APPROVAL SHEET

MODEL : **P24DC3A**

DESCRIPTION : **24 Vcc / 3A**

SUBJECT: SCOPE OF DOCUMENT

CONTAINS :

1-0. General Description

The purpose of the document is to specify a Single phase AC input, single output

switching power supply. This specification is suitable for: EA10681VSeries
This product is AC to DC switching power transfer device, it can provide

for a 24V, 3A max & 72W max DC output with constant voltage source.
This Specification defines the input, output, performance characteristics, environment, noise and safety requirement for a power supply.

2-0. Input Requirements

2-1. Input Voltage

Rated Voltage 100-240 Vac +/- 10% full range.
Normal line input 115Vac/60Hz,220Vac/50Hz.

2-2. Input Frequency

47~63 Hz

2-3. Input Current

2.0A (Max.) @ 100Vac/60Hz-240Vac/50Hz with full load.

2-4. Energy saving standards:

2-4-0. Designed to meet the following standard :

Energy Star Ver. 2.0
Energy Efficiency level VI
ErP STEP 2

2-4-1.Efficiency

≧ (avg.) at 115Vac/60Hz & 230Vac/50Hz input voltage and 25%, 50%, 75%

&100% of max output current. Meet Energy Efficiency level VI & ErP STEP 2 Requirement.

2-4-2 No Load Power Consumption.

No Load Watt < 0.21W at normal line input.

2-5. Configuration

3-wire AC input (Line, Neutral, FG)

2-6. Input Fuse

The hot line side of the input shall have a fuse, rating (3.15A/250V)

2-7. Inrush Current

≦ 60A at 110 Vac

≦ 120A at 220 Vac At cold start, maximum load.

2-8. Line Regulation

This line regulation is less than ± 1%, of rated output voltage @ full load .

2-9. Hold Up Time

≧8.3 mSec., @ Normal line, with full load.

2-10. Rise Time

≦ mSec., @ 115V AC input, with full load.

From 10% to 90% of output voltage.

2-11. Turn-ON Time

The output voltage should rise to 90% of rated output voltage

in less than 3 SEC. from AC apply to 110Vac start up.

3-0. Output Requirements

3-1. Output Voltage and Current

Output Voltage (Vdc)	Current Min.(A)	Current Max.(A)
+24V	0	3.0A

3-2. Load Regulation

Voltage (Vdc)	Tolerance (%)	Regulation (Vdc)
+24V	+5/, -5	22.8~25.2V

3-3. Dynamic Load Regulation

±5% excursion for 50% - 100% or 100% - 50% load change of DC output at any frequency up to 1KHz (duty 50%)

3-4. Ripple & Noise

The power supply shall not exceed the following limits on the indicated voltage for 60Hz or 50Hz ripple, Switching frequency ripple and noise and dynamic load variations measured with a 20MHz bandwidth

Output	Ripple/Noise
+24V	350 mV

Input condition: for rated voltage, Output condition: for max load
Ripple / Noise: 60Hz ripple + switching ripple and noise
Ripple & Noise are measured at the end of output cable which are added a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor

3-5. Over Voltage Protection

175% Max. of rated voltage.
The output voltage shall be shutdown and auto-recover mode when OVP occurred.

3-6. Over Current Protection

~~110~200%~~ output current. At 100-240Vac input,
the adapter can withstand continuous short at DC output and no damage.
It will enter into normal condition if the fault condition is removed.

3-7. Stability

2% Max. at constant load with constant input (after 30 minutes of operation).

3-8. Temperature Rise (Optional)

Less than 45℃on top/bottom case at normal AC input & 80% load of DC output at environment temperature 25℃

3-9. Drop-out

Output voltage shall remain within the specified regulation range, through the absence of a line input during 1/2 cycle, at full load and normal AC line input

3-10. Voltage Isolation

The DC ground will be isolated from the AC neutral and AC line.

4-0. Reliability

4-1. MTBF (MIL-HDBK-217F)

The power supply shall be designed and produced to have a mean time

between failures (MTBF) of 100,000 hours at 25 degrees C

5-0. Environment

5-1 Temperature

a. Operating: 0 to 40 ℃

b. Storage: -20 to 85 ℃

5-2 Humidity

a. Operating: 10 to 90 %

b. Storage: 5 to 90 %

5-3 Altitude

From sea level to 5,000Meter (operation) and 5,000 Meter (non operation)

6-0. Safety

6-1. Hi-Pot Test

3000Vac/4242VDC, 3mA 2Sec. between primary and secondary circuit

L, N to FG 1800Vac 3mA 2Sec.

6-2. Insulation Test

500Vdc, 2 Sec. between primary and secondary circuit
IR should ≧50 MΩ.

6-3. Leakage Current

≦500 uA, at 240Vac/50 Hz

6-4. Safety

UL, CUL, FCC

6-5. EMS

Items	Specification	Reference
ESD	Contact: ± 4KV Air: ± 8KV	IEC 61000-4-2
RS	Frequency: 1KHz Field Strength: 3V/M	IEC 61000-4-3
EFT	1.0 KV on input AC power ports.	IEC 61000-4-4
SURGE	Line to Line: ± 1KV (peak) Line to F.G : ± 2KV (peak)	IEC 61000-4-5

6-6. EMI

Comply with Standards
CISPR 32, EN 55032 Class B
FCC (PART 15 CLASS B)

7-0. Mechanical Characteristics

7-1. Physical Size : 113 mm (L) * 49 mm (W) * 35.0mm (H)

7-2. Enclosure material: 94V-1 minimum

7-3. Output Cable (Reference): UL1185 #18

7-4. Vibration Test

The vibration frequencies are set at 20Hz, with total amplitude of 1.5mm Along the 3 directions namely X-Y-Z. The each direction should be vibrated for 60 minutes, after testing no abnormal electrical or mechanical should occur.

7-5. Drop Test (Referencing to CSA C22.2 No.950/UL1950/UL1310/EN60950)

Products shall be dropped from a height of 900 mm onto a horizontal surface consists of hardwood at 13mm thick, mounted on two layers of plywood each 19mm to 20mm thick, all supported on a concrete or equivalent non-resilient floor. Upon conclusion of test, the equipment need not be operational.

7-6. Net Weight (Reference): 300 g