

**DRAGON CITY INDUSTRIES LTD.**

**技术特性规格书**  
**Specifications**

**ST 系列**  
**ST-Series**

**Product Name: 6.35MM PHONE JACK**

**Model (Part No): ST-004M-02, ST-004S-02, ST-008G-04,**  
**ST-008G-05, ST-008S-04, ST-008S-05,**  
**ST-020**

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DRAGON CITY INDUSTRIES LTD.  
Technical Specifications 技术特性规格书

No.

## 2. Outline and dimension

As shown in the applicable drawing.

## 外观及尺寸

如应用图纸上所示

## 3. Components and material

As specified in the applicable part list.

## 元件及材料

应用部件列表上所指定。

## 4. Rating

4.1 Operating temperature : -40°C~70°C

4.2 Storage temperature : -40°C~70°C

4.3 Rating Voltage/ Current: DC 50V/1A

## 规范

使用温度: -40°C~70°C

保存温度: -40°C~70°C

额定电压/电流: DC 50V/1A

## 5. Electrical performance

## 电气性能

### 5.1 Contact resistance

Measure the contact resistance by microscopic current (Max. 1KHz, 20mV, Max.100mA)

### 接触电阻

使用微小电流测量接触电阻 (最大 1 千赫, 电压 20 毫伏, 最大电流 100 毫安)。

[Requirement] (Pin Jack) (Din Jack)

a) Between the jack and the proper plug gauge: Max. 30m Ω

b) Between the center contact and the break terminal: Max. 30m Ω  
(in case of using switch)

[要求] (插口) (插头)

在插口和合适插头间: 最大 30m Ω

在中心触片和开关端子间: 最大 30m Ω  
(如果使用开关)

### 5.2 Insulation Resistance

Measure the insulation resistance by insulation resistance meter, applying DC500V

### 绝缘阻抗

用绝缘电阻仪测量绝缘阻抗, 使用电压: DC500V

[Requirement] (Pin Jack) (Din Jack)

a) Between the jack and the proper plug gauge: Min. 50M Ω

[要求] (插口) (插头)

在插口和合适插头间: 最小 50M Ω

b) Between the center contact and the break terminal: Min. 50M $\Omega$   
(in case of using switch)

在中心触片和开关端子间: 最小 50M $\Omega$   
(如果使用开关)

### 5.3 Withstanding Voltage

The jack shall withstand when applied below mentioned voltage for 1 minute without any abnormalities.

[Requirement]

- a) Between the outer contact and the center contact: AC 500V  
b) Between the center contact and the break terminal, using proper gauge: AC 200V (in case of using switch)

### 绝缘能力

插口在下列电压下应该能够坚持一分钟而无异常变化。

[要求]

在外触片和中心触片之间: AC 500V

在中心触片和断开端子间, 使用合适仪器: AC 200V (如果使用开关)

## 6. Mechanical performance

## 机械性能

### 6.1 Appearance

It must have no serious transformation, Blur, crack, or color fading.

### 外观

必须没有严重变形, 污点, 裂纹或褪色。

### 6.2 Insertion and withdrawal force

Measure the insertion and withdrawal force, using proper plug gauge.

[Requirement] (Pin Jack) (Din Jack)

Insertion force: Max. 30N

Withdrawal force: 0.8N~30N

### 插拔力

用适当的插头仪器去测量插拔力。

[要求] (插口) (插头)

插力: 最大 30N

拔力: 0.8N~30N

### 6.3 Insertion and withdrawal life test

Measure it after insertion and withdrawal of 500 times (10 times ~20 times per minutes) plug gauge

(size:  $\phi 3.5 \pm 0.005$ ,  $L=14 \pm 0.2$ )

(Requirement)

It must have no plug-out or looseness of terminal.

(Pin Jack) (Din Jack)

### 插拔寿命试验

用插头计 (规格:  $\phi 3.5 \pm 0.005$ ,  $L=14 \pm 0.2$ ), 插拔 500 次后进行测量。(每分钟 10 次~20 次)

(要求)

端子不会脱落和松驰。

(插口) (插头)

Insertion and withdrawal force: Item 6.2 should be satisfied.

Contact resistance: Max. 50m $\Omega$

插拔力应满足 6.2 项的要求。

接触阻抗: 最大 50m $\Omega$

### 6.4 Terminal bend test

Bend the terminal pin twice in each direction with 10N static load.

### 端子弯折强度

用 10N 静荷重沿两个方向弯折端针两次。

<p>[Requirement]</p>	<p>[要求]</p>
<p>It must have no damage or looseness of terminal.</p>	<p>没有端针损坏、松弛。</p>
<p><u>6.5 Retention force of terminal</u></p>	<p><u>端子固定强度</u></p>
<p>Apply the 20N static pulling load to the terminal for 1 minute.</p>	<p>对端子施加 1 分钟的 20N 静拉力。</p>
<p>[Requirement]</p>	<p>[要求]</p>
<p>It must have no damage or looseness of terminal.</p>	<p>没有端针损坏、松弛</p>
<p><u>6.6 Fixing capability</u></p>	<p><u>端子固定保持力</u></p>
<p>Apply 49N static load and 0.2Nm torque each for 1 minute.</p>	<p>对端子分别施加 1 分钟的 49N 静荷重和 0.2Nm 的力矩。</p>
<p>[Requirement]</p>	<p>[要求]</p>
<p>It must have no abnormality.</p>	<p>没有异常变化。</p>
<p><u>6.7 Socket capability</u></p>	<p><u>接触阻抗维持力</u></p>
<p>Put the proper plug in a socket and apply the 30N static load to the proper plug for 10 seconds then measure.</p>	<p>用合适的插头插在插口中，对插头施加 10 秒的 30N 静荷重，然后测量。</p>
<p>[Requirement]</p>	<p>[要求]</p>
<p>Contact resistance: 200mΩ Max.</p>	<p>接触电阻：200mΩ 以下。</p>
<p><u>6.8 Strength of screw hole</u></p>	<p><u>螺纹孔强度</u></p>
<p>Apply the 1Nm torque by M3*8 Tapping screw for 0.5 seconds.</p>	<p>用 M3*8 攻螺纹螺丝施加 0.5 秒的 1Nm 力矩。</p>
<p>[Requirement]</p>	<p>[要求]</p>
<p>It must have no abnormality.</p>	<p>没有异常变化。</p>
<p><u>7. Solder-ability</u></p>	<p><u>焊接性能试验</u></p>
<p>After leaving advanced soldered terminal (solder: Sn/3.0Ag/0.5Cu, temperature 150°C for 1 hour) in a room condition for minimum 2 hours, then immersed into soldering flux (resin 25%, LPA75%) for 3 seconds~5 seconds and then dipping into below conditioned solder bath.</p>	<p>把预焊端子（焊料：Sn/3.0Ag/0.5Cu，温度 150°C 1 小时）在室温条件下放置 2 小时后，插入 焊剂（树脂 25%，LPA75%）3 秒~5 秒，然后浸入下面条件的焊料中。</p>
<p>Solder temperature: 240°C ± 2°C</p>	<p>焊接温度：240°C ± 2°C</p>
<p>Dipping time: 3 seconds ± 0.5 seconds</p>	<p>浸渍时间：3 秒 ± 0.5 秒</p>
<p>Depth of dipping:</p>	<p>浸渍深度：底端 2 毫米以上</p>
<p>min. 2mm of bottom end.</p>	
<p>[Requirement]</p>	<p>[要求]</p>
<p>Min. 95% of dipped portion shall be covered with the solder.</p>	<p>浸渍部分 95% 以上应覆盖有焊料。</p>
<p><u>7.1 Soldering heat resistance</u></p>	<p><u>耐焊剂性</u></p>
<p>Jack shall be mounted on t1.6 PCB and immersed in solder flux and pre-heated at temperature 105°C, 90 seconds. Then dip in</p>	<p>接口要安装在 t1.6 PCB 上，埋入焊剂，在 105°C 温度预热 90 秒。浸入 260°C ± 3°C 焊槽中 10 秒 ± 0.5 秒，试验结果：端子的绝缘电阻应正常。</p>

solder bath  $260^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , 10 sec  $\pm 0.5$  sec.

And at the conclusion of this test, the contact resistance of terminal shall be normality.

#### 8. Solder heat resistance

It shall be mounted on t1.6 PCB and pre-heated at  $105^{\circ}\text{C}$  for 90 seconds. Thereafter to be performed the following test.

Solder dipping:  $260^{\circ}\text{C}$  for 10 seconds

Soldering iron:  $400^{\circ}\text{C}$  for 3 seconds

[Requirement]

- a) It must have no deformation, cracks and damage etc.

[Pin jack] [Din jack]

b) Insertion force: 30N Max.

c) Extraction force: 0.8 N -30N

d) Contact resistance: Max. 50m $\Omega$

#### 9 Reliability

##### 9.1 Withstand high temperature test

After keeping connector in a temperature  $70^{\circ}\text{C} \pm 2^{\circ}\text{C}$  for 500 -2 hours, take out and leave in the standard atmospheric condition for 1 hours -2 hours and then measure.

[Requirement]

Appearance shall be normal

[Pin jack] [Din jack]

a) Insertion force: 30N Max.

b) Extraction force: 0.8 N -30N

c) Contact resistance: Max. 50m $\Omega$

d) Insulation resistance: Min. 10M $\Omega$

Withstand voltage: to satisfy Item 5-3.

##### 9.2 Withstand humidity test

After leaving in a temperature  $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , humidity 90%-95% (RH) for 500 hours, take out and leave in the standard atmosphere condition for 1 hours -2 hours and then measure.

[Requirement] Same as above.

##### 9.3 Withstand cold test

After leaving in a temperature  $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , humidity 90%-95% (RH) for 500 hours, take out and leave in

#### 耐焊接热

安装在 t1.6 印刷电路板上, 在  $105^{\circ}\text{C}$  时预热 90 秒。然后进行下列试验。

浸焊:  $260^{\circ}\text{C}$ , 10 秒

烙焊:  $400^{\circ}\text{C}$ , 3 秒

[要求]

没有变形, 破损等。

插力: 30N 以下。

拔力: 0.8 N -30N

接触电阻: 50m $\Omega$  以下

可靠性

耐高温试验

将接口在  $70^{\circ}\text{C} \pm 2^{\circ}\text{C}$  条件下放置 500 小时后, 取出并放在标准大气条件下 1 hours 小时后测量。

[要求]

外观正常。

插力: 30N 以下。

拔力: 0.8 N -30N

接触电阻: 50m $\Omega$  以下

绝缘电阻: 10M $\Omega$  以上

耐压满足 5-3 项。

耐湿试验

放在温度:  $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , 湿度: 90%-95% (RH) 条件下 500 小时, 取出放在标准大气条件下 1 小时-2 小时, 然后进行测量。

[要求] 如前项。

耐寒试验

放在温度:  $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , 湿度: 90%-95% (RH) 条件下 500 小时, 取出放在标准大气条件下 1 小时-2 小时, 然后进行测量。

the standard atmosphere condition  
for 1 hours ~2 hours and then measure.

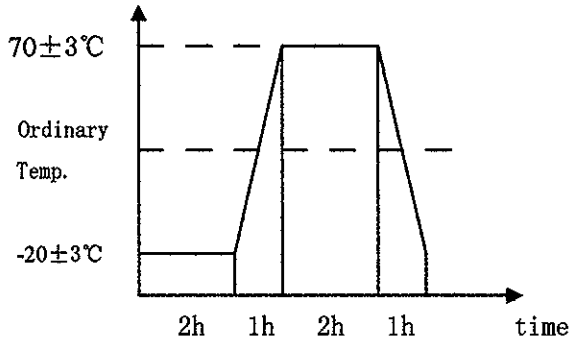
[Requirement] Same as above.

#### 9.4 Temperature cycling test

After 40 cycling tests (240 hours) with  
below mentioned conditions then measure.  
(humidity: 90%-95%(RH))

[Requirement] Same as above.

Temp. ( °C)



[要求]如前项。

#### 温度循环试验

做完 40 个循环 (共 240 小时) 的下列  
条件下的试验后进行测量。

(湿度: 90%-95%(RH))

[要求]如上。

温度 (°C)

#### 9.5 Salt spray test

According to JIS C5028

Test time: 72 hours

After keeping in standard condition  
for 16 hours, measure it.

[Requirement]

Contact resistance: Max. 200mΩ

Appearance: Shall be normal

#### 9.6 Withstand vibration test

Vibration frequency: 10 Hz/minute ~55

Hz/minute Amplitude: 1.5mm

Direction: three vertical directions.

Test time: 2 hours each (total 6 hours)

the variation of the contact resistance  
during test.

[Requirement]

Contact resistance: Max. 100mΩ

Appearance: Shall be normal

#### 9.7 Drop test

Drop to the vinyl tile placed on  
concrete floor from the height of  
75cm, 3 times and measure.

[Requirement]

a) Appearance shall be normal

[Pin jack] [Din jack]

#### 盐水喷雾试验

参考 JIS C5028

保持在标准大气条件下 16 小时后,  
去进行测量。

[要求]

接触电阻: 最大 200mΩ

外观 : 正常

#### 抗振试验

振动频率: 10 Hz/分~55Hz/分

振幅: 1.5mm

方向: 三垂直方向。

试验时间: 每一方向 2 小时 (共 6 小时) Measure  
振动试验中测量接触电阻的变化。

[要求]

接触电阻: 最大 100mΩ

外观 : 正常

#### 下落试验

在 75cm 高度处丢落于放在水泥地面上的  
的乙烯弹性砖片上 3 次后进行测量。

[要求]

外观正常。

(插口) (插头)

- b) Insertion force: 30N Max.
- c) Extraction force: 0.8 N -30N
- d) Contact resistance: Max. 50mΩ
- e) Insulation resistance: Min. 10MΩ
- f) Withstand voltage: to satisfy Item5-3.

插力: 30N 以下。

拔力: 0.8 N -30N

接触电阻: 50mΩ 以下

绝缘电阻: 10MΩ 以上

耐压满足 5-3 项。

#### 9.8 Ammonia gas test

Refer to CESM0010 2. RANK A for 72 Hours.

[Requirement]

Appearance shall be normal and It must have no cracks.

#### 氨气试验

参考 CESM0010 2. RANK A, 试验 72 小时

[要求]

外观正常, 没有裂纹。

#### 9.9 Sulfuring test.

H<sub>2</sub>S density: 3 ppm ± 1ppm

Temperature: 40°C ± 2°C

Humidity: 75% ± 5% (RH)

After keeping in above surrounding for 96 hours, then measure.

#### 硫化试验

硫化氢浓度: 3 ppm ± 1 ppm

温度: 40°C ± 2°C

湿度: 75% ± 5% (RH)

保持在上述环境中 96 小时后, 去进行测量。

[Requirement]

Contact resistance: Max. 200mΩ

Appearance: Shall be normal

[要求]

接触电阻: 最大 200 mΩ

外观: 正常

#### 9.10 Tri-mixed gas comb. test

H<sub>2</sub>S density: 0.5ppm

NO<sub>2</sub> density: 1ppm

SO<sub>2</sub> density: 1ppm

Temperature: 40°C ± 2°C

Humidity: 75% ± 2% (RH)

After keeping in above surrounding for 96 hours, take out and leave it temperature 70°C ± 2°C for 5 hours, then measure it.

[Requirement]

Contact resistance: Max. 200mΩ

Appearance: Shall be normal

#### 三种气体混合试验

硫化氢浓度: 0.5ppm

二氧化氮浓度: 1ppm

二氧化硫浓度: 1ppm

温度: 40°C ± 2°C

湿度: 75% ± 2% (RH)

保持在上述环境中 96 小时后取出放在 70°C ± 2°C 条件下 5 小时后, 去进行测量。

[要求]

接触电阻: 最大 200 mΩ

外观: 正常

#### 9.11 Pb-free Reliabilities Test.

It applies to QCII-P1-01, QCII-P1-04, QCII-P1-05, QCII-P1-06 of Sharp Reliability Test Standard STD NO: QCII-P1. (Details please see App.1, 2,3,4)

#### 无铅可靠性试验

该项试验适用夏普可靠性试验标准 STD NO: QCII-P1 中的 QCII-P1-01, QCII-P1-04, QCII-P1-05, QCII-P1-06 项。详细内容请参照附录 1, 2, 3, 4。

#### 10. Weight of product

The weight of this product is 8.1g per piece.

#### 产品重量

这种产品的重量是每只 8.1 克

11. Packing method

The method of packaging shall be shown as per packaging drawing.

12. Country of origin

The country of origin shall be shown as per attached sheet.

13. Change information in advance

In case of any change necessary for the specification, materials, production process and control system, the request for change shall be sent to the Engineering Dept. and the Product Reliability Control Center of AV System Group of Sharp Corporation in writing with quality and reliability confirmation data.

14. <Prohibition to use ozone depleting substances>

Prohibited substances

CFCs, Halon, Carbon tetrachloride ,  
(Methyl chloroform)

(1) This product, assembly, or component is not contained any of the above mentioned substances.

(2) This product, assembly, or component in the production process is not used any of the above mentioned substances.

包装方法

包装方法如包装图纸所示。

原产国

原产国如附表所示。

变更信息预先通知

如有规格，材料，生产工艺和控制制度的必要变更，变更请求及产品品质和可靠性确认数据应以书面方式递交给工程部和夏普公司 AV 系统事业部产品可靠性控制中心。

<禁止使用破坏臭氧层的物质>

禁用物质

CFCs, Halon, 四氯化碳, 1.1.1-trichloroethane

1.1.1-三氯乙烷 (甲基三氯甲烷)

这种产品，总成，部件不能包含以上提到的任何物质。

这种产品，总成，部件在生产过程中不能使用以上提到的任何物质。