

# APPROVAL SHEET

|              |          |
|--------------|----------|
| Customer     |          |
| Description  | Car Plug |
| P/N          | CLA522   |
| Output V/A   | 5VDC@2A  |
| Date         | 2/9/2009 |
| REV          | 01       |
| Approval No. |          |

## Authorized Signatures

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**10W DC TO DC ADAPTER**

**1. Description**

This product is a DC to DC power device, it can provide for a 10W DC Output power with constant voltage sources.

**2. Input requirements**

**2-1 Line regulation**

Input VDC From 10-30VDC output Load at Full Load, alls output shall be stay in Regulation.

**2-2 Input Current**

The input voltage at 12VDC full load. Input current 1.0A max.

**3. Output requirements**

The 10-30VDC, output power at full load, alls output Voltage shall be stay in regulation

**3-1 Static load**

| Output Voltage | LOAD |      | Tolerance    | Ripple & Noise |
|----------------|------|------|--------------|----------------|
|                | Min. | Max. |              |                |
| 5.0VDC         | 0A   | 2A   | 4.90-5.25VDC | 200mV Max      |

**3-2 Efficiency**

70% Min. at full load, nominal line, measured after minutes full load Burn-in.

**4. Protection**

**4-1 Over voltage protection:**

The adapter shall limit the output voltage to less than 5.85VDC

**4-2 Over current protection:**

1A replaceable fuse for protection against over-current

**4-3 Short circuit protection**

Units shall be protected against a continuous short circuit over the operating temperature range. A continuous short circuit shall not produce any excessive heat, smoke, flash, or fire. The adaptor must operate normally after the short circuit load condition is removed.

**5. Environmental conditions**

**5-1 Operating specifications**

The power supply shall be capable of operating continuously in any mode without performance deterioration in the following environmental conditions.

**5-1-1 Ambient Temperature**

0-70°C

**5-1-2 Relative Humidity**

20%-90%RH

**5-1-3 Altitude**

Sea level to 100,000 feet

**5-1-4 Vibration**

1.0mm, 10-25Hz, 15 minutes per cycle for each axis(X,Y,Z)

**5-1-5 Cooling**

The power supply will operate with convection cooling. Blocking of any cooling Vents shall not cause damage or failure of the power supply.

**5-2 Non-Operating Specifications**

The power supply shall be capable of withstanding the following environmental Conditions extended periods of time, without sustaining electrical or mechanical Damage and subsequent operational deficiencies.

**5-2-1 Ambient Temperature**

-40~80°C

**5-2-2 Relative Humidity**

5%~95%

**5-2-3 Altitude**

Sea level to 10,000 feet

**5-2-4 Vibration and shock**

The power supply shall be designed to withstand normal transportation vibration per MIL-STD-810D, method 514 and procedures X, as it is mounted in the chassis Assembly and packed for shipping.

**6. Mechanical Specification and Requirements****6-1 Material**

Material shall be consistent with approved samples. The material of Case shall be PC (or equivalent) and flame retardant according to UL94-V0

**6-2 Dimensions**

The unit not include cable, and Case dimensions is 63.5 x 36 x 26.3 mm.

**6-3 Output Connector**

The output cable shall be terminated with a connector.

**6-4 Output Cord**

The length of the cord shall be 1.75m ± 0.15m

## **7. Reliability and Quality Control**

### **7-1 Burn-In**

100% burn-in at full loading the power supply will be performed a minimum for 4 hours.

Burn-in at 40°C ±5°C under full load on all adaptors calculates MTBF.

### **7-2 Vibration Test**

Non-operation vibration with shipping container shall be 2G's, 5-50Hz, 50-500Hz, after test now abnormally to be noted. Operation vibration shall be 1.5G's peak, 10-50Hz, 3 planes. After test no abnormally to be noted.

### **7-3 Component Derating**

Semiconductor junction temperatures shall not exceed the manufactures maximum thermal rating.

## **8. International Standards**

### **8-1 EMI Standards**

**12VDC; Full load, the adapter internal filter to meet ( FCC Class B CISPR22 Class B)**

## **9. Safety Standards**

### **Certified Standard**

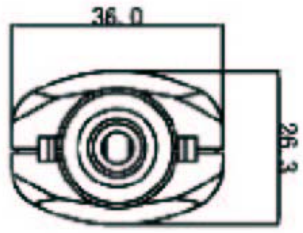
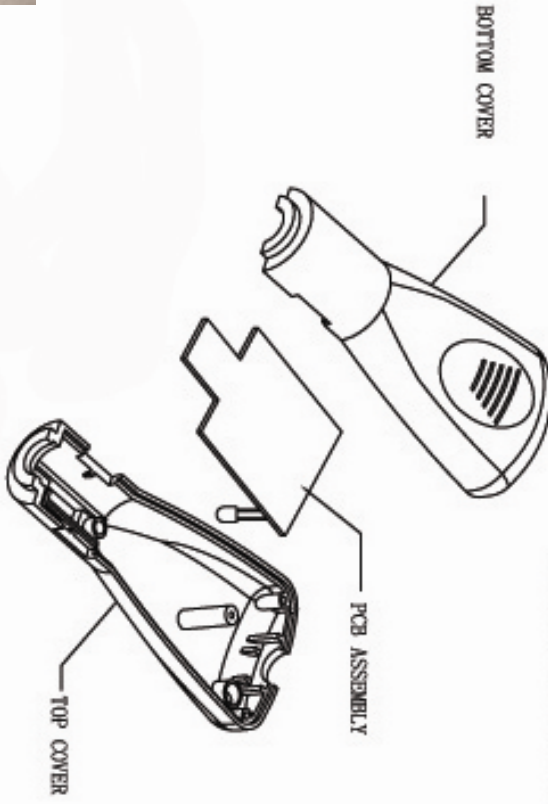
- 1. CE**
- 2. E-Mark**
- 3. FCC**
- 4. UL/cUL**
- 5. Australia**
- 6. ISO 7637**

## **10. Weight**

- S.W. 0.1Kg per piece**
- N.W. 6Kg per carton**
- G.W. 6Kg per carton**

|    |    |
|----|----|
| 版本 | 版次 |
| 01 |    |

NOTE:  
1) GENERAL TOLERANCE  $\pm 0.1$



# NS POWER INC. (China factory)

|    |               |     |           |    |           |
|----|---------------|-----|-----------|----|-----------|
| 说明 | General Notes | 机型  | Model     |    |           |
|    |               | 材质  | Material  |    |           |
|    |               | 处理  | Treatment |    |           |
| 制图 | Drawn         | 江小琴 | 08.10.20  | 单位 | Unit      |
| 审核 | Checked       |     |           | 比例 | Scale     |
| 核准 | Approved      |     |           | 投影 | Projected |
|    |               |     |           |    | 1:1       |
|    |               |     |           |    | mm        |