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APPROVAL SHEET

CUSTOMER:

MODEL: MPT-301

CUSTOMER'S P/N:

DATE: 10 FEB 2006

APPROVED SIGNATURES		

旭 品 科 技 股 份 有 限 公 司

CASING MACRON TECHNOLOGY CO., LTD

台北縣三重市興德路 98 號 11 樓

11F , No.98, Shing De Rd., San Chung, Taipei Hsien, Taiwan, R.O.C.

TEL:886-2-29998658 FAX:886-2-29998825

MACRON POWER TECHNOLOGY LTD

SPECIFICATIONS FOR 300W ATX SWITCHING POWER SUPPLIES

MODEL: MPT-301 DATE: 2006/02/10

REV: A2 (ATX12V) CHECK BY: Rocky Lo

GENERAL REQUIRMENTS

This specification describes the requirements of 300 watts switching power supply. With 5V stand-by remote ON/OFF control for ATX12V form factor system.

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1. INPUT

1-1	AC INPUT VOLTAGE	90 TO 132 VAC OR 180 TO 264 VAC USER SELECTABLE
1-2	AC INPUT FREQUENCY	50 TO 60 HZ
1-3	AC INPUT CURRENT	6A RMS MAX. FOR 115 VAC 3.5A RMS MAX. FOR 230 VAC
1-4	MAXIMUM INRUSH CURRENT	40A FOR 110 VAC COLD START 80A FOR 220 VAC COLD START

2. OUTPUT

		OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5	OUTPUT 6
2-1	VOLTAGE	+5V DC	-5V DC	+12V DC	-12V DC	+3.3V DC	+5V SB
2-2	RIPPLE & NOISE	50mV	100mV	120mV	120mV	50mV	50mV
2-3	LINE REGULATION	±1%	±1%	±1%	±1%	±1%	±1%
2-4	TOLERANCE	±5%	±10%	-5+7%	±10%	±5%	±5%
2-5	OUTPUT VOLTAGE	4.75~5.25	-4.50~-5.5	11.4~12.8	-10.8~-13.2	3.14~3.46	4.75~5.25
2-6	MAXIMUM CURRENT	30A	0.5A	18A	0.8A	14A	3A
2-7	MINIMUM CURRENT	1A	0A	0.3A	0A	0.2A	0A
2-8	+3.3V & +5V 160W MAX.						

2-9 OUTPUT RIPPLE DEFINITION

The ripple voltage of the output shall be measured at the pins of the output connector when terminated in load impedance specified in Sec 2.

Ripple and noise are measured at the connectors with a 0.1uF ceramic capacitor and a 10 uF electrolytic capacitor to simulate system loading.

3. PROTECTION

3-1 SHORT CIRCUIT PROTECTION

The power supply shall shutdown and latch off for shorting

+5V, +12V, +3.3V, -5V, -12Vrails.

The main output short circuit of any impedance shall less than 0.05 ohms.

3-2 OVER POWER PROTECTION

The power supply will be shutdown and latch off when total power over 110%~150% of rated DC output.

Notes: 5VSB will be auto-recovery when the fault removed.

3-3 OVER VOLTAGE PROTECTION

The power supply shall provide latch-mode over voltage protection as define in below

+12V=13.4V~15.6V, +5V=5.7V~7.0V, +3.3V=3.7V~4.3V

3-4 OVER LOAD PROTECTION

There shall be protection from an output over current event. The supply may shutdown form such an event and require power on restart. Testing consists of application of the listed over current value with maximum load on all other outputs.

Over current test values:

+5V : 60A maximum

+12V : 28A maximum

+3.3V : 50A maximum

3-5 NO LOAD OPERATION

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

4. OVERALL PERFORMANCE

4-1 TOTAL OUTPUT POWER

300W continue maximum at full load.

4-2 EFFICIENCY

65% minimum at normal AC input voltage and full load.

4-3 HOLD UP TIME

14mS at maximum load and normal AC input voltage.

4-4 STABILITY

+-0.5% after 24 hours warm up.

4-5 POWER GOOD

TTL compatible signal out with 100 mS to 500 mS delay after power setup, Power good signal turn to low at least 1 mS before +5V drop below 4.75V.

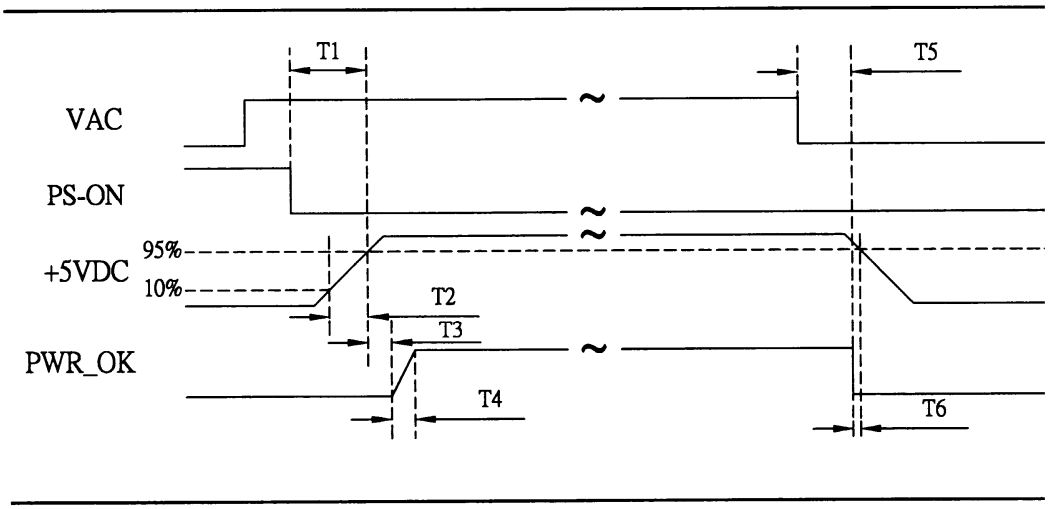
4-6 REMOTE ON/OFF CONTROL

When the logic level “PS-ON” is low, the DC outputs are to be enabled. When the logic level “PS-ON” is high or open collector, the DC outputs are to be disabled.

4-7 OVERSHOOT

Any overshoot at turn on or turn off shall be less 10% of the normal voltage value on all DC outputs.

5. TIMING/CONTROL



T1 : POWER ON TIME (T1<500MS)

T2 : RISE TIME(0.1MS<=T2<=20MS)

T3 : PWR_OK DELAY(100MS<T3<500MS)

T4 : PWR_OK RISETIME(T4<=10MS)

T5 : HOLD UP TIME(T5>=14MS)

T6 : POWER DOWN WARNING(T6>=1MS)

6. ENVIRONMENTAL CONDITIONS

6-1	OPERATING TEMPERATURE	0 TO 40 DEGREE C
6-2	COOLING	TEMPERATURE CONTROLLER
6-3	STORAGE TEMPERATURE	-40℃ TO+ 70℃
6-4	STORAGE HUMIDITY	OPERTING TO 85% RELATIVE HUMIDITY NON-OPERATING TO 95% RELATIVE HUMIDITY
6-5	VIBRATION	1.0GRMS,IRIENTATION:X,Y,Z(3 AXES) 30 MIN. IN EACH AXIS FREQUENCY:5~500Hz

7. SAFETY STANDARD

7-1 Underwrites Laboratory (UL) recognition.
The power supply designed to meet UL 1950

7-2 Canadian Standards Association (CSA) approval.
The power supply designed to meet CSA C22.2 No.950

7-3 The power supply must bear the German Bauart Mark from TUV.

7-4 NEMKO,DEMKO,SEMKO,FIMKO certified by any Nordic Deviations.

7-5 CB test report to meet IEC 60950.
1991+A1:1992+A2:1993 +A3:1995+A4:1996 2ND

8. ELECTROMAGNETIC COMPATIBILITY (EMC)

8-1 EN 55022 Class B 1998 Conducted and Radiated
8-2 EN 61000-4-2 1995 ESD
8-3 EN 61000-4-3 1995 RS
8-4 EN 61000-4-4 1995 EFT/Burst
8-5 EN 61000-4-5 1995 Surge
8-6 EN61000-4-6 1996 Injected Current

8-7 EN 61000-4-8 1994 Power Magnetic

8-8 EN 61000-4-11 1994 Voltage Dips

8-9 EN 60555-2 1991 Harmonic

8-10 The 47 CFR, Part 2 and Part 15 of FCC Rules
Test procedures: ANSI C63.4 1992

8-11 BCIQ (CNS 13438)

9. DIELECTRIC WITHSTAND VOLTAGE

9-1	INPUT TO GROUND	2121 VDC 1 min 10 mA
9-2	INPUT TO OUTPUT	4242 VDC 1 min 10 mA

10. INSULATION RESISTANCE

10-1	INPUT TO GROUND	>50 MΩ MINIMUM
10-2	INPUT TO OUTPUT	>50 MΩ MINIMUM

11. GROUND LEAKAGE CURRENT

The power supply ground leakage current shall be less than 3.5mA.

12. RELIABILITY

12-1 MEAN TIME BETWEEN FAILURE:

The demonstrated MTBF shall be 30000 hours of continuous operation at 25 DC Full load, 80% confidence limit and normal line. The MTBF of the power supply shall be calculation in accordance with MIL-STD-217D/E. The DC FAN is not included.

13. DC OUTPUT WIRE CONFIGURATION

13-1 MAIN POWER CONNECTOR 20+4PIN

PIN	OUTPUT	COLOR	COLOR	OUTPUT	PIN
1	+3.3VDC	PURPLE	PURPLE	+3.3V DC	13
2	+3.3VDC	PURPLE	BLUE	-12V DC	14
3	COM	BLACK	BLACK	COM	15
4	+5VDC	RED	GRAY	PS-ON	16
5	COM	BLACK	BLACK	COM	17
6	+5VDC	RED	BLACK	COM	18
7	COM	BLACK	BLACK	COM	19
8	POK	ORANGE	WHITE	-5V	20
9	+5Vsb	BROWN	RED	+5V DC	21
10	+12V	YELLOW	RED	+5V DC	22
11	+12V	YELLOW	RED	+5V DC	23
12	+3.3VDC	PURPLE	BLACK	COM	24

13-2 SERIAL ATA POWER CONNECTOR 5WIRE

WIRE	OUTPUT	COLOR
5	+3.3VDC	PURPLE
4	COM	BLACK
3	+5VDC	RED
2	COM	BLACK
1	+12V	YELLOW

13-3 +12V POWER CONNECTOR (CPU) 4PIN

PIN	OUTPUT	COLOR	COLOR	OUTPUT	PIN
1	COM	BLACK	YEL/BLK	+12V	3
2	COM	BLACK	YEL/BLK	+12V	4

13-4 HDD/CD ROM and FLOPPY CONNECTOR 4PIN

PIN	OUTPUT	COLOR
1	+12V	YELLOW
2	COM	BLACK
3	COM	BLACK
4	+5V	RED

13-5 PCI-E POWER CONNECTOR 6PIN (Option)

PIN	OUTPUT	COLOR	COLOR	OUTPUT	PIN
1	+12V	YELLOW	BLACK	COM	4
2	+12V	YELLOW	BLACK	COM	5
3	+12V	YELLOW	BLACK	COM	6

14. CHASSIS MECHANICAL DIMENSION AND WIRE LENGTH