

承认书

SPECIFICATION FOR APPROVAL

Rev.A

FILE NO. AS-DC-005B-2.0-EP

客户名称

CUSTOMER NAME.

客户料号

CUSTOMER PART NO.:

型 号

DC POWER SOCKET

Model Type:

制造者系列号

DC SERIES

Maker Series No.:

制造者料号

DC-005B-2.0-EP

Maker Part No.:

日 期

2023.03.24

DATE

Approved by Customer:

香港春生实业有限公司



浙江春生电子有限公司

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工程部



Specifications

| | | | | |
|-------------------|-----------------|------------|-----------|----------|
| Model Type: | DC POWER SOCKET | Designed | Checked | Approved |
| Maker Series No.: | DC SERIES | Linda.Chen | Long.Zhao | Paul.Wei |
| Maker Part No.: | DC-005B-2.0-EP | | | |
| Customer Ref.: | | | | |

1. GENERAL

This specification covers the requirements for DC power socket used for Audio systems and Video systems.

2. RATED

2.1. Practical temperature range: -25°C to +70°C

Humidity range: 85% RH.MAX.

2.2. Rated voltage: 30 V DC

2.3. Rated current: 4A

3. CONSTRUCTION

3.1. Outline And Dimension

Outline and dimension of the socket shown be as attached part drawing.

3.2. Part And Material

The parts and materials shown be in material identification sheet and certification of material.

4. REQUIREMENTS

4.1. Electrical

4.1.1. Insulation resistance

Insulation resistance of the socket between mutually insulated terminals or metallic parts shall not less than 100 megohms before test or initial, using a 500 volts DC insulation resistance meter.

TABLE 1:

| Condition | Value |
|---|---------------------|
| Initial | 100 megohms or more |
| After heat test | |
| After cold test | |
| After resistance to soldering heat test | |
| After life test | |
| After temperature cycling test | |
| After humidity test | 50 megohms or more |

4.1.2. Contact resistance

Contact resistance of between terminals of the socket to be made a closed circuit shall not exceed milliohms 30 before test or initial, and shall not exceed 60 milliohms after life test, at a current of below 1 kHz by the voltage drop method or four terminals method.

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TABLE 2:

| Condition | Value |
|---|------------------------|
| Initial | less than 30 milliohms |
| After heat test | |
| After cold test | |
| After resistance to soldering heat test | |
| After temperature cycling test | |
| After humidity test | |
| After life test | less than 60 milliohms |

4.1.3. Withstand voltage

The socket shall be withstood 500V (AC 50/60Hz RMS) between mutually insulated contacts for one minute, without breakdown.

4.2. Mechanical

4.2.1. Insertion and extraction force

Insertion and extraction force of the socket shall be measured with a load cell or equivalent. the matching plug shall be inserted into it and extracted from it slowly.

TABLE 3:

| Condition | Value |
|---|-----------|
| Initial | 3N to 20N |
| After heat test | |
| After cold test | |
| After resistance to soldering heat test | |
| After life test | |
| After temperature cycling test | |
| After humidity test | |

4.2.2. Terminal strength

Every terminal shall be capable of withstand a force of 5N on 10 seconds without lossing and breakdown, but deformation of terminal is accepted.

4.3. Environmental

4.3.1. Life test

The life test shall consist of 5000 cycles of insertion and extraction with gauge plug covered with a thin coat of grease in order to prevent from heating or wearing, at a rate of 20 to 30 cycles per minutes under no load. At the conclusion of the test, the socket shall be comply with paragraphs 4.1 and 4.2, and be in operating condition.

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4.3.2.Humidity test

The socket shall be subjected to temperature of $40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ and relative humidity of 90% to 95% for a period of 96 hours. Upon completion of the exposure, dew drops shall be blown out and removed from it, after which it shall be conditioned at room ambient conditions for 30 minutes. At the conclusion of the test, it shall be comply with paragraphs 4.1 and 4.2.

4.3.3.Heat test

The socket shall be subjected to temperature of $70^{\circ}\text{C}\pm 2^{\circ}\text{C}$ for a period of 96 hours, then shall be allowed to remain in room ambient conditions for 30 minutes. At the conclusion of the test, it shall comply with paragraphs 4.1 and 4.2.

4.3.4.Cold test

The socket shall be subjected to temperature of $-25\pm 2^{\circ}\text{C}$ for a period of 96 hours, then shall be allowed to remain in room ambient conditions for 30 minutes. At the conclusion of the test, it shall be comply with paragraphs 4.1 and 4.2.

4.3.5.Resistance to soldering heat test

The socket terminal shall be dipped in solder under the condition as specified below:

1. Wave solder: Terminal for a printed circuit board(PCB),
Temperature of solder: $260^{\circ}\text{C}\pm 5^{\circ}\text{C}$
Dip time: 10 seconds
2. Terminal for a lead wire:
Temperature of solder: $380-420^{\circ}\text{C}$
Time: ≤ 4 seconds

At the conclusion of the test, it shall be comply with paragraphs 4.1 and 4.2, and not show remarkable failure.

4.3.6.Soldering test

Areas of soldering shall be capable of 3/4 or more of dip terminal area.

Condition:

Terminal of solder: $245\pm 5^{\circ}\text{C}$.

Time of dip: 3 ± 0.5 seconds.

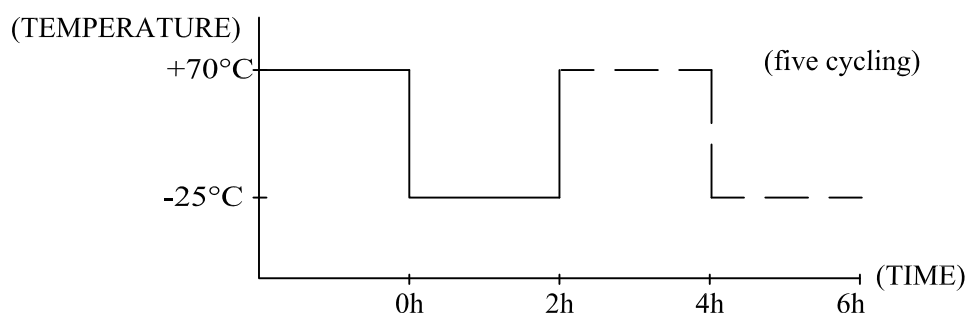
Length of dip: 2.5 mm(from top of terminal).

Specifications

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4.3.7. Temperature cycling test

The socket shall be subjected to conditions as shown in below (five cycling), and then shall returned and allowed to remain ambient condition for 30 minutes. At the conclusion of the test, it shall be comply with paragraphs 4.1 and 4.2.



4.3.8. Salt mist test

Testing bath:

The temperature shall be $35^{\circ}\text{C} \pm 2^{\circ}\text{C}$ in the ambient of the test specimen during the test.

Spray apparatus:

The apparatus shall be capable of producing fine dense mist uniformly.

Salt water:

The concentration of the salt water shall be adjusted at $5 \pm 1\%$ weight ratio at $35^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

Testing time: 24 hours.

After washed in water. the sample shall be left alone for 1 to 2 hours in a room ambient.

Appearance shall not extremely rust. and contacting portions should such that they will work without hindrance for practical use.

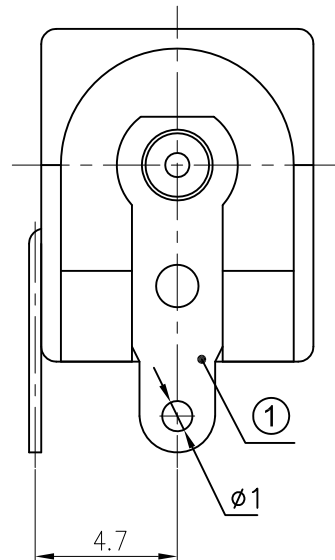
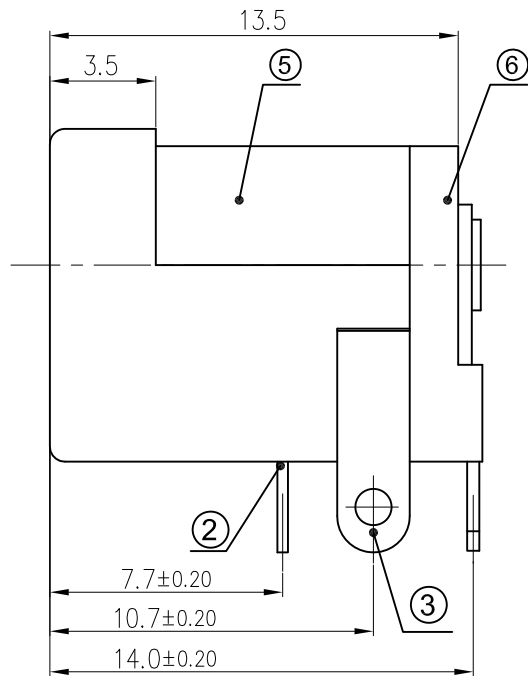
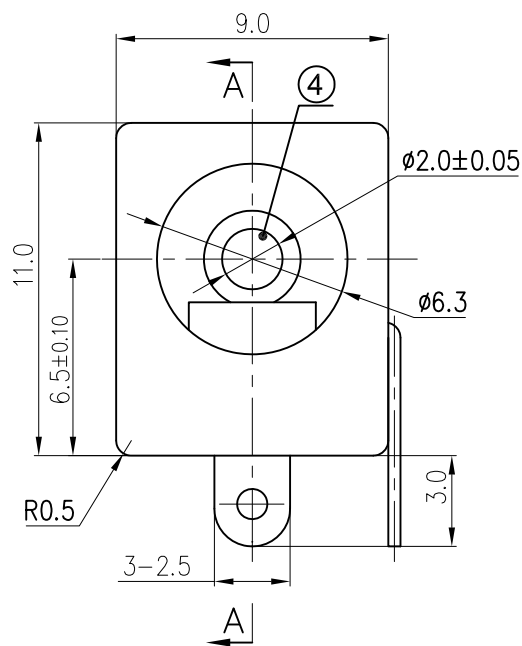
5. TEST CONDITION

Unless otherwise specified herein, all measurements and tests shall be made at temperature of 5°C to 35°C and relative humidity of 45% to 85%.

6. AMENDMENT

When the amendment of this specification comes into necessity, it shall made by the mutual consultation and agreement between manufacture and customer.

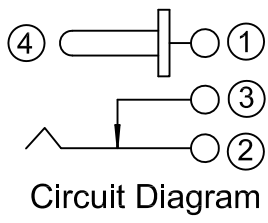
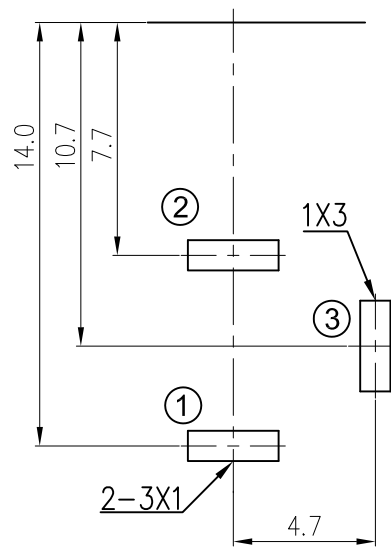
| REV. | ECN NO. | MODIFIED MARK | APPROVED |
|------|------------|-----------------|----------|
| C | JC-1506011 | 改善过炉浮高现象 | Xian.Wei |
| D | JC-2104026 | 镀银厚度从12u"调整到6u" | Paul.Wei |



ELECTRICAL:
电气性能
RATED CURRENT: 4 A MAX.
额定电流: 4 A MAX.
RATED VOLTAGE: 30 V DC.
额定电压: 30 V DC.
CONTACT RESISTANCE: 30 MILLIOHMS MAX.
接触电阻: 30 MILLIOHMS MAX.
INSULATION RESISTANCE: 100 MEGAOHMS MIN.
绝缘电阻: 100 MEGAOHMS MIN.
DIELECTRIC WITHSTANDING VOLTAGE: 500 VAC MIN.
耐电压 : 500 VAC MIN.

MECHANICAL:
机械性能
WITHDRAWL FORCE: 3~20N
插拔力 : 3~20N
DURRABILITY: 5000 CYCLES MIN.
耐久性 : 5000 CYCLES MIN.

ENVIRONMENTAL:
环境性能
TEMPERATURE RANGE: -25° C TO 70° C.
温度范围: -25° C TO 70° C.



| | | | | | |
|---|-------------|-------------|------------------|-----------------|--|
| 6 | COVER | 1 | PBT G15 UL 94V-0 | Black | RoHS COMPLIANT |
| 5 | HOUSING | 1 | PBT G15 UL 94V-0 | Black | |
| 4 | CENTER PIN | 1 | H65 Ø2.0mm | CuSn 40u" | |
| 3 | 3# TERMINAL | 1 | H62 t=0.3mm | △ D Ag 6u" | |
| 2 | 2# TERMINAL | 1 | QSn6.5-0.1 t=0.3 | △ D Ag 6u" | |
| 1 | 1# TERMINAL | 1 | H62 t=0.4mm | △ D Ag 6u" | REMARKED |
| No. | P/N | Q'TY | Material | FINISH/COLOR | |
| X. | ±0.40 | X.* ±2° | MODEL NAME: | DC-005B-2.0-EP | |
| .X | ±0.30 | .X.* ±1° | (PART NO.) | (710-0001-0042) | |
| .XX | ±0.20 | .XX.* ±0.5° | MAT'L: | See Table | |
| .XXX | ±0.10 | TOL TABLE: | DESIGN: | Long.Zhao | |
| THIS DOCUMENT IS THE PROPERTY OF CHUNSHENG ELECTRONICS CO.,LTD.,NO PART THEREOF MAY BE REPRODUCED AND USED WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER | | | FINISH: | See Table | 浙江春生电子有限公司 Zhejiang Chunsheng Electronics Co., Ltd. |
| | | | CHECKED: | Paofeng.Wei | |
| | | | Q'TY: | N/A | |
| | | | APPROVED: | David.Li | DC-005B-2.0-EP-客户图 |
| | | | UNIT: | MM | |
| | | | VIEW: | SCALE: 4:1 | |
| | | | SHEET: | 1/1 | SIZE: A3 |
| | | | REV.: | D | |
| | | | | | |