

ElanVital

Design & Manufacturing

SPECIFICATION FOR APPROVAL

Sample Q'ty : _____

Date: 2000/8/1 _____

Customer: 立端 _____



ElanVital model : EVP-2006 _____

ElanVital P/N : 99S200600-00 _____

ElanVital Description: Switching Power Supply _____

Send one copy back after it is approved .

Approved By:

Description:

Part No.:

Date:

ElanVital Corporation

No. 39-3, Dung-Sh, Jian-An Li,
Ping-Jen City, Tao-Yuan County
Taiwan, R.O.C.

Tel: 886-3-460-2910

Fax: 886-3-460-4380

E-mail: sales@elanvital.com.tw

SPECIFICATION

Switching Power Supply (For 1U Server)

EVP-2006

REV. 0



Date : 2000,06,01

ELANVITAL CORPORATION

No. 39-3, Dung-Sh, Jian-An Li, Ping-Jen City,
Tao-Yuan County, Taiwan, R.O.C.
Tel: +886-3-460-2910
Fax: +886-3-460-4380

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Design & Manufacturing

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1.0 GENERAL

This specification describes the physical, functional and electrical characteristics of a 205 watts (216 watts peak), 6-outputs, fan-cooled switching power supply.

2.0 INPUT CHARACTERISTICS

2.1 Input Voltage

100 - 240 VAC Nominal 90VAC Minimum 264VAC Maximum

2.2 Input Frequency

47 Hz to 63 Hz

2.3 Input current

output power	205W
V _{in} =100 - 240VAC	5.0Amax

2.4 In-Rush Current

CONDITIONS

115/230VAC, Full Load.
25°C Air ambient cold start.

LIMITS

No damage shall occur.

2.5 Input Leakage Current

Input leakage current from line to ground will be less than 3.5mA rms. Measurement will be made at 240 VAC AND 60 Hz.

2.6 Isolation (Hi-Pot)

Test with 1500Vrms, for 1 minute between each input AC line and the grounding conductor.

2.7 AC harmonic current distortion

The power supply meets EN61000-3-2 AC harmonic current distortion requirement.

3.0 OUTPUT CHARACTERISTICS

3.1 DC Output Characteristics

Output Voltage	V1 +5V	V2 +3.3V	V3 +12V	V4 -5V	V5 -12V	V6 +5Vsb
Min. Load	2.0A	0.1A	0.5A	0.0A	0.0A	0.0A
Max. Load	22.0A	12.5A	8.0A	0.1A	0.3A	1.5A
Peak Load(15sec.)	22.0A	12.5A	10.0A	0.1A	0.3A	1.5A
Output power	190W max.			0.5W	3.6W	7.5W
Cross Reg. %	+ -5%	+ -5%	+ -5%	+ -10%	+ -10%	+ -5%
Ripple %	50mV	50mV	120mV	100mV	120mV	50mV
Ripple & Noise	100mV	100mV	200mV	100mV	200mV	100mV

Note 1. Cross load test table.

Output Voltage	V1 +5V	V2 +3.3V	V3 +12V	V4 -5V	V5 -12V	V6 +5Vsb
Min. load	2.0 A	0.1 A	0.5 A	0.0 A	0.0 A	0.0 A
Mid. Load	11.0 A	3.0 A	4.0 A	0.05 A	0.15 A	0.8 A
Max. load (1)	21.0 A	0.1 A	8.0 A	0.1 A	0.3 A	1.5 A
Max. load (2)	10.5 A	12.5 A	8.0 A	0.1 A	0.3 A	1.5 A
Max. load (3)	22.0 A	12.5 A	4.5 A	0.1 A	0.3 A	1.5 A
Peak load	15.0 A	3.0 A	10.0 A	0.1 A	0.3 A	1.5 A
V1max/V3mid	22.0 A	0.1 A	4.0 A	0.1 A	0.3 A	1.5 A
V1mid/V3max	11.0 A	0.1 A	8.0 A	0.1 A	0.3 A	1.5 A
V2max/V3mid	2.0 A	12.5 A	4.0 A	0.1 A	0.3 A	1.5 A

Note 2. Total output power: 200Wmax, 216Wpeak for 15 seconds max.

Note 3. The ripple & noise is tested from DC to 20MHz and parallel with 10uF and 0.1uF capacitors.

3.2 Overshoot

Any output overshoot at TURN-ON shall not exceed 10% of nominal voltage value.

3.3 Efficiency

65% min. at full load and nominal line voltage.

4.0 TIME SEQUENCE

4.1 Hold-Up Time

Unit shall continue to supply regulated DC outputs and power good signal for at least 16 milliseconds at 115/230 VAC full load after a loss of AC input voltage.

4.2 Power Good Signal

When the power supply is turned off for a minimum of 1.0 second and turned ON, the power-good signal will be generated. The power supply shall provide a power-good signal to indicate proper operation of the power supply. This signal shall be a TTL compatible high level for normal operation; low level for fault conditions. Power-good shall go to a low level at least 1mS before the +5V output voltage falls below the regulation limits. The power-good signal shall stay low (during POWER-ON) until all output voltages are stable within regulation limits. The power-good signal shall have a TURN-ON delay greater than 100mS but less than 500mS.

4.3 Output Rise Time

All output voltages' rise time should be less than 35mS.

4.4 Start-up timing

All outputs shall be stable and in regulation in less than 2.0 second under all load and line conditions. Start-up time is measured between the AC turn-on and 4.75 volts on +5V output.

5.0 PROTECTION

5.1 Over Voltage Protection

The power supply shall latch off if the +3.3VDC or +5 VDC or +12 VDC voltage exceeds the limit.

+3.3V DC : 4.5V DC Max.

+5V DC : 7.0V DC Max.

+12V DC : 15.6V DC Max

5.2 Short Circuit Protection

An output short circuit is defined as any output impedance is less than 0.03 ohms. The power supply shall shutdown and latch off for shorting +3.3V, +5V, +12V rails to return. The power supply shall either shutdown and latch off for shorting the -12V and/or -5V rails to return, or it shall remain normal but only no output at the -12V and/or -5V rail. The 5Vsb must be capable of being shorted indefinitely but when the short is removed the power supply shall recover automatically or by cycling the PS-ON.

5.3 No Load Operation

When primary power is applied, with no load on any output voltage, no damage or hazardous conditions shall occur. The power supply may latch into shutdown state.

6.0 Power On Signal

6.1 Remote On / Off control signal

PS - ON signal is a TTL compatible signal used to switch on / off the power supply. When the signal is low the power supply shall be turn on. The power supply shall still off if the signal floating or goes high.

6.2 Reset after shutdown

If the power supply latches into a shutdown state, it shall return to normal operation only after the fault has been removed and a power off / on cycle is completed with a minimum off time of 2 seconds. The power off / on cycle may be performed by removing and reconnecting the AC input mains or by a remote off / on cycle from high to low state.

7.0 PHYSICAL CHARACTERISTICS

7.1 Size : 96mm(W) x 41mm(H) x 197mm(L) reference

7.2 weight : 1.2 Kg max. reference

8.0 Output DC Connectors

8.1 Baseboard connector : Connector : Molex 39-01-2200 or equivalent.

Pin	Signal	Color	Pin	Signal	Color
1	+3.3V	Orange	11	+3.3V	Orange
2	+3.	Orange	12	-12V	Blue
3	COM	Black	13	COM	Black
4	+5V	Red	14	PS-ON	Green
5	COM	Black	15	COM	Black
6	+5V	Red	16	COM	Black
7	COM	Black	17	COM	Black
8	P. G.	Gray	18	-5V	White
9	+5Vsb	Purple	19	+5V	Red
10	+12V	Yellow	20	+5V	Red

8.2 Peripheral connectors

Connector: AMP 1-480424-0 or equivalent.

Connector: AMP 171822-4 or equivalent.

Pin	Signal	Color	Pin	Signal	Color
1	+12V	Yellow	1	+5V	Red
2	COM	Black	2	COM	Black
3	COM	Black	3	COM	Black
4	+5V	Red	4	+12V	Yellow

9.0 ENVIRONMENTAL REQUIREMENT**9.1 Temperature**

Operating : 10°C to 50°C.

None – Operating : -20°C to 70°C.

9.2 Relative Humidity

Operating : To 85 % relative humidity (non-condensing)

Non-Operating : To 95 % relative humidity (non-condensing)

9.3 Altitude

Operating : Sea level to 10,000 feet.

Non-Operating : Sea level to 40,000 feet.

9.4 Power Line Transient**9.4.1 Drop Out**

With a full cycle nominal input voltage drop-out, the unit shall operating normally.

9.4.2 Transient Voltage Spikes

The unit shall meet the following standards.

The crest value of the first half peak injected oscillatory wave at 3.0K volts open circuit with 200 and 500 Ampere short circuit current for the common and the normal modes of transient surge injection. The peak value of the injected uni-polar wave form shall be 2.0 KV measured at the input of the power supply for the common and the normal modes of transient surge injection. This test must not produce:

- Damage to the power supply.
- Disruption of the normal operation of the power supply.
- Output voltage deviation exceeding the limits of Section 3.1.

10.0 REGULATORY AGENCY CERTIFICATION

10.1 RFI/EMI Standards

The power supply, when installed in system, shall comply with the following radiated and conducted emissions standards:

- a) FCC part 15, Subpart B, Class B computing devices.
- b) CISPR22 (EN55022) Class B.

10.2 Safety Standards

The power supply shall be certified with the following safety standards.

- a) UL 1950 (Information Processing/Business equipment).
- b) CSA C22.2. No. 950-95.
- c) TUV Certification to IEC 950 2nd edition with Amendments and EN60950.
- d) Nordic agency, such as SEMKO, NEMKO, DEMKO, FIMKO.
- e) CE/LVD
- f) CB

11.0 RELIABILITY

11.1 Mean Time Between Failures (MTBF)

The calculated MTBF is 100,000 Hours minimum at 25° C, 115 or 230 VAC input and full load.

11.2 Warranty

One (1) year manufacture's warranty Date code indicating week and year of manufacture.



MODEL	NAME	REV	DESCRIPTION	DATE
995200000 00	POWER SUPPLY ASSY	1		
PART NO.	DSN	CKD	APPD	
MATERIAL				
FINISH				

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