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Specification of ATX Switching Power Supply

❖ ATX 12V For Pentium 4 ❖

Model No. AP-250WX
【Total Wattage 250W】

| Prepared By | Designed By | Approved By | Issued By |
|-------------|-------------|-------------|-----------|
| | | | |

1. INPUT

1.1 AC Input : 115V (90V ~ 135V) ; 230V (180V ~ 265V)

Voltage selector by slide switches

1.2 AC Input Current : 115Vrms / 7A ; 230Vrms / 4A

(@ without AC Outlet)

1.3 Brown Out Voltage : 95VAC max. @ 60Hz.

1.4 Inrush Current : 35A max. / 115V , 70A max. / 230V

(at 25°C ambient cold start)

2. DC OUTPUT :

| ◆◆◆◆◆◆ | V1 | V2 | V3 | V4 | V5 | V6 |
|-----------------|-----------------|------|-------|-------|-------|-------|
| Output Voltage | +3.3V | +5V | +12V | -5V | -12V | +5Vsb |
| Max. Current | 20A | 25A | 13A | 0.3A | 0.8A | 2A |
| Min. Current | 0A | 1.0A | 0A | 0A | 0A | 0.2A |
| Load Regulation | 5% | 5% | 5% | 10% | 10% | 5% |
| Line Regulation | 1% | 1% | 1% | 2% | 2% | 1% |
| Ripple & Noise | 50mv | 50mv | 100mv | 100mv | 120mv | 50mv |
| * * * * * | 145W | | 156W | 1.5W | 9.6W | 10W |
| | Total 229W Max. | | | | | |

Note : A low pass filter shall be added to outputs during measurement. (EXP. : 0.47uF Tan-cap. & 0.1uF Ceramic-cap.)

3. OVERALL PERFORMANCE

3.1 Total Output Power : 250W

3.2 Efficiency : 78% min.

3.3 Power Up Time : < 20ms for +5V output voltage.

3.4 Hold Up Time : 16 ms min.

3.5 Power Good Time : The PWR-GOOD signal will not be higher than 100 - 500 ms after the +5V output stabilizes at its operating value when the unit is turn on.

3.6 Power Fail Signal : The TTL compatible signal will go down at least 1 ms before +5V below 4.75V

3.7 Switching Frequency : 30KHz Typical.

3.8 Temperature coefficient : +0.05% per°C

3.9 PS on Signal : TTL compatible signal (active low)

4. PROTECTION FEATURES

4.1 Over Voltage Protection :

DC +3.3V output from 3.8V ~ 4.3V

DC +5V output from 5.7V ~ 7.0V

DC +12V output from 13.4V ~ 15.6V

4.2 Over Load Protection : Total output 120% Min. ~ 160% Max.

4.3 Short Circuit : Latch off

5. ENVIRONMENTAL

5.1 Operation Temperature : 0°C ~ 50°C

5.2 Cooling : Forced air ventilation by DC fan.

5.3 Fan type : Two Ball Bearing FAN

5.4 Fan status monitoring : Optional.

5.5 Humidity : 10% ~ 90% RH

5.6 Storage Temperature : -20°C ~ 80°C

5.7 Storage Humidity : 5% ~ 90% RH

5.8 Altitude : 10,000 ft max.

6. SAFETY APPROVAL

a. UL 1950 / cUL 1950 D3

b. TUV EN60950

c. CB IEC 60950

d. CE Test Report

7. ELECTROMAGNETIC COMPATIBILITY :

7.1 Electromagnetic Interference (EMS) :

a. FCC Part 15, subjecting, class B

b. CISPR-22, class B

7.2 Electrostatic Discharge (ESD) : Comply with IEC801-2.

7.3 Radiated Susceptibility (RS) : Comply with IEC801-2.

7.4 Harmonics : meet EN61000-3-2 class A (@ PC system)

>>> Optional PFC Harmonics class D at full load <<<

8. DIELECTRIC WITHSTAND (HI-POT) TEST

8.1 Primary to Secondary : 1800VAC -- 3 Sec. (5mA cut - off)

8.2 Primary to Ground : 1800VAC -- 3 Sec. (5mA cut - Off)

8.3 Leakage Current < 3.5mA at input 230V~ 60Hz

8.4 Ground Continuity : $100\text{m}\Omega$ max. when the test current is at 25A

9. INSULATION RESISTANCE

9.1 Input to Output : $20\text{M}\Omega$ min.

9.2 Input to Ground : $20\text{M}\Omega$ min.

10. RELIABILITY : MTBF 100,000 hours @ 25°C ambient.

11. SHOCK AND VIBRATION

The power supply will withstand the following imposed conditions without experiencing non-recoverable failure or deviation from specified output characteristics.

Storage -40G , 11mSec. half-sine wave pulse in both directions on three mutually perpendicular axes.

Operating -10G , 11mSec. half-sine wave pulse in both directions on three mutually perpendicular axes.

Vibration Operation-Sine wave excited, 0.25G maximum acceleration, 10 - 250Hz swept at one octave/minute. Fifteen-minute dwell at all frequencies at which the device under test experience excursions two times large than non-resonant excursions.

12. MECHANICAL : L150 * W140 * H86 mm

(See drawing AP-250WX-PS2-ATX.pdf)