

东莞市康深电子科技有限公司

标准规格书

DIP SWITCH (HALF PITCH) 1.27mm

直拔开关(脚距 1.27mm)

1. Ratings(标准规格):

1.1. Mechanical Life 机械寿命: 1000 cycles minimum 最低 1000 次

1.2. Contact Rating 接触电压: ,

100 mA at 50 Vdc Non-switching, 100 毫安, 在 50 伏的非交流

25 mA at 24 Vdc, 10 mA at 50 Vdc Switching 25 毫安在 24 伏,

10 毫安 50 伏开关

1.3. Contact Resistance 接触电阻:

50 mOhms maximum (initial) 50 mohms 最高 (初次)

100 mOhms maximum (after life) 100 mohms 最高 (寿命后)

1.4. Insulation Resistance 绝缘电阻:

Minimum at 100 Vdc between adjacent closed 最少在 100 伏关闭状态
contacts and also across open switch contacts. 接触也是导通时接触

initially 最初: 200 megaohms

After Life 最后寿命: : 100 megaohms

1.5. Dielectric Strength 绝缘强度:

300 Vac, RMS, minimum voltage measured between adjacent closed
contacts and also across open switch contacts.

300 伏, 有效值的, 最低限度的电压测量之间毗邻的封闭接触, 也导通接触。

1.6. Switch Capacitance 开关电容: 5pF at 1 megahertz. 5pf 在 1 兆赫。

1.7. Operating Temperature 操作温度: -30°C to +85°C.

1.8. Storage Temperature 储存温度: -30°C to +85°C.

1.9. Test Condition 试验条件: :

The standard test shall be 5 ~ 35°C temperature and 45 ~ 85% relative humidity
860 ~ 1060 Hpa atmospheric pressure unless otherwise specified. In case of any
question happen, retest condition shall specify by temperature 20±2°C, 65±5% RH
and 860 ~ 1060 Hpa. 标准测试应为 5-35 °C 的温度和 45-85 % 相对湿度 860-1060
Hpa 大气压力除非另有注明。如有任何问题发生, 再试验条件, 应明确规定由温度 20
± 2 °C , 湿度 65 ± 5 % 和 860-1060 Hpa。

2. Materials and Finishes 材料和包装:

2.1. Terminals Contact 接触面:

Copper alloy, gold plated 3 μ" over nickel 铜合金, 底镍镀金 3 μ"

2.2. Terminals 端子: Copper alloy, gold plated 1 μ" over nickel 铜合金, 底镍镀金 1 μ"

- 2.3. **Base 本体:** PPS grade Thermoplastic / Black color 黑色 PPS 塑胶
 2.4. **Cover 上盖:** PPS grade Thermoplastic / Black color 黑色 PPS 塑胶
 2.5. **Actuator 推钮:** NY46 grade Thermoplastic / White color 白色尼龙 46 塑胶

3. Processing 配置操作:

3.1. Switch Operation and Taping 开关操作及贴防水胶

- 3.1.1. Use tweezers or ball point pen for operation. 使用镊子或圆珠笔操作
 3.1.2. Flux cleaning should be done without removing the tape. 用焊剂清洗时应除去防水胶
 3.1.3. If the tape is removed, it adhered less than before when it is placed back on, possibly causing flux inflow.
 如果除去防水胶，它的持久性比之前要少，且可能会引起焊剂的流入
 3.1.4. Sealed switches withstand aqueous, detergent and isopropyl alcohol washing. 密封式开关浸入到水溶液中，用洗涤剂和异丙醇清洗

4. ELECTRICAL CHARACTERISTIC 电气特性:

ITEM 项目	TEST DESCRIPTION 测试描述	TEST CONDITIONS 测试条件	SPECIFICATION 说明
4.1	Contact Resistance 接触电阻	To be measure with AC 1 KHz \pm 200Hz (Max 20mv, Max 50mA) or 10mA, 5V DC. 1 千赫 \pm 200 hz (在最大电压 20mv，最大电流 50 mA) 或 10 mA，5v 直流测试。	Max 50 m Ω 最大 50 毫欧
4.2	Insulation Resistance 绝缘电阻	To be measured with an insulation measuring device of 500V DC between all the terminals and between the terminals and the frame for 1 minute \pm 5 seconds. 在接触端子或排脚间之间输入 500v 直流电压端分钟 \pm 5 秒。	Min 100M Ω 最小 100 毫欧
4.3	Dielectric Breakdown Voltage 耐电压强度	AC 500V (50-60Hz, 2mA current) being applied between all the adjacent terminals and between the terminal and frame for 1 minute. 在接触端子或排脚间之间输入 AC 500v (50 - 60 赫兹) 电压， 1 分钟感应电流为 2mA,按以下 方法进行测试	No breakdown insulation 没有绝缘破损异常
4.4	Switch Capacitance 电容测量	To be measured with frequency 1MHz \pm 10KHz Applied between adjacent terminal and circuit. 频率为 1MHz \pm 10KHz 适用于相邻排脚和电路	Max 5PF 最大 5PF

5. MECHANICAL CHARACTERISTIC 机械特性:

ITEM 项目	TEST DESCRIPTION 测试描述	TEST CONDITIONS 测试条件	SPECIFICATION 说明
5.1	Operation Force 作作力	Applied in the direction of operation. 在同一方向	Max 1000gf 最在 1000 gf (可正常推动)
5.2	Terminal Strength 端子强度	Measurement in made with a static load applied to the foot of the control unit in the operating direction. A static force of 500gf being applied in one direction on the tip of the terminal for 1 minute. One time each terminal. 在同一个方向加上 500gf 力度测试, 时间为 1 分钟	No bending or deflection experienced. The terminal may be bent, but shall not break or damage the insulation material. 同一时间内, 每个端子没有经过弯曲或偏转, 等异常满足于机械电器性能。
5.3	Control Unit Strength 控制强度	A load of 1Kgf is applied in the operating direction and pulling direction of the control unit for 15 seconds. 负重 1kgf 朝操作方向和牵引方向测试 15 秒。	Electrical characteristic of the (3) above shall be assured. 电气特性符合上面 (3) 要求

6. RELIABILITY

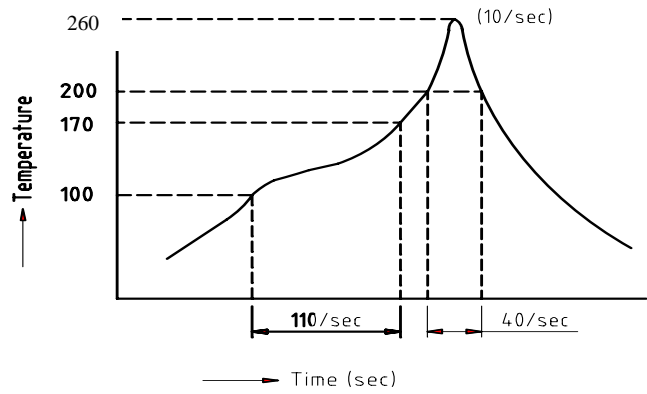
ITEM 项目	TEST DESCRIPTION 测试描述	TEST CONDITIONS 测试条件	SPECIFICATION 说明
6.1	Cold Resistance 耐寒性	Switch for testing being kept in the conditions at $-40\pm 2^{\circ}\text{C}$ in temperature for 250 hours, and in a normal ambient condition for one hour, then to be measured within one hour. (Drops of water being taken away) 开关测试条件保持在 $-40 \pm 2^{\circ}\text{C}$ 的温度下, 为 250 小时, 放置一个正常的环境条件下一小时后测试。	Contact resistance (3.1) Max $100\text{m}\Omega$ Insulation resistance (3.2) min $100\text{M}\Omega$ Dielectric breakdown voltage: AC 500V 1 minute no breakdown insulation Operating force (4.1) $\pm 30\%\text{gf}$ before test There shall be no defects in appearance or in the mechanical functions.
6.2	Dry Resistance 耐热性	Heat Switch for testing being kept in the conditions at $85\pm 2^{\circ}\text{C}$ in temperature for 250 hours, and in a normal ambient condition for one hour, then to be measured within one hour. 开关测试被放在条件为 $85 \pm 2^{\circ}\text{C}$ 的温度下为 250 小时, 放置一个正常的环境条件下一小时后测试。	接触电阻 (3.1) Max $100\text{m}\Omega$ 绝缘电阻 (3.2) min $100\text{M}\Omega$ 电压: 交流 500v 1 分钟无击穿绝缘控制力 (4.1) $\pm 3\%\text{gf}$, 然后测试不得有任何缺陷, 在外上, 还是在机械功能。
6.3	Humidity Resistance	Switch for testing being kept in the conditions at $40 \pm 2^{\circ}\text{C}$ in temperature and 90~95% RH for 250 hours, and in a normal ambient condition for one hour, then measured within one hour.	Contact resistance (3.1) Max $100\text{m}\Omega$ Insulation resistance (3.2) min $100\text{M}\Omega$ Dielectric breakdown voltage: AC 500V 1 minute no breakdown insulation Operating force (4.1) $\pm 30\%\text{gf}$ before test There should be no defects in appearance or in the mechanical functions

6.3	防潮强度	放置 40±2℃ 试验的相对湿度为 90~95%环境中测试 250 小时后, 再将其放置正常环境 1 小时后再测定.	接触电阻(3.1) Max 100mΩ 绝缘电阻(3.2) min 100MΩ 电压: AC 500V 1 分钟 无击穿绝缘 操作步骤应在(4.1) ±30%gf 测试, 不应有任何缺陷, 在外观上, 还是在机械功能。
6.4	Salt-Spray Test 盐雾试验	The sample is allowed to stand the test chamber controlled to 35±2 °C in temperature and 5±1% (weight ratio) salt-water concentration for 24±1hour and is subjected to test. Then, salt deposits attached to the sample are washed away with water. 样品经受在试验室控制温度在 35 ± 2 °C , 在高温和 5 ± 1 % (重量比) 盐水浓度为 24 ± 1 小时, 并因此而遭受的试验。然后, 把实验品上的盐层用水冲洗	Shall be free from functionally harmful rust. 不影响功能
6.5	Vibration Test 振动试验	The range of vibration:10 ~ 55 Hz Total width of vibration:1.5 mm The proportion of vibration: 10~55~10 (Hz) approx. 1 minute The variation of the number of vibration:Logarithmic or approx. straight line The directions: 3 vertical directions including operation direction Duration: 2 hours each (Total 6 hours) 射程振动: 10 ~ 55 Hz 总宽度的振动: 1.5 毫米 比例振动: 10-55-10 (赫兹) 大约:1 分钟 变异的数目振动: 对数或约数 直线方向: 顶点垂直方向包括操作方向 方向时间: 每 2 小时 共计 6 小时)	Contact resistance (3.1) Max 50mΩ Insulation resistance (3.2) min 100MΩ Dielectric breakdown voltage (3.3) AC500V 1 minute no breakdown insulation Operating force (4.1) ±30%gf before test As per individual specifications No apparent effect on physical appearance or mechanical functions. 接触电阻 (3.1) Max 50mΩ 绝缘电阻 (3.2) min 100MΩ 电压 (3.3) AC500V 1 分钟无击穿绝缘 控制力 (4.1) ±30%gf 然后测试 规格没有明显的影响外表或机械功能。

<p>6.6</p>	<p>Thermal Shock 温度循环</p>	<p>After 5 cycle testing under the following conditions. The sample is allowed to stand under normal temperature and humidity condition for 2 hour Then measuring. Water drops should be eliminated. 无负荷时-25±2℃（15 分钟）常温常湿 20±2℃（30 分钟） 85±2℃（15 分钟） 20±2℃（30 分钟）循环放置重复做 5 次后，在常温常湿的室内，无负荷放置 1 小时以上后</p>	<p>Contact resistance (1.1) Max 100 mΩ Insulation resistance (1.2) min 100 MΩ Dielectric breakdown voltage: AC 500 V 1 minute no breakdown insulation Operating force (2.1) ±30%gf before test There shall be no defects in appearance or in the mechanical functions 接触电阻 (1.1) Max 100 mΩ 绝缘电阻 (1.2) (1.2) min 100 MΩ 介电击穿电压： AC 500 V 1 分钟无击穿绝缘 控制力（4.1） ±30%gf 然后测试 无论是在外观上，还是在机械功能上, 都不得有任何缺陷</p>
<p>6.7</p>	<p>Solder Ability 焊接能力</p>	<p>Soldering temperature: 245±5℃ Immersing time: 3±0.5 second 焊接温度： 245±5℃ 焊接时间： 3±0.5 second</p>	<p>More than 75% of the part immersed can be covered with solder. 焊锡面积超过 75 %</p>

- (1) **Reflow soldering:**
 Device: In-line or Batch system
 Apply reflow soldering only once
- (2) When soldering two or more terminals to the common land, use solder resist to solder them independently.

1) 回流焊：
 装置：适用于回流焊只有一次
 (2) 当焊两个或两个以上的端子于同一地方时，应分开焊接。



7. DURABILITY 耐久性

ITEM	TEST DESCRIPTION	TEST CONDITIONS	SPECIFICATION
7.1	Operation Life with No Load 无负荷下的运行寿命	2,000 cycle operation at a rate of 15 ~20 cycle / minute 15-20 回/分钟寿命最小 2000 次	Contact resistance (3.1) Max 100 mΩ Insulation resistance (3.2) min 100 MΩ with DC 250V Dielectric breakdown voltage: AC 250 V 1 minute no breakdown insulation
7.2	Operation Life with Load 载负荷下的运行寿命	C 24V 25mA 1,000 cycle operation at a rate of 15 ~ 20 cycle/minute 在 DC 24V 25mA 条件下, 以 15-20 回/分钟, 寿命最小 1000 次	Operating force (4.1) ±30%gf before test There shall be no defects in appearance or in the mechanical functions. 接触电阻 (3.1) Max 100 mΩ 绝缘电阻 (3.2) min 100 MΩ with DC 250V 介电击穿电压：AC 250 V 1 分钟无击穿绝缘 控制力 (4.1) ±30%gf 然后测试 无论是在外观上 还是在机械功能上, 都不得有任何缺陷

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