承 认 书 Specification

产品品名: 船形开关

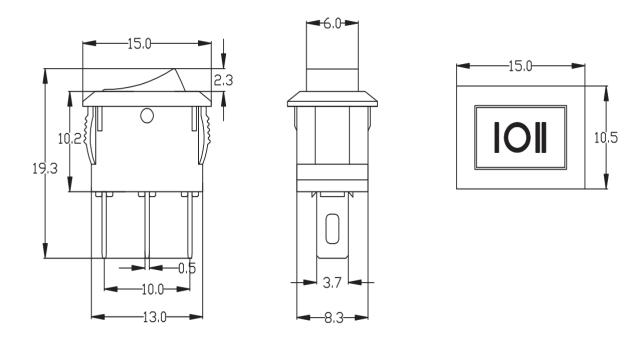
Product name: **BOAT SWITCH**

产品型号: KCD11-3

(Model number): KCD11-3

深圳市	华宇创精	密电子有	限公司	产品名称 Product name			船形开关 Boat Switch	
承认书				产品型号 Product model NO.			KCD11-3	
	Specification			版本号E	版本号 Edition A0 第2页 共9页		第2页 共9页	
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外形尺寸图



1. 概述 General:

1.1 产品名称 Product name: 船形开关 Boat Switch

1.2 产品型号 Product model NO: <u>KCD11</u>

1.3 开关功能 Function: ON-OFF-ON

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1.4 额定值 Rating: 3A 250VAC 6A 125VAC

1.5 贮存环境温度 Storage environment temperature: -10~60℃

1.6 使用环境温度 Operating environment temperature: **0~55℃**

2. 测试环境 Test environment:

2.1 环境温度 Environment temperature: 15~35℃

2.2 相对湿度 Relative humidity: 63%~95%

2.3 大气压力 Air pressure: **860~1060 MPa**

3. 外观与尺寸 Appearance and Dimensions:

3.1 外观:无影响产品使用性能的缺陷

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

3.2 尺寸: 应符合规格图

Dimensions: Shall conform to drawing.

4. 电气性能 Eletrical Performance:

4. 1 接触电阻 Contact resistance:

开关处于闭合状态, 用微电阻测试仪或高精度线性毫欧计测量端子间的电阻。

接触电阻≤100 mΩ

The switch to be made in "on" state and the resistance is measured between the two terminals with micro-resistance test instrument or high precision liner moron-ohm meter.

Contact resistance≤100mΩ

4. 2 绝缘电阻 Insulation Resistance:

4. 2. 1 触点间的绝缘和功能绝缘:

约 500 伏的直流电压施加在处于断开状态的开关的两触点间和开关的不同极之间,相同极性的导电件应连接在一起。施加电压 1 分钟后进行测量。

绝缘电阻≥10MΩ

Insulation resistance between contact and operational insulation:

A d.c. voltage of approximately 500V is applied between the open contacts of each pole of a switch and between the different poles of which all the parts is connected together, the measurement shall be made after the voltage is applied for 1 min.

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Insulation Resistance $\geq 10M\Omega$

4. 2. 2 加强绝缘:

约 500 伏的直流电压施加在导电部件和覆在易接触的开关外表面的金属箔及易接触的金属部件之间。施加电压 1 分钟后进行测量。

绝缘电阻≥100MΩ

Reinfored insulation:

A d.c. voltage of approximately 500V is applied between all live parts and a metal foil covering the outer accessible surface and accessible metal parts, the measurement shall be made after the voltage is applied for 1 min.

Insulation Resistance $\geq 100M\Omega$

4. 3 介电强度 Dielectric strength:

4. 3. 1 触点间和各极间的介电强度:

处于断开状态的开关的两触点间和开关的不同极之间,应能承受基本为正弦波形,频率为 50 或 60 赫兹的 1500 伏电压 1 分钟无击穿或闪络现象。

Dielectric strength between contacts and between different poles:

A voltage of substantially sine wave form, with a frequency of 50Hz or 60Hz and the value of 1500v is applied for 1 min between the open contacts and the different poles.

4. 3. 2 加强绝缘间的介电强度:

基本为正弦波形的、频率为 50 或 60 赫兹、数值为 3000 伏的电压施加在导电部件和覆在开关的易接触外表面的金属箔及易接触的金属部件之间应无击穿或闪络现象发生。

Dielectric strength between reinforce insulation:

A voltage of substantially sine wave form, having a frequency of 50Hz or 60Hz and the value of 3000v is applied for 1 min between all live parts and a metal foil covering the outer accessible surface and accessible metal parts.

4. 4 发热 Heating:

开关首先在无电流通过的情况下,作 20 个操作循环,然后将操作件停留在最不利的"闭合"位置,开关通以电流,其值为电阻性负载最大额定电流的 1.06 倍,试验电流至少维持一小时或维持到端子温度稳定。当每隔 5 分钟读取连续的三个读数变化不大于±2℃,即认为温度稳定。

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端子温升不超过45K:

操作件温度不超过85℃;

金属操作件温度不超过60℃。

First of all, the switches are subjected to 20 operating cycles with no current flowing. Then the actuating member is left in the most unfavorable "ON" position and the switches are loaded with a current of 1.06 times the maximum rated current for resistive load. The current is maintained at least for one hour or until a constant temperature at the terminal is attained. A temperature is considered to be constant when three successive readings obtained at every 5min of which value indicates no change greater than $\pm 2^{\circ}$ C.

The temperature rise at the terminals shall not exceed 45K;

The temperature of actuating members shall not exceed 85°C;

Metal actuating Members shall not exceed 60 °C ₀

5. 材料性能 Material performance:

5. 1 灼热丝试验 Glow wire tset:

保持、支持带电导体在其相对位置的非金属零件应能承受 850℃的灼热丝试验,其他零件能承受 650℃的灼热丝试验。

火焰不会自动熄灭。

For nonmetal parts which are in contact with, maintain or retain the live parts in position should be carried out the glow wire test at the 850°C. The other parts should be carried out the glow wire test at the 650°C.

Flame does not automatically go out.

5. 2 球压试验Ball pressure test:

保持、支持带电导体在其相对位置的非金属零件应能承受 **125**℃的球压试验,其他零件应能承受 **75**℃的球压试验。

压痕直径 ≤2mm

For nonmetal parts which are in contact with, maintain or retain the live parts in position electrical should be carried out the ball pressure test at the 125° C. The other parts should be carried out the ball pressure test at the 75° C.

The diameter of the impassion shall not exceed 2 mm.

5. 3 耐漏电起痕特性 Resistance totracking:

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在不同极的导电部件之间、导电部件与接地金属部件之间、导电部件与易接触的表面之间有特定的爬电路 径的所有非金属部件应能通过 175V 的耐漏电起痕指数测试。

无击穿或闪络现象。

All non-metal parts for which a creep age path is specified between live parts of different polarity, between live parts and earthed metal parts and between the live parts and accessible surfaces of a switch shall be carried out the proof tracking test of 175V.

No flashover or breakdown shall occur.

6.机械性能 Mechanical performance:

6.1 操作力 Operate din:

用测力计按动开关按钮,读出开关转换时的力度。

Push the bottom of the handle by the dynamometer, read out the power of transition for the switch.

____(N)

6. 2 机械强度 Mechanical strength:

将弹簧冲击器的释放能量校准到 0.5Nm±0.04Nm,用弹簧冲击器对可触及的表面包括驱动元件进行冲击,对每一个认为薄弱的位置冲击三次。

试验后不应有影响开关安全和使用的损伤。

The spring- operated impact-test apparatus is calibrated to deliver energy of 0.5Nm±0.04Nm Blows are applied to all accessible surfaces, including actuating members by the test apparatus. For all such surfaces three blows are applied to every point that is likely to be weak.

There shall be no damages to switch safety and usage

6. 3 操作性能 Operating performance:

用尽可能慢的速度按动开关的按钮,开关的动触点只能停留在"闭合"和"断开"的位置,当按钮释放时,按钮会自动移动到或停留在动触点对应的位置。

To operate the actuating member of a switch as slowly as possible. The moving contacts of a switch can come to rest only in the "on" and "off" position. When the actuating member is released, it shall move automatically or stay in the position corresponding to that of the moving contacts.

6. 4 插片端子的安装强度 The stength of tabs:

将 80N 的轴向压力和 98N 的轴向拉力依次无冲击地作用在开关的插片上。

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开关的插片不应出现明显的位移和损伤。

An axial push of 80N and an axial pull of 98N shall be applied in turn to the tabs of a switch without jerks.

No significant displacement or damage Shall occur.

7.耐久性 Endurance:

7. 1 提高电压加速测试 Increase voltage acceleration test:

测试电压 Applied voltage: 1.15倍额定电压 1.15 times of rated voltage

测试电流 Applied current: 额定电流 Rated current

功率因数 Power factor: 0.95±0.05

操作循环数 The number of oprating cycle: 100

环境温度 Environment temperature: 25±10℃

操作频率 Operate frequency: 15 次/分钟 30imes/minute

操作速度 Operate speed: 80mm/S

7. 2 慢速测试 Slow Speed test:

测试电压 Applied voltage: 额定电压 Rated voltage

测试电流 Applied current: 额定电流 Rated current

功率因数 Power factor: **0.95±0.05**

操作循环数 The number of operating cycle: 100

环境温度 Environment temperature: 25±10℃

操作频率 Operate frequency: 15 次/分钟 30 times/minute

操作速度 Operate speed: 20mm/S

7. 3 加速测试 Accelerated speed test:

测试电压 Applied voltage: 额定电压 Rated voltage

测试电流 Applied current: 额定电流 Rated current

功率因数 Power factor: 0.95±0.05

操作循环数: The number of operating cycle: 9800

环境温度 Environment temperature: 25±10℃

操作频率 Operate frequency: 15 次/分钟 30times/minute

操作速度 Operate speed: 80mm/S

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要求 Requirement:

- 1、所有的动作功能正常。
- 2、通以额定电流,在周围温度为25±10℃的条件下进行温升测试,端子温升不应超过55K。
- 3、能够承受 4.3 条要求的 75%的介电强度测试。
- 1. All actions function as normal;
- 2. The temperature rise test at the terminal carried out under rated current and ambient temperature of 25±10°C. The temperature rise at the terminal does not exceed 55K.
- 3. Can subject to the dielectric strength test which the test voltage shall be 75% the corresponding test voltage specified in clause 4.3.

8.可焊性 Soldering performance:

8. 1 可焊性试验 Soldering test:

端子顶部被浸入焊锡池中2mm深,温度260±5℃,时间3秒。

浸入的部分75%以上表面被锡覆盖。

The tip of the terminal shall be dipped 2mm in the bath at temperature 260±5℃ for 3 sec.

A new uniform coating of solder shall cover a minimum of 75% of the surface being immersed.

8. 2 耐焊接热试验 Resistance to soldering heat test:

8. 2. 1 焊锡炉的方法: 焊锡炉的温度控制在260℃±5℃,锅炉焊接的时间3±0.5秒,基板的厚度为1.6mm。

SOLDER BATH MOTHOD:

Solder temperature 260°C±5°C;

Immersion time 3±0.5sec,

The Thickness of PCB 1.6 mm.

8. 2. 2 手工焊接方法:

手工焊接的时候,温度控制在350℃±5℃,焊接的时间3±0.5秒,但不能在端子上施加异常力。

SOLDERING IRON MOTHOD:

Control temperature 350°C±5°C;

Application time 3±0.5sec;

However excessive pressure shall not be applied to the terminal.

要求 Requirement:

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本体无变形,能满足机械、电气性能要求。

Without distortion of case or excessive looseness of terminals, Electrical and mechanical characteristics shall be satisfied.

9.材质证明 The material proves:

零件名称	材料名称、规格	供应商
Spare parts name	Material name、specification	Supplier
基座	尼龙 66	
盖子	尼龙 66	
端子	黄铜 H62	
跳板	黄铜 H62	
弹簧	弹簧钢丝	