

SPECIFICATION

300W ATX

PS/2

Industrial Grade Power Supply

with Active PFC

Model: P6300PW FX PN



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Specification subject to change without prior notice
unless we have a written agreement

Top Microsystems	MODEL NO:	P6300PW FX PN
DESCRIPTION: 300W Switching Power Supply	ISSUE DATE:	06/12/03
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1. SCOPE

This specification describes the performance characteristics of a grounded, single phase, 300 watts, 6 output level power supply with ATX Form Factor remote control, +3.3V, +5V, +12V, -5V, -12V and +5Vsb. In addition, it meet a worldwide safety requirement and electromagnetic compatibility requirement for ATX power supply.

PFC (Power Factor Correction) function optional.

2. INPUT REQUIREMENTS

2.1 INPUT VOLTAGE

	Minimum---Maximum	(Nominal)
Low Range	95 VAC --- 132 VAC	(115VAC)
High Range	190 VAC---264 VAC	(230VAC)

2.2 FREQUENCY

	Minimum---Maximum	(Nominal)
SINGLE PHASE	47HZ --- 63HZ	50/60HZ

2.3 VOLTAGE SELECTION

2.3.1 A manual switch will be provided to select the appropriate voltage range.

2.3.2 Auto Range Function: Optional

2.4 INPUT CURRENT

10 Amps maximum at 115 VAC input voltage

5 Amps maximum at 230 VAC input voltage

2.5 INRUSH CURRENT

30 Amps peak max. for one half cycle of AC 115V (cold start)

60 Amps peak max. for one half cycle of AC 230V (cold start)

2.6 POWER SUPPLY EFFICIENCY

The power supply efficiency should not be less than 70% at the Maximum load of paragraph 3.1 with the AC input at any nominal low range of high

range voltage specific in paragraph 2.1

3. OUTPUT REQUIREMENTS

3.1 STATIC DC LOAD

NOMINAL VOLTAGE(DC)	LOAD	CURRENT	PEAK	REGULATION
	MIN.	MAX.	CURRENT	(%)
+3.3 V	0.3 A	28 A		+/- 5
+5 V	2 A	30 A		+/- 5
-5 V	0 A	0.3 A		+/- 5
+12 V	1 A	15 A	18 A	+/- 5
-12 V	0.05 A	0.8 A		+/- 10
+5 Vsb	0.05 A	2.5 A	2.5 A	+/- 5

? The total output of 3.3V & 5V should not exceed 180 watts
and the total output should be 300 watts the max.

3.2 REMOTE ON/OFF CONTROL

As logic level is LOW: Output voltage is enabled.

As logic level is HIGH or floating: Output voltage is disabled.

Note: Logic high level: 3.5-5.25V Logic low level: 0-0.5V

3.3 AC OUTPUT CONNECTOR (Optional)

	Minimum---Maximum	Maximum Output Current
Low Range	95 VAC --- 132 VAC	2 Amps
High Range	190 VAC --- 264 VAC	1 Amps

3.4 RIPPLE AND NOISE

The ripple and noise of the outputs should be measured at the full load

Output Voltage(DC)	Ripple & Noise(p-p)
+3.3 V	50 mV
+5 V	50 mV
-5 V	50 mV
+12 V	120 mV
-12 V	120 mV
+5 Vsb	50 mV

NOTE: 20MHz bandwidth ripple & noise is measured by using 0.1uF C.C.
& 47uF/50V E.C. bypassed at the output connector.

3.5 HOLD UP TIME

The power supply unit should maintain its proper output voltage within voltage specifications for at least 16.8 milliseconds after losing input power under the condition of 115 VAC (or 230 VAC input) with full loading.

3.6 OPERATION AT NO LOAD

The power supply shall be capable of being operated with no load on any or all outputs without damage. For no load on +3.3V & +5V, the output shall not Exceed +4.5 & +6.5VDC and the power supply may shutdown and require by Remote-control or remove AC power restart.

4. OVERSHOOT

Any overshoots during turning-on or turning-off should be less than $\pm 5\%$ of the nominal output voltage values. All outputs shall fail within the regulation limit of paragraph 3.1 before the power good signal is issued.

5. TEMPERATURE COEFFICIENT

The temperature coefficient of all outputs is $\pm 0.05\%$ per degree C maximum.

6. PROTECTION

6.1 OVER VOLTAGE PROTECTION

If any over voltage fault occur, the power supply should latch off before any output exceeds its limit below.

NOMINAL VOLTAGE(V)	OVERVOLTAGE RANGE(V)	
	FROM	TO
+3.3	4.0	4.5
+5	5.6	6.5
+12	13.5	15.5

The power supply will not be automatically recovered after the over voltage fault being removed. A manual power reset is necessary.

6.2 SHORT CIRCUIT PROTECTION

Any short circuit occurred on any DC output should not cause any damage to the power supply or shut down the power supply. The power supply will not be automatically recovered after the short circuit being removed. A manual power reset is necessary.

6.3 OVERLOAD PROTECTION

An over load protection will be effected when either of the loadings: +5V combine With +3.3V and +12V exceeds +110% to 160%. The power supply won't be automatically recovered after the overload being removed. It needs to do the input power reset.

6.4 OVER TEMPERATURE PROTECTION(OPTIONAL)

The power supply may include an over-temperature protection sensor, which can trip and shut down the power supply at a preset temperature point.

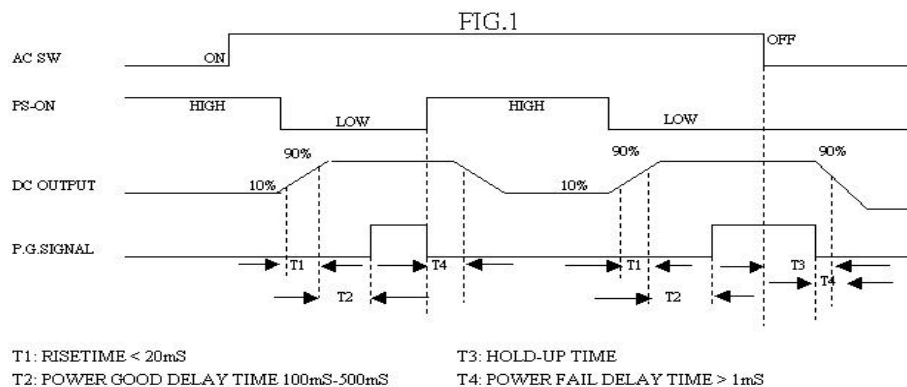
7. TURN-ON DELAY(RISE TIME)

After turning on, at least 20 mS will be needed for the rise of +5V output voltage (measured from 10% point to 95% point on the waveform) to reach Its peak.

8. POWER GOOD SIGNAL(POWER-ON TIME)

After power-on with nominal AC input, there might be a turn-on delay (between 100mS to 500mS) before the Power Good Signal is issued, which occurs before +5V output reaches its minimum sense Level of +4.75V.

When turn-off, the power Good Signal shall go to a lower level for at least 1 mS before +5V falls under the regulation limit described in paragraph 3.1



9. SAFETY (designed to meet)

- UL - UL1950, 3rd Edition
- CSA - CSA22.2 NO.950
- TUV - EN60950
- CB - IEC950
- FCC - CFR 47, Part 15, Sub part B
- CE - EN55022 class "B"
 - EN 61000-3-2, CLASS D(OPTIONAL)
 - EN61000-4-2, -3,-4,-5

9.1 DIELECTRIC WITHSTAND

- Primary to Secondary : 3000 VAC for 60 Sec.
- Primary to Frame Ground : 1500 VAC for 60 Sec.

9.2 INSULATION RESISTANCE

- Primary to Secondary : 20 Meg. Ohms Min. 500 VDC.
- Primary to Frame Ground : 20 Meg. Ohms Min. 500 VDC.

10. ENVIRONMENT

10.1 OPERATING

- Temperature : 0 to 40 degree centigrade
- Relative Humidity: 10 to 90 percent, non-condensing

10.2 SHIPPING AND STORAGE

- Temperature : -40 to +70 degree centigrade
- Relative Humidity: 5 to 95 percent, non-condensing

12. DIMENSION

Case dimension: 150(L) X 140(W) X 86(H)mm

13. PIN ASSIGNMENT

1 3.1 Standard Pin Assignment.

1 3.1.1 P1: 20 Pin & Wire

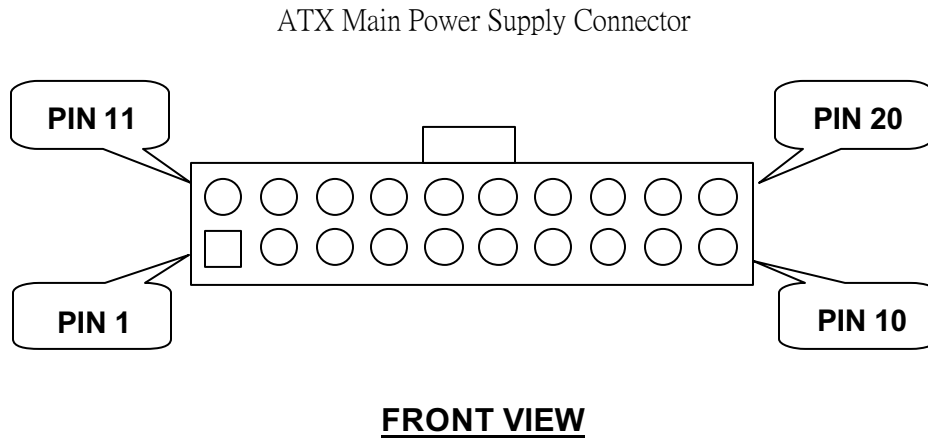


FIG.2

Pin	Signal	Wire		Pin	Signal	Wire	
1	+3.3 VDC	Orange	18AWG	11	+3.3 VDC	Orange	18AWG
2	+3.3 VDC	Orange	18AWG	12	-12 VDC	Blue	20AWG
2	+3.3 sense	Brown	22AWG				
3	COM	Black	18+22AWG	13	COM	Black	18AWG
4	+5 VDC	Red	18AWG	14	PS-ON	Green	20AWG
5	COM	Black	18AWG	15	COM	Black	18AWG
6	+5 VDC	Red	18AWG	16	COM	Black	18AWG
7	COM	Black	18AWG	17	COM	Black	18AWG
8	POK	Gray	20AWG	18	-5 VDC	White	20AWG
9	+5 V _{SB}	Purple	20AWG	19	+5 VDC	Red	18AWG
10	+12 VDC	Yellow	18AWG	20	+5 VDC	Red	18AWG

