



**标准&定制开关连接器产品制造商**  
DONG GUAN XI BANG ELECTRONICS CO., LTD.

# 规格书

## SPECIFICATION

CUSTOMER NAME	客户名称:	_____
CUSTOMER NO.	客户编号:	_____
SERIES	系列:	迷你微动开关
MODEL NO.	型号:	XB-TM series
DRAWING NO.	图形号:	MINI Micro Switch

If specification of this product meets your request, please confirm all the items of it and return to us with signature and stamp, it will be basis of our production and record. Thanks your cooperation in advance!

若此产品规格符合贵司要求，敬请确认此规格书内所有项目  
并签名和盖章后回传给我司，以作我司产品制作之  
依据和存档之用，多谢合作！

### EXAMINE & APPROVAL 审批

APPROVE 接受	NOT APPROVE 不接受
SIGNATURE 签署      STAMP 盖章      DATE 日期	

PREPARED BY. 制表人	CHECKED BY. 校对	APPROVED BY. 审核	APPROVAL BY. 批准
<div style="border: 1px solid red; padding: 2px; text-align: center;">研发部</div> <div style="border: 1px solid red; padding: 2px; text-align: center;">戴海明</div> <div style="border: 1px solid red; padding: 2px; text-align: center;">2022. 06. 08</div>	<div style="border: 1px solid red; padding: 2px; text-align: center;">品质部</div> <div style="border: 1px solid red; padding: 2px; text-align: center;">黄自清</div> <div style="border: 1px solid red; padding: 2px; text-align: center;">2022. 06. 08</div>	<div style="border: 1px solid red; padding: 2px; text-align: center;">工程部</div> <div style="border: 1px solid red; padding: 2px; text-align: center;">庞军</div> <div style="border: 1px solid red; padding: 2px; text-align: center;">2022. 06. 08</div>	<div style="border: 1px solid red; padding: 2px; text-align: center;">总经办</div> <div style="border: 1px solid red; padding: 2px; text-align: center;">吴量</div> <div style="border: 1px solid red; padding: 2px; text-align: center;">2022. 06. 08</div>

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Quality core! Afterburner for Made in China!

DONG GUAN XI BANG ELECTRONICS CO.,LTD		文件编号	<b>XB20240108</b>
		发布日期	<b>2024 年 1 月 8 日</b>
PRODUCT SPECIFICATION 产品承认书		文件版次	<b>第 A 版 第 0 次修订</b>
SERIES 系列	MICRO SWITCH 迷你微动开关	页 码	<b>第 1 頁, 共 5 頁</b>

**1. General Characteristics 一般特性:**

**1.1 Application: This specification is applied to the micro switch (DH series) for general applications.**

适用范围: 该承认书指微动开关 (DH 系列) 的一般使用范围。

**1.2 Operating Temperature Range: -25°C to +85°C**

使用温度范围: **-25°C to +85°C**

**1.3 Operating Relative Humidity: ≤85% at +40°C**

相对湿度: **≤85% at +40°C**

**1.4 Test Conditions: Unless otherwise specified, the atmospheric conditions for making measurements and tests are as follows:**

实验条件: 若没有特别说明, 则试验大气条件如下:

**Ambient Temperature: 5~35°C**

环境温度: **5~35°C**

**Relative Humidity: 45~85%**

相对湿度: **45~85%**

**Air Pressure: 86~106Kpa (860~1060mbar)**

大气压力: **86~106Kpa (860~1060mbar)**

**2. Appearance, Structure and Dimensions 外观, 结构及尺寸:**

**2.1 Appearance: The switch shall have good finishing, and no rust, crack or plating defects.**

外观: 产品外观良好, 无锈蚀、裂纹和镀层缺陷。

**2.2 Structure & Dimensions: Refer to individual product drawing.**

结构及尺寸: 参见产品图纸

**2.3 Markings: Refer to individual product drawing.**

标识: 参见产品图纸。

**3. Ratings 额定负荷**

**DC30V 0.1A**

**4. Electrical Characteristics 电气特性**

No.	Item 项目	Criteria 标准	Test Method 实验方法
4.1	Contact Resistance 接触电阻	100m Ω Max.	Measured by a voltage drop method at 0.1A Max, 12VDC. Any equipment with error not more than 5% can be used. Resistance after test is the average of 5 successive measurements. 以 0.1A, 12V 直流电, 采用电压降法测量。也可用误差不超过 5% 的仪表进行测量, 实验后的电阻取 5 次测量的平均值。
4.2	Insulation Resistance 绝缘电阻	100M Ω Min.	250VDC voltage is applied between each pair of terminals and between the terminal and the metal frame for 60±5S. 在相互绝缘的所有端子之间及各接线端子与外露的非载流金属零件之间加载 250V 直流电, 持续时间 60 ±5S。

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<b>4.3</b>	<b>Dielectric Voltage</b> 抗电强度	<b>No dielectric breakdown shall occur.</b> 无击穿现象发生。	<b>250VAC (50~60Hz, cut –off current 2mA) is applied between non-connected terminals and between terminals and the metal frame for 60 ± 5s.</b> 在相互绝缘的所有接线端子之间 <b>250V (50-60Hz)</b> 交流电, 各接线端子与外壳或非载流金属零件之间加载 <b>250V (50-60Hz)</b> 交流电, 持续时间 <b>60±5S</b> 。
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<b>5. Mechanical Characteristics 机械特性</b>			
<b>5.1</b>	<b>Operating Force</b> 操作力	<b>See product drawing</b> 参见产品图纸	<b>Apply a tension meter on the midpoint of the actuator (or tip of the shaft) to supply a pressure vertically from its free position to operating position.</b> 在操作元件末端沿操作方向均匀施加静载荷, 使操作元件转换到动作位置。
<b>5.2</b>	<b>Return Force</b> 回弹力		<b>The value to which the force in the actuator midpoint (or tip of the shaft) must be reduced to allow the contact to the normal position.</b> 在操作元件末端沿操作方向均匀减少静载荷, 使操作元件从动作位置转换到自由位置。
<b>5.3</b>	<b>Pre Travels</b> 行程		<b>The distance vertically through, which the midpoint of the actuator (or tip of the shaft) trip move from its free position to operating position.</b> 从自由位置到动作位置的距离。

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5.4	<b>Solder Ability</b> 可焊性	<p>More than 80% of immersed part shall be covered with solder.</p> <p>超过 80%的浸锡面积被焊料所覆盖。</p>	<p>Switch shall be checked after following test:</p> <p>(1) Solder: H63A (JIS Z3282)</p> <p>(2) Flux: Rosin Flux (JIS K 5902) having a nominal composition of 25% solids by mass of water white rosin in methyl alcohol (JIS K 1501) solution.</p> <p>(3) Soldering Temperature: <math>235 \pm 5^{\circ}\text{C}</math>          Immersing Time: <math>3 \pm 0.5\text{s}</math>          Flux immersing time shall be 5~10s in normal room temperature.</p> <p>(4) Immersion Depth:          Immersion depth shall be at copper plating portion of PCB after mounting.          (Thickness of PCB=1.6mm)</p> <p>试件在下述参数条件下进行试验:</p> <p>(1) 焊料: H63A (JIS Z 3282)</p> <p>(2) 焊剂: 焊剂 (JIS K 5902), 质量百分比为 25%松香, 75%甲醇的无色透明溶液。</p> <p>(3) 焊接温度: <math>235\pm 5^{\circ}\text{C}</math>          浸渍时间: <math>3\pm 0.5\text{s}</math>          焊剂浸渍时间: 5-10s</p> <p>(4) 浸渍深度: 接线端应浸到离开根部 1.6mm 处。</p>						
5.5	<b>Solder Heat Resistance</b> 耐焊接热	<p>No abnormalities shall be observed in appearance and operation.</p> <p>The electrical performance requirements specified in item 4.3 shall be satisfied.</p> <p>无外观及功能损坏。          电气性能应符合第 4.3 条的要求。</p>	<p>Switch shall be measured after following test:</p> <p>(1) Solder: H63A (JIS Z3282)</p> <p>(2) Flux: Rosin Flux (JIS K 5902) having a nominal composition of 25% solids by mass of water white rosin in methyl alcohol (JIS K 1501) solution.</p> <p>(3) Soldering Temperature &amp; Immersing Time</p> <table border="0"> <tr> <td>Dip Soldering</td> <td><math>260\pm 5^{\circ}\text{C}</math></td> <td><math>5\pm 1\text{s}</math></td> </tr> <tr> <td>Manual Soldering</td> <td><math>300\pm 5^{\circ}\text{C}</math></td> <td>2~3s</td> </tr> </table> <p>(4) Immersion Depth: (For Dip Soldering)          Immersion depth shall be at copper plating portion of PCB after mounting.          (Thickness of PCB=1.6mm)</p> <p>试件在下述参数条件下进行试验:</p> <p>(1) 焊料: H63A (JIS Z 3282)</p> <p>(2) 焊剂: 焊剂 (JIS K 5902), 质量百分比为</p>	Dip Soldering	$260\pm 5^{\circ}\text{C}$	$5\pm 1\text{s}$	Manual Soldering	$300\pm 5^{\circ}\text{C}$	2~3s
Dip Soldering	$260\pm 5^{\circ}\text{C}$	$5\pm 1\text{s}$							
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			<p><b>25%松香, 75%甲醇的无色透明溶液。</b></p> <p>(3) 焊接温度及浸渍时间:</p> <p style="padding-left: 40px;">自动焊接            <b>260± 5℃    5±1s</b></p> <p style="padding-left: 40px;">手工焊接            <b>300±5℃    2~3s</b></p> <p>(4) 浸渍深度: (对于手动焊接)</p> <p style="padding-left: 40px;">接线端应浸到离开关根部 <b>1.6mm</b> 处。</p>
5.6	Resistance to Flux 抗焊剂能力	<p>Flux shall not be risen up to contact.</p> <p>The switch shall be free from abnormalities in operation.</p> <p>焊剂不得上升进入开关内部, 影响接触转换。</p> <p>试件在操作过程中不应发生变形。</p>	<p>Switch shall be checked after following test:</p> <p>(1) Equipment: Auto-Dip Chamber</p> <p>(2) Solder: H63A (JIS Z3282)</p> <p>(3) Flux: Rosin Flux (JIS K 5902) having a nominal composition of 25% solids by mass of water white rosin in methyl alcohol (JIS K1501) solution.</p> <p>(4) Soldering Temperature: <b>235 ± 5℃</b></p> <p>(5) Immersing Time: <b>3 ± 0.5s</b></p> <p>(6) Immersion Depth:</p> <p style="padding-left: 40px;">Immersion depth shall be at copper plating portion of PCB after mounting. (Thickness of PCB=1.6mm)</p> <p>试件在下列参数条件下进行试验:</p> <p>(1) 设备: 自动焊接机</p> <p>(2) 焊料: <b>H63A (JIS Z 3282)</b></p> <p>(3) 焊剂: 焊剂 (JIS K 5902), 质量百分比为 <b>25%松香, 75%甲醇的无色透明溶液。</b></p> <p>(4) 焊接温度: <b>235±5℃</b></p> <p>(5)浸渍时间: <b>3±0.5s</b></p> <p>(6)浸渍深度:</p> <p style="padding-left: 40px;">接线端应浸到离开关根部 <b>1.6mm</b> 处。</p>
<b>6. Durability characteristics</b>			
6.1	Mechanical Life 机械寿命	<p>After test,</p> <p>Contact resistance: <b>2 Ω Max.</b></p> <p>Insulation resistance:<b>50M Ω Min.</b></p> <p>The electrical performance requirements specified in item 4.3 shall be satisfied.</p>	<p><b>20,000 cycles of operation shall be performed continuously at a rate of 60 cycles per minute without load.</b></p> <p>在不带负荷的条件下, 速度为 <b>60 次/分</b>, 在寿命试验设备上连续转换 <b>20,000 次</b>。</p>

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<b>6.2</b>	<b>Electronics Life</b> 电气寿命	<p>The switch shall be free from abnormalities in appearance construction.</p> <p>实验后: 接触电阻: <b>2 Ω Max.</b> 绝缘电阻: <b>50M Ω Min.</b> 电气性能应符合第 4.3 条的要求。 开关外观及结构应无损坏。</p>	<p><b>20,000 cycles of operation shall be performed continuously at a rate of 8cycles per minute with load as follow</b></p> <p><b>0.1A DC30V</b></p> <p>在带以下负荷的条件下, 速度为 8 次/分, 在寿命试验设备上连续转换 <b>20,000 次</b>。</p> <p><b>0.1A DC30V</b></p>
<b>7. Weather Proof Characteristics 耐候性能:</b>			
<b>7.1</b>	<b>Cold Proof</b> 低温	<p>After test, Contact resistance: <b>2 Ω Max.</b> Insulation resistance: <b>50M Ω Min.</b></p>	<p>After testing at <b>-25 ± 2°C</b> for 96 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. <b>Water drops shall be eliminated.</b></p> <p>试件在 <b>-25±2°C</b> 的温控箱内保持 96 小时, 然后在正常温度和湿度下恢复 1 小时, 并在此后 1 小时内对试品进行测量, 水滴应消失。</p>
<b>7.2</b>	<b>Hot Proof</b> 高温	<p>The Electrical performance requirements specified in item 4.3 shall be satisfied. The switch shall be free from abnormalities in appearance &amp; construction.</p> <p>实验后: 接触电阻: <b>2 Ω Max.</b> 绝缘电阻: <b>50M Ω Min.</b> 电气性能应符合第 4.3 条的要求。 开关外观及结构应无损坏。</p>	<p>After testing at <b>85 ± 2°C</b> for 96 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that.</p> <p>试件在 <b>85±2°C</b> 的温控箱内保持 96 小时, 然后在正常温度和湿度下恢复 1 小时, 并在此后 1 小时内对试品进行测量, 水滴应消失。</p>
<b>7.3</b>	<b>Moisture Resistance</b> 恒定湿热		<p>After testing at <b>40± 2°C ,85% RH</b> for 96 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. <b>Water drops shall be eliminated.</b></p> <p>试件在 <b>40±2°C, 85%RH</b> 的温控箱内保持 96 小时, 然后在正常温度和湿度下恢复 1 小时, 并在此后 1 小时内对试品进行测量, 水滴应消失。</p>

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