UV sense levels specified in paragraph 6.2 , or a down level (0.0V to 0.8V) when any output is below its minimum UV sense level.

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
+3.3V	+2.50V

7.0 Environment

7.1 Temperature

Operating temperature 0 to 40 degrees centigrade  
(Evaluated for UL recognition at an operating temperature of 25°C ambient)

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

Condition for approval :  
Primary to secondary :1500VAC for 1sec.  
Primary to FG : 1500 VAC for 1 sec.

7.5 Leakage current

3.5 mA. max. at nominal voltage 250 VAC

8.0 Safety

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 UL1950.

8.2 TUV Standards

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

8.3 Power Line Transient

The power supply shall be designed to meet the following standards

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



### 8.4 RFI / EMI Standards

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

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

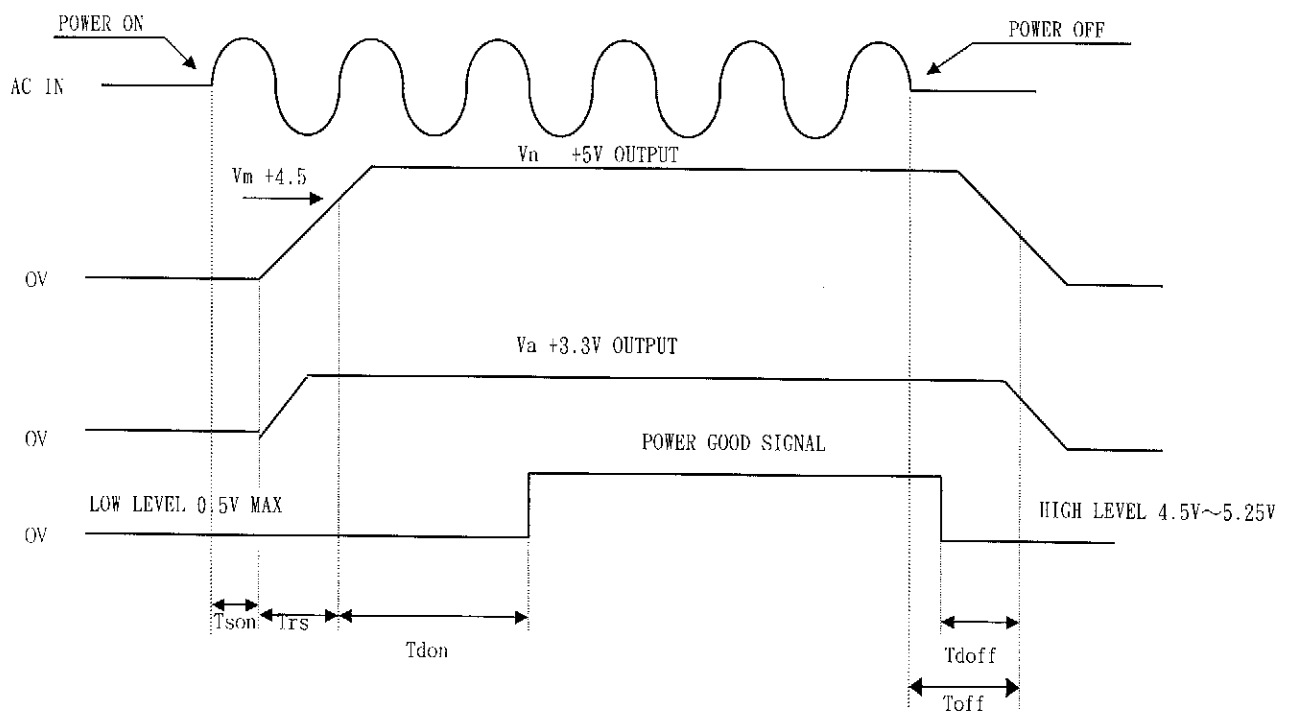
### 9.0 Reliability

#### 9.1 Burn in

All products shipped to customer must be processed by burn-in. The burn- in shall be performed for 1 hour at full load.

### 10.0 Mechanical requirements

#### 10.1 Physical dimension : 40.5 mm \* 100 mm \* 205 mm (H\*W\*D)



- $V_n$  Nominal voltages +5V
- $V_m$  Minimum voltages +4.5V
- $V_a$  Nominal voltages +3.3V
- $T_{son}$  Switch on time(500ms. Max)
- $T_{rs}$  +5V risc time (100ms. max.)
- $T_{don}$  Delay turn-on (100ms. <  $T_{don}$  < 500ms.)
- $T_{doff}$  Delay turn-off (1 ms. min.)
- $T_{off}$  Hold up time (16ms. min.)

《Figure 1》