MODEL NO. JJ-300PPBA+(Passive PFC)

This specification describes the requirements of 300W switching power Supply with a PS Ⅱ form-factor and ATX 12V V2.2, +5V standby voltage, remote On/off control , dual line input capability and forced air cooling characteristics.

1. AC INPUT

1.1 AC input requirements

The input voltage, current, and frequency requirements for continuous operation are stated below.

Table 1 AC Input Line Requirements

Parameter	Min	Nom	Max	Unit
Vin(Full range)	180	230	264	Vac rms
Vin Frequency	47	50	63	Hz
Full Load	80%	100%	100%	Watts
Input current		4A		Amp

1.2 Inrush current regulation

100A @ 230Vrms (at 25℃ ambient cold start).

2. DC OUTPUT

2.1 DC voltage regulation

Parameter	Range	Min	Nom.	Max	Unit
+3.3V	±5%	+3.14	+3.3	+3.47	Volts
+5V	±5%	+4.75	+5	+5.25	Volts
+12V1	±5%	+11.4	+12	+12.6	Volts
+12V2	±5%	+11.4	+12	+12.6	Volts
-12V	±10%	-10.8	-12	-13.2	Volts
+5VSB	±5%	+4.75	+5	+5.25	Volts

2.2 Load ranges

Parameter	Min	Nom.	Max	Peak	Unit
+3.3V	0.5	-	18		Amps
+5V	0.3	-	13		Amps
+12V1	1.0	-	8		Amps
+12V2	1.0	-	13		Amps
-12V	0.0	-	0.3		Amps
+5VSB	0.0	-	2.5		Amps

Note:

(1) The maximum continuous average DC output power shall not exceed 300W.

(2) The maximum continuous average load on +5V and +3.3V outputs shall not exceed 120W.

(3) The 5Vstandby output shall remain on while the AC input power connected , whether DC outputs are disabled (off)or enabled (on) by the remote on control signal ,but when the 5v standby output remained on with the AC input power turn off ,the remote on control will be disabled.

2.3 Output Ripple

2.3.1 Ripple regulation

Parameter	Ripple & Noise	Unit
+3.3V	50	mV p-p
+5V	50	mV p-p
+12V1	120	mV p-p
+12V2	120	mV p-p
-12V	120	mV p-p
+5VSB	50	mV p-p

2.3.2 Definition

The ripple voltage of the output shall be measured at the pins of the output connector when terminated in the load impedance specified in figure 1.Ripple and noise are measured at the connectors with a 0.1uf ceramic capacitor and a 10uF electrolytic capacitor to simulate system loading . Ripple shall be measured under any condition of line voltage , output load ,line frequency ,operation temperature.

2.3.3 Ripple voltage test circuit

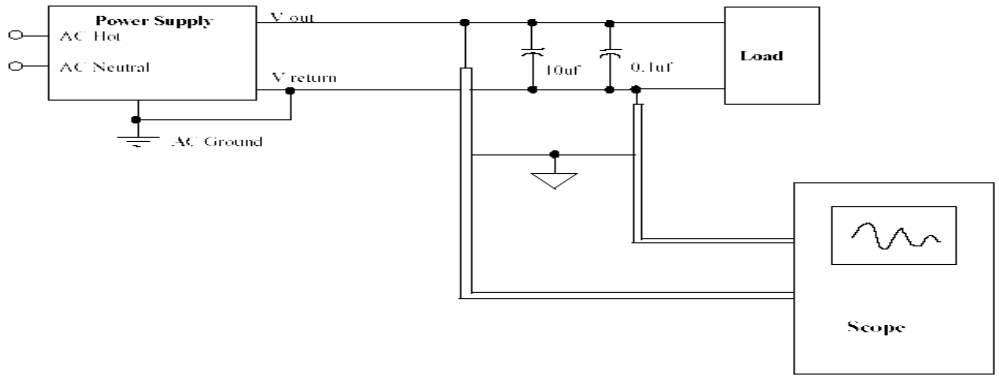


Figure 1.Ripple voltage test circuit

2.5 Efficiency

Power supply efficiency typical 68% at normal AC main voltage and full load on all outputs.

2.6 Remote ON/OFF control

When the logic level “PS-ON” is low , the DC outputs are to be enabled.

When the logic level is high or open collector , the DC outputs are to be disabled.

3.0 PROTECTION

3.1 Over-power protection

The power supply will be shutdown and latch off when output power over 140% of rated DC output.

3.2 Under voltage protection

In an under voltage fault occurs , the supply will latch all DC outputs into a shutdown state when +5V & +12V & +3.3V & -12Voutputs under 85% of it's maximum value.

3.3 Over voltage protection

In an over voltage fault occurs ,the supply will latch all DC outputs into a shutdown state when +5V & +3.3V & +12V outputs exceed 130% of it's maximum value.

3.4 Short circuit

The power supply shall shutdown and latch off for shorting +3.3V,+5V,+12V,-12V, rails .The main output short circuit of any impedance shall less than 0.1 ohms.

NOTE : +5Vsb will be auto-recovery when the fault removed.

3.5 No load operation

No damage or hazardous will occur with any output disconnected from load.

4. TIMING

4.1 Signal timing drawing

Figure 2.is a reference for signal timing for main power connector signals and rails.

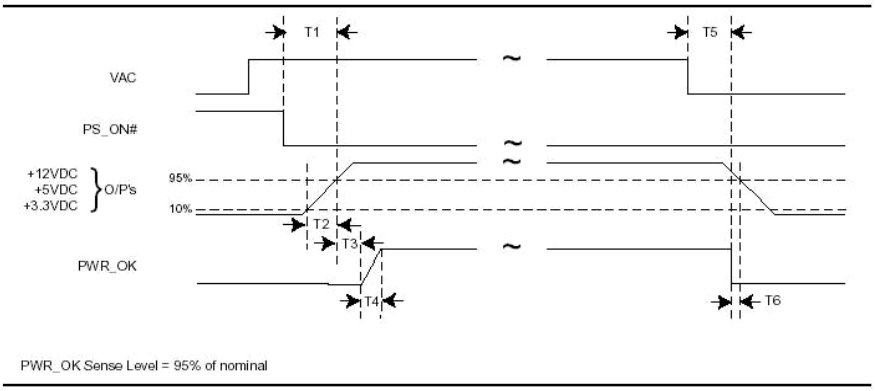


Figure 2. Power Supply Timing

(1) Rise time T2 (0.1ms~20ms)
(2) PWR-OK delay 100ms<T3<500ms
(3) PWR-OK rise time T4≦10ms
(4) AC loss to PWR-OK hold up time T5≧16ms
(5) Power-down warning T6≧1ms

4.2 Hold up tim

When the power loss its input power ,it shall maintain 16ms in regulation limit at normal input voltage .(AC: 230V/50Hz)

5. ENVIRONMENT

5.1 Operation

Temperature	0 to 50℃
Relative Humidity	10 to 90%,non-condensing

5.2 Shipping and Storage

Temperature	-20 to 70℃
Relative Humidity	5 to 95%,non-condensing

5.3 Altitude

Operating	10,000FT max
Storage	50,000FT max

6. SAFETY

UL*60 950, 3rd Edition—CAN/CAS-C22.2-60950-00,

EN*60 950, 3rd Edition

IEC*60 950, 3rd Edition(CB Report to include all national deviations)

EU* Low Voltage Directive(73/23/EEC) (CE Compliance)

The power supply must bear the German Bauart Mark from TUV or VDE

7. ELECTROMAGNETIC COMPATIBILITY(EMC)

CISPR* 22 / EN55022, 3rd Edition (Radiated & Conducted Emissions)

EN55024 (ITE Specific Immunity)

EN 61000-4-2 －Electrostatic Discharge

EN 61000-4-3 －Radiated RFI Immunity

EN 61000-4-4 －Electrical Fast Transients

EN 61000-4-5 －Electrical Surge

EN 61000-4-6 － RF Conducted

EN 61000-4-8 － Power Frequency Magnetic Fields

EN 61000-4-11 － Voltage Dips, Short Interrupts and Fluctuations

EN 61000-3-2 (Harmonics)

EN 61000-3-3 (Voltage Flicker)

EU EMC Directive (8/9/336/EEC) (CE Compliance)

8. MTBF

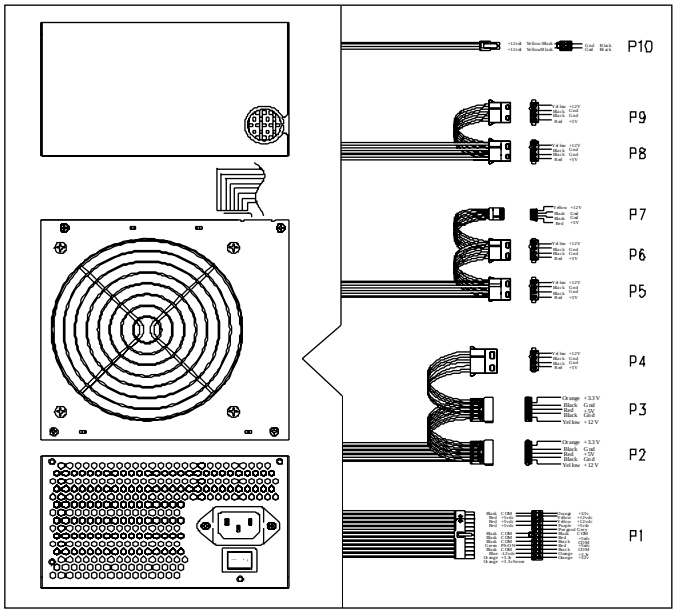
MTBF (mean time between failures)calculation

The demonstrated MTBF shall be 100,000 hours of continuous operation at 25℃,full load , 80%confidence limit and nominal line .The MTBF of the power supply be calculated in accordance with MIL-HDBK-217F.The DC FAN is not included.

9. MECHANICAL REQUIREMENTS

9.1 Physical dimension

Option for wire and connector, According to client's demand changing the length of wire and the quantity of connector



Standard 24Pin(20+4) (ATX 12V)

9.2 Connectors (INTEL approved or equivalent)

ATX 12V Main Power Connector

P1 Connector (Molex 39-01-2240 or equivalent)

Pin	Signal	wire	AWG	Pin	Signal	wire	AWG
1	+3.3V	Orange	18	13	+3.3V	Orange	18
				[13]	[+3.3V default sense]	[brown]	22
2	+3.3V	Orange	18	14	-12VDC	Blue	22
3	COM	Black	20	15	COM	Black	20
4	+5VDC	Red	20	16	PS-ON	Green	22
5	COM	Black	20	17	COM	Black	20
6	+5VDC	Red	20	18	COM	Black	20
7	COM	Black	20	19	COM	Black	20
8	PWR-OK	Grey	22	20		N/C	
9	+5VSB	Purple	20	21	+5VDC	Red	20
10	+12V1DC	Yellow	20	22	+5VDC	Red	20
11	+12V1DC	Yellow	20	23	+5VDC	Red	20
12	+3.3V	Orange	18	24	COM	Black	20

Serial ATA Power Connector(s)

P2,P3(Molex 88751 or equivalent)

Pin	Signal	20 AWG wire
1	+3.3VDC	Orange
	+3.3VDC	Brown(22AWG)
2	COM	Black
3	+5VDC	Red
4	COM	Black
5	+12V1DC	Yellow

Peripheral Connector(s)

P4,P5,P6,P8,P9(AMP 1-480424-0 or Molex 8981-04P or equivalent)

Pin	Signal	20 AWG wire
1	+12V1DC	Yellow
2	COM	Black
3	COM	Black
4	+5VDC	Red

Floppy Driver Connector

P7 (AMP 171822-4 or equivalent)

Pin	Signal	22 AWG wire
1	+12V1DC	Yellow
2	COM	Black
3	COM	Black
4	+5VDC	Red

ATX 12V Power Connector

P10 Connector (4PIN:Molex 39-01-2040 or equivalent)

Pin	Signal	20AWG	Pin	Signal	20AWG wire
1	COM	Black	3	+12V2DC	Yellow/Black
2	COM	Black	4	+12V2DC	Yellow/Black

10. FAN SPEED CONTROL (Optional)

Fan voltage adjust with the ambient temperature or output power.