ISO9001: 2015

ISO14001: 2015

APPROVAL SPECIFICATIONS

Title. DC JACK

Product Model. DC470-1-2.5/351

Customer's Part NO.

Customer's Model:

Customer's Approval Requested.

Please return this copy as a certification of your approval.

Checked by: Date:

Approved by: Date:

APPROVE	REVIEW	PREPARE
邱万椿		于春菊

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Shenzhen Gangyuan Microkey Technology Co.,ltd

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变更履历表：

版本 **Version**	变更记录 **History**	变更人 **Changed by**	变 更 日 期 **Date**
A/00			

1、 概述 GENERAL

1.1 适用范围 APPLICATION

此规格书适用于电子产品上的电源插座连接器

This specification is applied to DC JACK which is used for electronic products.

1.2 工作温度范围 Operating Temperature Range

-40℃～55℃(在标准大气压、标准湿度条件下)

-40℃～55℃(Normal humidity, normal air pressure)

1.3 贮藏温度范围 Storage Temperature Range

-40℃～80℃(在标准大气压、标准湿度条件下)

-40℃～80℃(Normal humidity, normal air pressure)

1.4 测试条件 Test Conditions

在没有其它特定的条件下，应该在以下的条件下进行测试和测量：

Unless otherwise specified, tests and measurement shall be made in the following standard conditions:

常温……5℃～35℃

Normal temperature……5℃～35℃

标准湿度……相对湿度 25%～85%

Normal humidity……relative humidity 25%～85%

标准大气压……86Kpa～106Kpa

Normal air pressure……86Kpa～106Kpa

在制造过程中，测试和测量应该在以下的条件下进行：

If any doubt arise from the judgment, tests shall be conducted at the following conditions:

温度……20℃ ±2℃

Temperature……20℃ ±2℃

相对湿度……65%±5%

Relative humidity……65%±5%

环境气压……86Kpa～106Kpa

Air pressure……86Kpa～106Kpa

1.5 存储方法

Storage method

1.使用前确保包装完整无破损，无浸湿.

Ensure that the product without package breaking or wetting before use.

2.存储条件 Storage conditions:

储存温度 Storage temperature：-5 ~ 35 C；

储存湿度 Storage humidity：25% ~80%；

未开封状态：6 个月内使用完毕（从发货日开始计算）； 超过 6 个月后再使用的，使用前请先验证：端脚无氧化、无发黑、塑料件无吸湿起泡，确保焊接的适宜性；

Unopened status: Use up the product as soon as possible before six months. (calculated from shipment date).Over 6 months, please make sure below before use it: terminal without oxidation or blackening, plastic parts without moisture absorption or bubble, ensure solderability.

已开封状态：1 个月内使用完毕；

Opened status: use up within 1 month;

储存注意事项：避开高湿高温和有腐蚀性气体的环境及阳光直射；

Storage precautions: Please avoid the following environment: with high humidity, high temperature , corrosive gases and direct sunlight.

3.请勿超重叠放.

Do not stack too many switches.

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2、 详细说明

Detailed specification

2.1 外观：应无影响、降低产品性能的缺陷；

Appearance: There should be no defects that affect the serviceability of product.

2.2 结构尺寸和安装尺寸：应符合装配图要求；

Style and dimension: shall conform to the assemble drawings.

2.4 开关结构：参见图纸

Contact arrangement: Refer to individual product drawing.

(Details of contact arrangement are given in the assembly drawings.)

2.5 额定值：DC 30V 0.5A

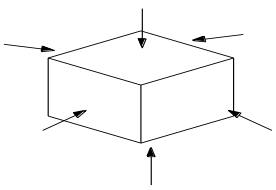
Ratings: DC 30V 0.5A

3．电气性能：

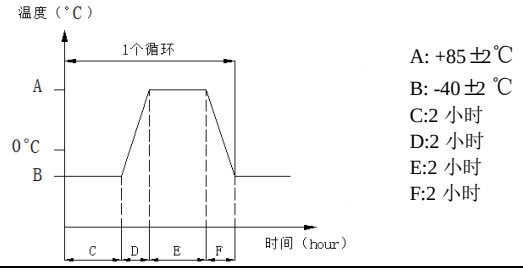
ELECTRICAL SPECIFICATION

项 目 ITEM		试 验 条 件 TEST CONDITIONS	要求 REQUIREMENTS
3.1	接触电阻 Contact Resistance	在微小电流（100 m A）以下测试 1000Hz MEASURED AT SMALL CURRENT （100m A OR LESS）	≤30mΩ
3.2	绝缘电阻 Insulation Resistance	输入 250V DC 电压 1 分钟，按以下接触方法测试： Apply a voltage of 250V DC shall be applied for 1 min. After which measurement be made: （1） 不接触的插脚之间 Between conductors not to be contact （2）插座体与排脚之间 Between body and conductor (3)插头插入时不接触排脚之间 Between conductors not to be when plug is inserted DC 250V 1min	≥100MΩ
3.3	耐 压 Dielectric voltage proof	在相互绝缘的接触脚之间，插座能承受 55V 电压（AC 50Hz 或 60Hz ）并持续 1 分钟 The jack shall be withstand 55V (AC 50/60Hz) between mutually insulated pin contacts for one minute	无击穿、无飞弧 There should be no breakdown and flashover

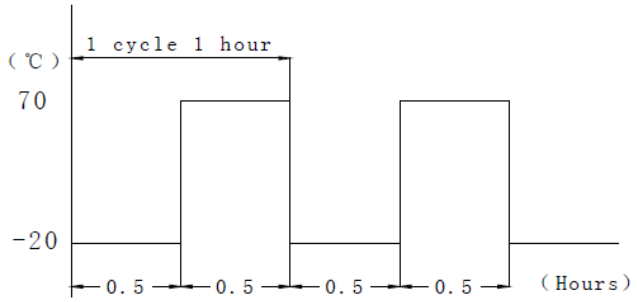
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项目 ITEM		试 验 条 件 TEST CONDITIONS	要求 REQUIREMENTS
4．机械性能： MECHANICAL SPECIFICATION			
4.1	插拔力 Insertion and extraction force	用一测压元件或对等插头测试。用相匹配的插头匀速插入插座和匀速的从插座里拔出产生的力。 Test with a load cell or equivalent plug. Plug the socket at a uniform speed with a matching plug and pull the resulting force out of the socket at a uniform speed.	3~20N
4.2	端子强度 Terminal strength	在垂直于端子脚的先端约 2mm 处加上(200gf)力度测试,时间为 15 秒 Add(200 gf) strength test to the apex approximately 2mm perpendicular to the terminal foot for 15 seconds	端子无松脱、塑料本体无破损等（端子变形除外） No loose end, no damage to plastic body, etc.(except terminal deformation)
4.3	振动 Vibration	根据以下给定条件进行测试： Measurement shall be made following the test set forth below: （1） 振动频率范围：10～55～10Hz Vibration frequency range: 10 to 55 to 10Hz （2） 振幅（峰一峰）：1.5mm Amplitude: 1.5mm （3） 振动方向：包括手柄行程方向在内的三个相互垂直的方向 Direction of vibration:Three mutually perpendicular direction including the direction of stem travel （4） 测试时间：每次 2 小时 Duration: Each 2 hours.	Item 3 Item4.1 Item4.2
4.4	冲击 Shock	根据下列条件进行冲击试验 Test by following conditions (1)安装方法：正常安装 (1)installation method: normal (2)加速度：784m/s ² (2)Acceleration: 784m/s ² (3)作用时间：11ms (3)Acting time: 11ms (4)测试方向：6 个方向 冲击次数：每个方向 3 次，共计 18 次 (4)Test direction: 6 directions Times: 3 times/direction ,total 18 times 	Item3 Item4.1 Item4.2

5、环境耐久性：
ENVIRONMENTAL SPECIFICATION

项目 ITEM		试 验 条 件 TEST CONDITIONS	要求 REQUIREMENTS
5.1	低温测试 Resistance to low temperature	样品应按照以下实验条件进行测试，实验后样品应放在常温及标准湿度的环境中 1 小时后做性能测试： Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made: （1） 温度：-40±2℃ Temperature : -40±2℃ （2） 时间：96h Time: 96h	Item3 Item4.1 Item4.2
5.2	高温测试 Heat resistance	样品应按照以下实验条件进行测试，实验后样品应放在常温及标准湿度的环境中 1 小时后做性能测试： Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made: （1） 温度：85±2℃ temperature:85±2℃ （2） 时间：96h time: 96h	Item3 Item4.1 Item4.2
5.3	温度变化测试 Change of temperature	根据下面的测试要求进行 10 次循环的温度周期性测试，实验后样品应放在常温及标准湿度的环境中 1 小时后做性能测试。测试期间样品应保持干燥. After 10 cycles of following conditions, the sample shall be allowed to stand under normal temperature and humidity conditions for 1 h. and measurements shall be made. During the test water drops shall be removed.  A: +85±2℃ B: -40±2 ℃ C:2 小时 D:2 小时 E:2 小时 F:2 小时	Item3 Item4.1 Item4.2
5.4	恒定湿热测试 Moisture resistance	样品应按照以下实验条件进行测试，实验后样品应放在常温及标准湿度的环境中 1 小时后做性能测试 ： Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 h before measurements are made: （1） 温度：40±2℃ temperature: 40±2℃ （2） 相对湿度：90%～95% relative humidity:90% to 95% （3） 时间：96h time: 96h	接触电阻：≤200mΩ Contact resistance≤200mΩ 绝缘电阻：≥10MΩ Insulation Resistance≥10MΩ Item3.3 Item4.1 Item4.2

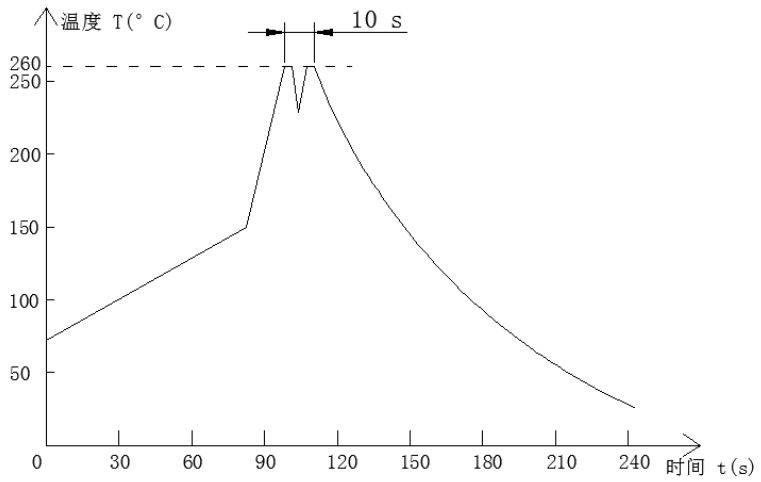
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项目 ITEM		试 验 条 件 TEST CONDITIONS	要求 REQUIREMENTS
5.5	盐雾试验 Salt Mist	在以下设定条件下进行测量: The switch shall be checked after following test: （1）温度：35℃±2℃ temperature: 35℃ ±2℃ （2）盐溶液浓度：5±1%（质量百分比） salt solution : 5±1%(solids by mass) （3）时间：8±0.5h Time: 8±0.5h 实验后的盐沉积物后水冲掉 After test, salt deposit shall be removed by running water.	金属件上没有腐蚀斑点 No remarkable corrosion shall be recognized in metal part.
5.6	工作寿命 Operation life	在没有负载的条件下，以每分钟 10-25 次的频率，均速，用相匹配的插头进行插拔 5000 次。 The life test shall consist of 5000 cycles of insert and extraction with a gauge plug, at a rate of 10 to 25 cycles per minute under no load	接触电阻≤200mΩ Contact resistance≤200mΩ 绝缘电阻≥10MΩ Insulation Resistance≥10MΩ 操作力：初值的±30% Operating Force: initial value±30% Item3.3 Item4.2
5.7	冷热冲击测试 Cold&Heat Shock Test	将样品以下列条件作 5 个循环，再放置常温常湿中 1 小时来测定 Put the samples under the environment that is show as diagram repeat circulating totally 5 cycles, and then it shall be subjected to the controlled recovery conditions for 1 hour after which.  	产品不能变形与破裂 插拔力：3~20N 接触电阻：最大 100mΩ 绝缘电阻：最小 100 MΩ 绝缘耐压：最小 500VAC（端子之间） There shall be no deformation or Cracks in molded part. Mating and Unmating Forces: 3 to 30N Contact resistance:max.30mω Insulation resistance: min. 100 mω Dielectric withstanding voltage: 500vac/min(between terminals)

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项目 ITEM		试 验 条 件 TEST CONDITIONS	要求 REQUIREMENTS
5.8	可焊性 Solderability	在以下设定条件下进行测量: Measurements shall be made following the test set forth below: （1）焊接温度:245±5℃ Solder temperature : 245±5℃ （2）浸入时间:3s±0.5s Immersion time: 3s±0.5s	除边缘外涂层应均匀覆盖95%以上 Except for the edge, the coating should cover a minimum 95%
6．耐焊接热： SOLDERING CONDITIONS:			
6.1	手工焊接 Hand soldering	请按以下条件进行焊接： Please practice according to below conditions: （1）焊锡温度：≤350℃ Soldering temperature: ≤350℃ （2）连续焊接时间：≤3 s Continuous soldering time: ≤3 s （3）电烙铁金属头不得碰触产品本体，电烙铁不得对产品、端子施加压力 The soldering iron cannot touch , exert pressure on the product or the terminal.	

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项目 ITEM		推 荐 条 件 Recommended conditions
6.2	波峰焊 Wave-soldering	

注意事项(Notes):

a、印刷基板的焊盘尺寸参见产品图。

The pad size of the printed substrate is shown in the product diagram.

b、在使用烙铁的情况下，焊锡温度应在 350℃以下、3 秒以内。

In the case of using soldering iron, soldering conditions shall be 350℃ max and 3 sec.max.

c、防止助焊剂从开关的顶端渗入

Prevent flux penetration from the top of the switch

d、开关浸焊后，注意不要用溶剂或类似品清洗开关。

After switches were soldered,please be careful not to clean switches with solvent or other similar products.

e、浸焊后，注意不要在顶部施加负荷。

Right after switches were soldered;please be careful not to load to on the knobs of switches.

f、注意不要施加超负荷的压力或晃动开关。

Please be cautions not to give excessive static load or shock to switches.

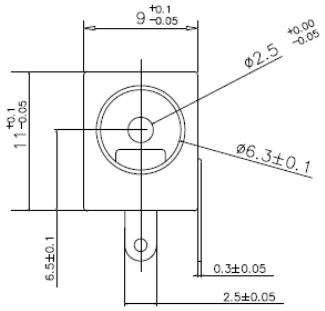
g、开关浸焊后，印刷基板注意不要叠放。

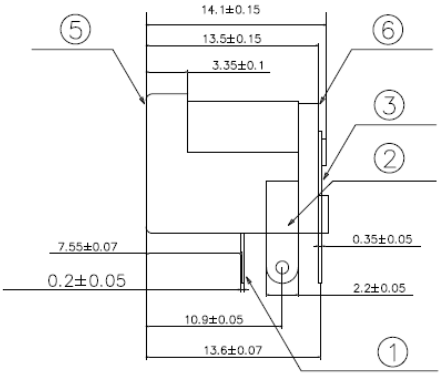
Please be careful not to pile up P.W.B.after switches were soldered

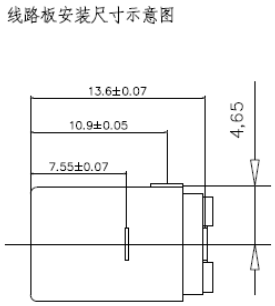
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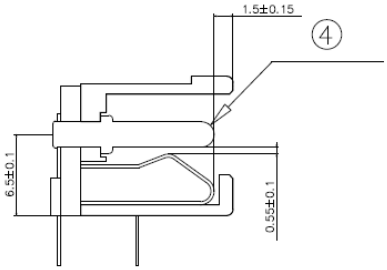
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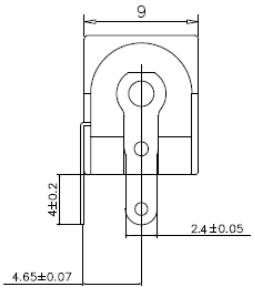
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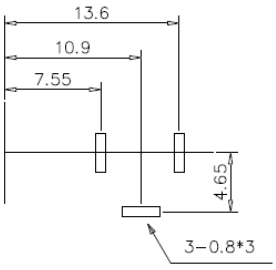












General tolerance： ±0.2mm

NO	NAME	MATERIAL	QTY	FINISHING
1	盖板	PBT	1	黄色
2	基座	PA66	1	黑色
3	插针	铜丝	1	镀铜锡
4	平片	铁皮 0.3	1	镀锡 T
5	弯钩	铁皮 0.3	1	镀锡 T
6	动触片	锰钢 0.25	1	镀锡 T