



Zecks Power Co., Ltd.

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Specification
of
ATX Switching Power Supply

Model No. ZKS-500WX

【 Total Wattage 500W 】

【 Total Wattage 500W RoHS 】
With Auto Switching (Full Range)

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

1. INPUT

1.1 AC Input : 90VAC ~ 265VAC (Auto Switch)

Voltage by auto switches

>>> Active PFC 115V / 230V automatic sense <<<

1.2 AC Input Current : 115Vrms / 12A ; 230Vrms / 6A
(@ without AC Outlet)

1.3 Brown Out Voltage : 90VAC max. @ 60Hz.

1.4 Inrush Current : 60A max. / 115V , 120A 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 | 35A (I1) | 45A (I2) | 20A (I3) | 1A | 1A | 3A |
| Min. Current | 0A | 1.0A | 1A | 0A | 0A | 0.3A |
| Load Regulation | 5% | 5% | 5% | 10% | 10% | 5% |
| Line Regulation | 1% | 1% | 1% | 2% | 2% | 1% |
| Ripple & Noise | 50mv | 50mv | 120mv | 100mv | 120mv | 50mv |
| Total Output | 250W Max. | | 240W | 5W | 12W | 15W |

$(V1 \cdot I1) + (V2 \cdot I2) + (V3 \cdot I3) < 468W$

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 : 500W

3.2 Efficiency : 78% min. at full load (AC input 230V)

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 135% Min. ~ 165% 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 : meet

UL 1950 , cUL , TUV EN60950 , CSA , CB , CE Report

7. ELECTROMAGNETIC COMPATIBILITY : meet

7.1 Electromagnetic Interference (EMS) :

FCC Part 15, subjecting, class 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)

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 : 100mΩ max. when the test current is at 25A

9. INSULATION RESISTANCE

Input to output : 20MΩ min. ; Input to Ground : 20MΩ min.

10. RELIABILITY : MTBF 200,000 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 ZKS-500WX-ATX.pdf)