

# 承認書

## Specification For Approval

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|              |               |
|--------------|---------------|
| COMPANY NAME |               |
| CUSTOMER P/N |               |
| PRODUCT NAME | AC/DC ADAPTER |
| PARTS P/N    | LP-1270       |
| DATE         | 2009-12-25    |

| APPROVED BY | CHECKED BY | PREPARED BY | CUSTOMER APPROVAL SIGNATURE |
|-------------|------------|-------------|-----------------------------|
|             |            |             |                             |

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**TABLE OF CONTENTS**

|   |     |
|---|-----|
| 1. <b>FEATURE</b> -----                                 | 2   |
| 2. <b>INPUT</b> -----                                   | 2   |
| INPUT VOLTAGE-----                                      | 2   |
| INPUT FREQUENCY-----                                    | 2   |
| INPUT CURRENT-----                                      | 2   |
| INRUSH CURRENT-----                                     | 2   |
| EFFICIENCY-----   | 2   |
| INPUT POWER DISSIPATION-----                            | 2   |
| 3. <b>OUTPUT</b> -----                                  | 2   |
| OUTPUT VOLTAGE-----                                     | 2   |
| OUTPUT CURRENT-----                                     | 2   |
| REGULATION-----   | 2   |
| RIPPLE & NOISE-----                                     | 2   |
| TOTAL POWER-----  | 2   |
| 4. <b>PROTECTION</b> -----                              | 2   |
| OVER VOLTAGE PROTECTION-----                            | 2   |
| SHORT CIRCUIT PROTECTION-----                           | 2   |
| OVER POWER PROTECTION-----                              | 2   |
| 5. <b>SAFETY AND EMI REQUIREMENT</b> -----              | 3   |
| SAFETY REQUIREMENT-----                                 | 3   |
| EMI REQUIREMENT-----                                    | 3   |
| LEAKAGE CURRENT-----                                    | 3   |
| 6. <b>OPERATION &amp; ENVIRONMENT PERFORMANCE</b> ----- | 3   |
| TEMPERATURE RANGE-----                                  | 3   |
| HUMIDITY RANGE(NON CONDENSING)-----                     | 3   |
| 7. <b>M.T.B.F</b> -----                                 | 3   |
| 8. <b>SAMPLE TEST REPORT</b> -----                      | 4、5 |
| 9. <b>OUTLINE DRAWING</b> -----                         | 6   |

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## 1. FEATURE:

- INPUT :UNIVERSAL 100-240 Vac/47-63 Hz INPUT, WITHOUT ANY SLIDE SWITCH
- OUTPUT :+12V / 0-7A
- DIMENSION :143(D)\*66(W)\*42(H) mm
- EFFICIENCY :82% TYPICAL
- SAFETY :UL/CB/CE/C-Tick
- EMI :CISPR 22 / FCC /VCCI CLASS B; CONDUCTED & RADIATED MEETED
- HIGH FREQUENCY DESIGN, LESS POWER CONSUMPTION
- OVER VOLTAGE PROTECTION, SHORT CIRCUITED PROTECTION, OVER POWER PROTECTION
- CAN BE USED AT TEL COMMUNICATION, COMPUTER, INDUSTRIAL CONTORLLER & OA SYSTEM

## 2. INPUT:

|                             |  |
|-----------------------------|--|
| 2.1 VOLTAGE                 | UNIVERSAL 100~240Vac,SINGLE PHASE                            |
| 2.2 FREQUENCY               | 47HZ~63HZ  |
| 2.3 CURRENT                 | 2A Max   |
| 2.4 INRUSH CURRENT          | 40A Max/100Vac;80A Max/240Vac (COLD STABT AT 25°C FULL LOAD) |
| 2.5 EFFICIENCY              | 82% TYPICAL (AT NOMINAL LINE VOLTAGE FULL LOAD)              |
| 2.6 INPUT POWER DISSIPATION | UNDER 0.5W < ZERO LOAD 115V/60HZ INPUT                       |
|                             | UNDER 0.5W < ZERO LOAD 230V/50HZ INPUT                       |

## 3. OUTPUT:

|               |                |                                  |
|---------------|----------------|----------------------------------|
| 3.1 DC OUTPUT | VOLTAGE        | +12.00V                          |
|               | CURRENT        | 7.0A Max                         |
|               | REGULATION     | 11.40V Min~12.00V Typ~12.60V Max |
|               | RIPPLE & NOISE | 120mV Max                        |
|               | TOTAL POWER    | 84W Max                          |

NOTE: FOR RIPPLE & NOISE MEASUREMENT, USE A 20MHZ BAND WIDTH FREQUENCY OSCILLOSCOPF, AND ADD A 0.1uF MULTILAYER CAP. AND A LOW ESR ELECTROLYTICCAP. (10uF) AT OUTPUT CONNECTOR TERMINALS. (AT NOMINAL LINE VOLTAGE FULL LOAD)

## 4. PROTECTION:

|                              |  |
|------------------------------|--|
| 4.1 OVER VOLTAGE PROTECTION  | $V_{out} * (110\% - 140\%)$                                      |
| 4.2 SHORT CIRCUIT PROTECTION | AUTOMATIC RECOVERY AFTER SHORT-CIRCUIT FAULT REMOVED             |
| 4.3 OVER POWER PROTECTION    | THE ADAPTER PROVIDE PROTECTION AT 110-140% OF RATED OUTPUT POWER |

NOTE: WHEN PROTECTION CIRCUIT IS WORKING THE POWER SUPPLY WILL SHUTDOWN, ONCE THE ABNORMAL CONDITIONS ARE REMOVED. THE POWER SUPPLY WILL RESTART AUTOMATICALLY.

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## **5. SAFETY AND EMI REQUIREMENT:**

### 5.1 SAFETY REQUIREMENT

- a. SAFETY : UL/CB/CE/C-Tick
- b. DIELECTRIC STRENGTH :10mA Max. CUT OFF CURREN

|                             |                        |
|-----------------------------|------------------------|
| (1):PRIMARY TO SECONDARY    | : 1500Vac FOR 1 MINUTE |
| (2):PRIMARY TO FRAME GROUND | : 1500Vac FOR 1 MINUTE |

### c. INSULAION RESISTANCE:

|                             |                        |
|-----------------------------|------------------------|
| (1):PRIMARY TO SECONDARY    | : 10 M OHMS FOR 500Vdc |
| (2):PRIMARY TO FRAME GROUND | : 10 M OHMS FOR 500Vdc |

5.2 EMI REQUIREMENT MEET CISPR 22/FCC/VCC1, CLASS B

5.3 LEAKAGE CURRENT LESS THAN 3.5mA

## **6.OPERATION & ENVIRONMENT PERFORMANCE:**

### 6.1 TEMPERATURE RANGE

|           |              |
|-----------|--------------|
| OPERATING | 0°C ~ +40°C  |
| STORAGE   | -40°C ~+70°C |

### 6.2 HUMIDITY RANGE (NON CONDENSING)

|           |              |
|-----------|--------------|
| OPERATING | 10% ~ 90% RH |
| STORAGE   | 5% ~ 95% RH  |

6.3 COOLING WITH FAN

6.4 MAX TEMPERATURE INCREMENT  $\cong 30^{\circ}\text{C}$

## **7.M.T.B.F.:**

50000 HOURS Min ; 40°C SEE CONDITION

# TEST REPORT

## (I). LINE REGULATION TEST

Test result:

| Test condition    | Spec.        | Reading |
|-------------------|--------------|---------|
| 90Vac / 50% load  | 11.40~12.60V | 12.03V  |
| 115Vac / 50% load | 11.40~12.60V | 12.03V  |
| 132Vac / 50% load | 11.40~12.60V | 12.03V  |
| 180Vac / 50% load | 11.40~12.60V | 12.03V  |
| 230Vac / 50% load | 11.40~12.60V | 12.03V  |
| 264Vac / 50% load | 11.40~12.60V | 12.03V  |

## (II). EFFICIENCY TEST

Test result:

| Test condition     | Spec.       | Reading |
|--------------------|-------------|---------|
| 115Vac / 100% load | 82% Typical | 81.0%   |
| 230Vac / 100% load | 82% Typical | 81.5%   |

## (III). LOAD REGULATION TEST

Test result:

| Test condition     | Spec.        | Reading |
|--------------------|--------------|---------|
| 115Vac / 0% load   | 11.40~12.60V | 12.60V  |
| 115Vac / 50% load  | 11.40~12.60V | 12.03V  |
| 115Vac / 100% load | 11.40~12.60V | 11.43V  |
| 230Vac / 0% load   | 11.40~12.60V | 12.60V  |
| 230Vac / 50% load  | 11.40~12.60V | 12.03V  |
| 230Vac / 100% load | 11.40~12.60V | 11.43V  |

## (IV). RIPPLE & NOISE TEST

Test result:

| Test condition     | Spec.     | Reading |
|--------------------|-----------|---------|
| 115Vac / 100% load | 120mV Max | 30mV    |
| 230Vac / 100% load | 120mV Max | 25mV    |

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## **(VI). OVER VOLTAGE PROTECTION**

Test result:

| Test condition     | Spec.            | Reading |
|--------------------|------------------|---------|
| 115Vac / 100% load | Vout*(110%~140%) | 125%    |
| 230Vac / 100% load | Vout*(110%~140%) | 119%    |

## **(VII). RISE TIME**

Test result:

| Test condition     | Spec.    | Reading |
|--------------------|----------|---------|
| 115Vac / 100% load | 50mS Max | 33mS    |
| 230Vac / 100% load | 50mS Max | 30mV    |

## **(VIII). OVER CURRENT PROTECTION**

Test result:

| Test condition     | Spec.            | Reading |
|--------------------|------------------|---------|
| 115Vac / 100% load | Iout*(110%~140%) | 122%    |
| 230Vac / 100% load | Iout*(110%~140%) | 127%    |

## **(IX). SHORT CIRCUIT PROTECTION**

Test result:

| Test condition     | Spec.     | Reading |
|--------------------|-----------|---------|
| 115Vac / 100% load | Under 10W | OK      |
| 230Vac / 100% load | Under 10W | OK      |

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