

規 格 書
Electrical Specification

Model No : PB-1080-2SA1

Description : 5V 7.5W single output adapter

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Customer Part No. :

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Contents

Electrical Specification	1
1. Description	5
2. Electrical.....	5
2.1 Input Voltage (AC ~).	5
2.2 AC Input Power Factor.....	5
2.3 Input Frequency Range	5
2.4 Inrush Current	5
2.5 Efficiency (Normal)	5
2.6 Input under Voltage Protection.....	5
2.7 Input Over voltage protection threshold.....	5
2.8 AC Input, Abnormal Operation	5
2.9 AC Input Power sags and surges	6
2.10 AC Input - Voltage Dips, Variations and Short Interruptions.....	6
2.11 DC output requirement.	7
2.12 Turn - on Delay Time	7
2.13 Hold up Time.....	7
2.14 Output circuit protection.	7
2.15 Output Voltage Rise time	7
2.16 Dynamic Load Regulation	7
2.17 Overshoot/ Undershoot	7
2.18 Case Temperature Rise.....	7
3. Environment.....	8
3.1 Operating Temperature.....	8
3.2 Operating Relative Humidity	8
3.3 Operating Altitude Range.....	8
3.4 Non-Operating Altitude Range.....	8
3.5 Storage Temperature.....	8
3.6 Storage Relative Humidity	8
4. Safety / EMC	8
4.1 Safety Standard.....	8
4.2 Hi-Pot	8
4.3 Leakage Current	8
4.4 EMC Requirement.....	8
4.5 ESD	8

4.6 Surge.....	8
4.7 RF Field immunity	9
4.8 Conducted Immunity.....	9
4.9 Isolation Resistance.....	9
5. Reliability.....	9
5.1 Aluminum Capacitor Lifetime.	9
5.2 Burn-in	9
5.3 Vibration Test	9
5.4 M.T.B.F	9
5.5 Drop-Test.....	9
5.6 Static Load.....	10
5.7 Impact Test	10
5.8 Maximum Acoustic Noise Level.....	10
6. Mechanical	10
6.1 Physical Size	10
6.2 Input connector.....	11
6.3 Output connector.	11
6.4 Weight about 106g.....	11

1. Description

This product is an external AC to DC adapter power transfer device; it is able to provide 5V 7.5W single dc output with constant voltage source.

2. Electrical

2.1 Input Voltage (AC ~).

90Vac to 135Vac single phase, at 120Vac input current less than 0.25A

2.2 AC Input Power Factor

The Power factor shall not be less than 50% at 120Vac input with full load.

2.3 Input Frequency Range

60Hz normally, Range: 57~63Hz.

2.4 Inrush Current

50A max at 120Vac input and cold start @ full-load.

2.5 Efficiency (Normal)

Less than 0.3W at no load, meet Energy Star level 5 of Rev.2.0.

The PSU shall maintain a required minimum of 70% efficiency under "Full" load (7.5W), 70% under "Typical" load (5W) and 60% in a "Light" load or idle condition (1W). Efficiency shall be tested with 120VAC 60Hz input

2.6 Input under Voltage Protection

Must shut down if the input voltage goes below the specified voltage limit

2.7 Input Over voltage protection threshold

The unit may sustain damage in those instances but its failure state must not present any dangerous or alarming conditions (smoke, sparks, flame, odor, or noise) to the user.

2.8 AC Input, Abnormal Operation

The power supply shall operate from an extended line voltage range of 70 to 180VAC RMS with a line frequency in the range of 55 to 65Hz for one hour without damage. In this paragraph only, operation is defined as meeting paragraph 2.11 of this spec with the exception of the Max Ripple Requirement in the same paragraph.

2.9 AC Input Power sags and surges

Condition 1: AC input voltage set at 100% of nominal (120VAC); two cycles of nominal voltage followed by a line voltage drop to 30% of nominal for 0.5 cycles continuous. Test duration 5 minutes.

Condition 2: AC input voltage set at 100% of nominal (120VAC); two cycles of nominal voltage followed by a line voltage over-voltage to 120% of nominal for 0.5 cycles continuous. Test duration 5 minutes.

A failure is any event that results in the DC output voltage being outside of the specified tolerance range either during or after the test.

2.10 AC Input - Voltage Dips, Variations and Short Interruptions

The DC output shall remain within tolerance limits for one complete AC input cycle interrupt at an input voltage of 100VAC and at maximum output load.

The following tests as defined in IEC 61000-4-11:2004(E) "Electromagnetic Compatibility (EMC), Part 4-11 Testing and measurement techniques, Voltage dips, short interruptions and voltage variations immunity tests" are required.

The power supply must satisfy all requirements of Class 2 as defined in 6100-2-11:2004(E), Table 1. The operation of the desktop power supply will be confirmed at the conclusion of each test sequence.

Test Sequence Name	Test Duration	Interval Between Tests (Sec)	Number of Tests
0% Open/5sec	5 Sec	10	3
0% Short/5sec	5 Sec	10	3
0 %/ 1 Cycle	1 Cycle	10	3
70% /30 Cycles	30 Cycles	10	6

Table 1

2.11 DC output requirement.

Vout	+5V	Remark
Vout min	4.75V	Vdc
Vout typ	5.0V	Vdc
Vout max	5.25V	Vdc
*Ripple/noise	50	mVpp
Iout max	1500	mA
Iout min	0	mA

*note : 1). Ripple & Noise test: The ripple measurement must be Use 20MHz bandwidth frequency oscilloscope, The load with only the resistive load, The resistive load will be 3.33 Ohms.

2). Output Capacitive Loading 5000uF with 3.33 Ohms. load at power on

2.12 Turn - on Delay Time

2.0 sec max. @ 115Vac with full load

2.13 Hold up Time

16.67mS min. @120Vac input with full load

2.14 Output circuit protection.

- a. SCP: Output can be shorted without any damage, and auto recovery.
- b. OCP: Current limit: 150% Io Max.
- c. OVP: 7.5V Max @0.2A, power supply shall hiccup model

2.15 Output Voltage Rise time

10% to 90% 20msec Max.

2.16 Dynamic Load Regulation

1. Measured at 50%-100%-50% load change at 100Hz frequency with a 50% duty cycle, the DC output meet 5V + /- 5%;

2.17 Overshoot/ Undershoot

10% of Nominal Output Voltage

Overshoot/ Undershoot settling time is max 32 mS

2.18 Case Temperature Rise

The PSU's case temperature rise is $\leq 20^{\circ}\text{C}$ at 25°C ambient temperature with full load @ normal input.

3. Environment

- 3.1 Operating Temperature
0 to 40 °C for nominal input condition.
- 3.2 Operating Relative Humidity
20% to 95% for nominal input condition.
- 3.3 Operating Altitude Range
-60 to 3700 m AMSL (Above Mean Sea Level)
- 3.4 Non-Operating Altitude Range
5000 m AMSL (Above Mean Sea Level)
- 3.5 Storage Temperature
-10° C to 70° C non-condensing
- 3.6 Storage Relative Humidity
5% to 95% non-condensing

4. Safety / EMC

- 4.1 Safety Standard.
Compliance with UL 60065 7th Edition 2003 and UL 60950-1 2nd Edition 2007
- 4.2 Hi-Pot
Primary to Secondary: 3000Vac 3mA.
- 4.3 Leakage Current
250uA max.
- 4.4 EMC Requirement
Compliance to FCC part 15 - Class B
- 4.5 ESD
+/-15KV air discharge and +/-8KV contact discharge, Criteria A
- 4.6 Surge
+/- 6KV Ring and Combine wave (L-N; L-GND; N-GND), Criterion A
A minimum wait time of 60 seconds between events is required. The phase reference shall be 90 degrees. All events of both waveforms must be made on the same unit. Reference Documents: EN61000-4-5, IEEE C62.41-1991.

4.7 RF Field immunity

The DTA External Power Supply MUST not provide degraded performance when subjected to an RF field of 5 V/M from 500 kHz to 3 GHz continuous wave and also a continuous wave gated on-off at a 1 second rate.

4.8 Conducted Immunity

The EPS shall not exhibit variations in output voltage or become unstable in the presence of an induced RF signal field on the DC power cable when the RF signal field is produced in the spectrum from 150KHz to 80MHz (at a minimum), and set to a level of 10 Volts with 1KHz 80% AM modulation in compliance with [IEC EN61000-4-6].

4.9 Isolation Resistance

The External Power Supply must have a minimum input to output isolation resistance of 4megohms measured at 500 VDC

5. Reliability**5.1 Aluminum Capacitor Lifetime.**

The PSU shall have 10Years Ecap life at 40°C amb. 120 VAC/ 50 Hz @ 1.5A load
(10 year= 24 (H) *365 (D) *10 (Y))

5.2 Burn-in

80% load ageing with environment temperature 40°C +/-5°C for 2 hours at least.

5.3 Vibration Test

The power supply must be fully operational within specification after exposure without its shipping carton to a swept frequency vibration test applied in each of the three mutually perpendicular planes with a peak displacement of 5mm each side of resting point, in each plane. The frequency will be varied uniformly from 7 to 30 cycles and back to 7 cycles per second ten times over a period of 60 minutes.

5.4 M.T.B.F

The PSU shall have 438,000 hours MTBF at 25°C amb.120 VAC/50Hz@ full-load

5.5 Drop-Test

The Power Supply must remain operational within specifications after being dropped twice on any side without its shipping carton from a height of 75 cm onto a concrete floor. The Power Supply must not has any cracks or other deformations that could incur the risk of an electric shock.

5.6 Static Load

The Power Supply must not incur any damage or visible deformation after the power supply has been subjected to a static load of 45 Kg without its shipping carton.

5.7 Impact Test

The Power Supply must be operational within specifications after being subjected to an impact force obtained by a 30 cm free fall of a solid smooth steel sphere weighing approximately 1.4 Kg. The Power Supply must not have any cracks or other deformations that could incur the risk of an electric shock after this test.

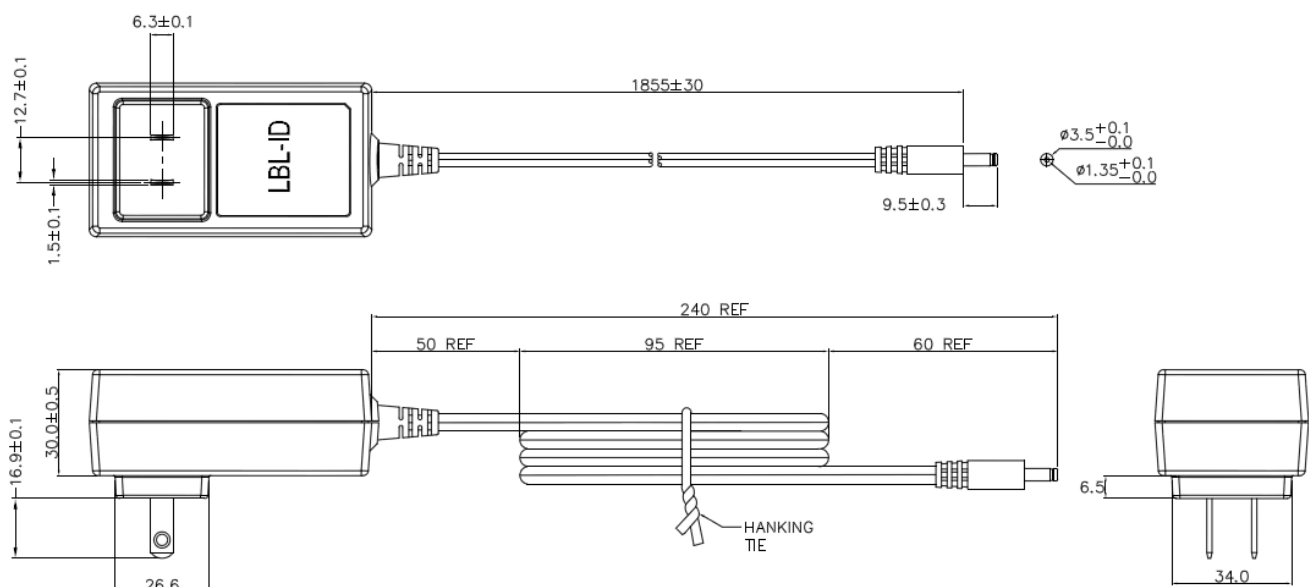
5.8 Maximum Acoustic Noise Level

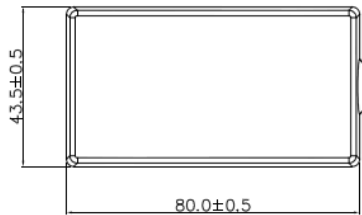
The Power Supply must have a maximum sound pressure noise level of no more than 25 dB at a distance of 1.0 meter under all operating conditions.

6. Mechanical

6.1 Physical Size

Plastic case size 80mm (L) X 43.5mm (W) X30mm (H)





NOTES: UNLESS OTHERWISE SPECIFIED,

1. TOLERANCES TO BE ± 0.25 mm.
2. PARTS SPECIFIED AS FOLLOWS:

2.1 ENCLOSURE

MATERIAL:

V-0 RATED FLAMMABILITY.

COLOR: BK1D965(BLACK)

TEXTURE: EDM

2.2 AC INPUT:

UL 1310 CERTIFIED, PLUG IN.

2.3 DC OUTPUT:

PLUG: BLACK DIELECTRIC, BARREL TYPE

CABLE: UL 2468 20 AWG

COLOR: BLACK

Outline Drawing

6.2 Input connector

Main-inlet:

IEC 320/C8 Certified, 2 ways. Color black.

6.3 Output connector.

Dc output with traditional barrel type 3.5 x 1.35 x 9.5mm, 1.83M, 18-22AWG cable.

6.4 Weight about 106g.