

CIRCUIT:NO



P. C. B. MOUNTING HOLE DETAIL

注：A-B为重点管控尺寸。

| | | | | |
|-------|------------------|-----------------------------|------------------------------|---------------|
| 01 | | | 03 | |
| 00 | ORIGINAL DRAWING | 2012-10-10 | 02 | |
| ISSU. | REVISION | DATE | ISSU. | |
| | | TOL. UNLESS OTHERWISE SPEC. | SOUNDWELL ELECTRONICS | 电位器 |
| | | BASIC DIMENSIONS | | |
| DSGD. | CHKD. | APPD. | $L \leq 10$ | ± 0.3 |
| | SCALE | | $10 < L$ | ± 0.5 |
| | UNIT | mm | $100 \leq L$ | ± 0.8 |
| | | ANGLE | | $\pm 5^\circ$ |
| | | | DRAWING NO: | C-PTXX01-0023 |
| | | | NO: | |

PT10 SERIES GENERAL SPECIFICATION

PT10系列规格书

1/3

1、GENERAL 一般事项

1.1、Scope

The specification applies to model PT10 type mainly used for consumer products

适用范围

此规格书适用于PT10机型

1.2、Operating temperature range

使用温度范围：-25℃~70℃

1.3、Storage temperature range

保存温度范围：-25℃~70℃

1.4、Test conditions:

Standard atmospheric conditions

试验状态

标准状态

Unless otherwise specified, the standard range of atmospheric conditions for making measurements and test is as follows:

无特别规定之实验及测定以温度

5~35℃，相对湿度45~85%，气压

Ambient temperature: 5~35℃ Relative humidity: 45~85%

86~106kpa之标准状态测定。

Air pressure: 86kpa to 106kpa

If there is any doubt about the results, measurements shall be

发生判定疑问或另有特别要求则以

Made within the following limit:

基准状态（温度20±2℃，相对湿度60~70%，

Ambient temperature: 20±2℃ Relative humidity: 60~70%

气压 86~106kpa）为标准测定。

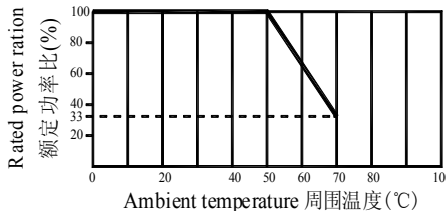
Air pressure: 86kpa to 106kpa

2 Application Notes 使用上的事项

Avoid storing the products in a place at high humidity and in Corrosive gases. please use this product with 12 months limitation. If any remainder left after packing is opened, please store it with proper moistureproofing, gasproofing etc.

避免储藏于高温、高湿及腐蚀的场所。产品购入后需在12个月内使用完。拆包装后未使用完的剩余产品需储藏于防潮防毒的环境下。

3 ELECTRICAL CHARACTERISTICS 电气性能

| Item 项目 | Conditions 条件 | Specifications 规格 |
|---|--|--|
| 3.1. Nominal total resistance and tolerance 公称全阻抗值 | The resistance between terminals 1 and 3 shall be measured 端子1-3间阻值测定。 | <u>100K</u> Ω $\pm 20\%$ |
| 3.2. Resistance law 阻抗变化特性 | Measurement shall be made by the resistance law method. For other procedures (refer JISC5261 standard) 用电压法测试，参照JISC5261标准 | <u>B</u> Taper 线性 Refer to the attached 参见附页 |
| 3.3. Power rating 额定功率 (W) | Power rating is based on continuum full load operation at the maximum voltage between terminals 1 and 3. Power rating vs. ambient temperature shall be denoted on the following graph. 端子1-3间连续负载后的最大功率。 环境温度对功率影响的曲线如下图表示：  | Taper B: 0.15W (At 50℃) Other Taper: 0.07W (At 50℃) |
| 3.4. Rated voltage 额定电压 | Rated voltage 额定电压: $E = \sqrt{PR}$ | Max Operation Voltage 最高工作电压 DC |
| | Power rating (W) P: 额定功率 | Taper B: 200V DC Other Taper: 100V DC |
| | Nominal total resistance (Ω) R: 公称全阻抗值 | |
| | When the rated voltage exceeds the maximum operating voltage. The maximum operating voltage shall be the rated voltage. 额定电压大于最高使用电压时,最高使用电压作为额定电压。 | |

PT10 SERIES GENERAL SPECIFICATION

PT10系列规格书

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| 3 ELECTRICAL CHARACTERISTICS 电气性能 | | |
|--|--|--|
| Item 项目 | Conditions 条件 | Specifications 规格 |
| 3.5. Residual resistance 残留电阻 | The resistance at each end of R1. Residual resistance between terminals R1 and R2, The resistance at each end of R3. Residual resistance between terminals R2 and R3. 接触刷停留在R1终端时,则测R1-R2残留电阻,停留在R3终端时,则测R2-R3残留电阻. | Max 1% of nominal resistance, 最大为标示阻值的1% |
| 3.6. Dielectric strength 耐电压 | Measuring frequency : 50~60Hz ; 200V DC for 1 min | Between individual terminals and frame. 端子-固定板 |
| 3.7. Insulation resistance 绝缘阻抗 | Apply DC 200 V for 1 minute. DC200V 1分钟 | Between individual terminals and frame. 端子-固定板 |
| 3.8. Temperature Coefficient 温度系数 | - 25°C ~ 70°C | Change in total resistance is: 500PPM /°C 总阻变化值: 500PPM/°C |
| 4 Mechanical characteristics 机械性能 | | |
| 4.1. Total Rotation Angle 全回转角度 | Angle of effective rotation 有效旋转角度 | 235°±10° |
| 4.2. Rotational torque 旋转力矩 | Rotational speed 旋转速度 S 1回转 / 3 秒 | standard atmospheric conditions 常温5°C至35°C |
| | | -10°C |
| | | 60°C |
| 4.2.1. Starting force 起动力矩 | Rotational speed: 1 rotation / 3 Sec 轴转速: 1回转/3秒 | Rotational torque + 50gf.cm MAX 旋转力矩 + 50gf.cm 以下 |
| 4.2.2. Click slip out force 定位推动力 | Rotation speed 60°/S, standard atmospheric 5°C to 35°C (center click) 旋转速度 60°/S 常温5°C至35°C | 30~250gf.cm |
| 4.3. Shaft stop strength 止档强度 | The following torsion moment load of 0.5kgf.cm shall be applied to the shaft for 5sec at both ends (after fixation) 固定后于旋转前后两端末加0.5Kgf.cm力矩并持续5秒. | Electrical characteristics shall be satisfied. 电气性能符合规定要求 |
| 5 ENDURANCE CHARACTERISTICS 耐久性能 | | |
| 5.1 Solder ability 焊锡性 | The terminals shall be immersed into solder bath at 260°C±5°C for 3s±0.5s in the same manner as para. 端子在260°C±5°C温度的焊锡槽内浸锡3秒±0.5秒。 | A new uniform coating of solder shall cover 75% minimum of the surface being immersed. 浸渍面须有75%以上焊锡附着 |
| 5.2 Resistance to Soldering heat 耐焊接热 | Manual soldering 手工焊接 Bit temperature of soldering iron: 350°C less than Application time of soldering iron: within 3s 温度350°C以下, 时间3秒以内。 Dip soldering 槽焊 Printed wiring board : copper clad laminate board with thickness of 1.6mm. 使用基板: t=1.6mm的覆铜板。 Preheating : 1、 Surface temperature of board: 100°C or less. 2、 Preheating time : within 1 min. 预热: 基板表面温度100°C以下, 时间1分钟以内。 Soldering : Solder temperature : 260±5°C or less Immersion time : within 3S 焊接: 温度260±5°C或以下, 时间3秒以内。 | Electrical characteristics shall be satisfied No mechanical abnormality. 不得有绝缘体的破损、变形、接触无异常。 |

PT10 SERIES GENERAL SPECIFICATION

PT10系列规格书

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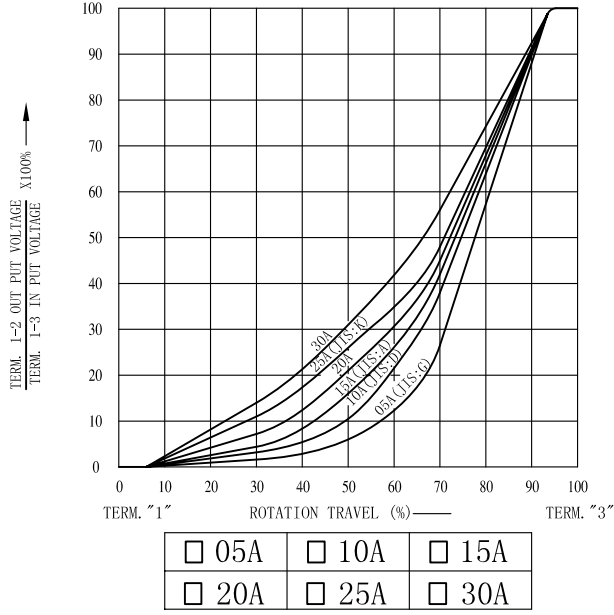
| 5 ENDURANCE CHARACTERISTICS耐久性能 | | | | | | | | | | | | | | | | | |
|--|--|---|-------------------|------------------|---|----------------------------|------------|---|---------------------------------------|-----------------|---|---------------------------|------------|---|---------------------------------------|-----------------|---|
| 5.3. Damp heat 耐湿性 | <p>The potentiometer shall be stored at a temperature of $40\pm 2^{\circ}\text{C}$, with relative humidity of 90% to 95% for $96\pm 4\text{h}$ in a thermostatic chamber. Then the potentiometer shall be taken out of the chamber and its surface moisture shall be removed and measure the potentiometer which shall be subjected to standard atmospheric conditions for 1h.</p> <p>温度$40\pm 2^{\circ}\text{C}$,湿度90-95%,恒温恒湿槽中放置96 ± 4小时后,置于常温常湿1小时除去水滴后,1小时内测定。</p> | <p>Change in total resistance is relative to the value before test : $\pm 35-5\%$</p> <p>总阻变化值:初期值的$\pm 35-5\%$</p> <p>Insulation resistance: $50\text{M}\Omega$ or more</p> <p>绝缘阻抗: $50\text{M}\Omega$ 以上</p> | | | | | | | | | | | | | | | |
| 5.4. Resistance to heat 耐热性 | <p>The potentiometer shall be stored at a temperature of $70\pm 2^{\circ}\text{C}$ for $240\pm 8\text{h}$ in a thermostatic chamber. Then the potentiometer shall be measured after maintaining at standard atmospheric conditions for 1h, in order to remove surface moisture.</p> <p>温度$70\pm 2^{\circ}\text{C}$恒温槽中240 ± 8小时放置后,置于常温常湿1小时除去水滴后测定。</p> | <p>Change in total resistance is relative to the value before test : $\pm 20\%$</p> <p>阻变化值: 初期值的$\pm 20\%$</p> | | | | | | | | | | | | | | | |
| 5.5. Resistance to cold 耐寒性 | <p>The potentiometer shall be stored at a temperature of $-25\pm 3^{\circ}\text{C}$ for $96\pm 4\text{h}$ in a thermostatic chamber. Then the potentiometer shall be taken out of the chamber and its surface moisture shall be removed. And measure the potentiometer which shall be subjected to standard atmospheric conditions for 1h.</p> <p>温度$-25\pm 3^{\circ}\text{C}$恒温槽中96 ± 4小时放置后,置于常温常湿1小时除去水滴后,1小时内测定。</p> | <p>Change in total resistance is relative to the value before test : $\pm 20\%$</p> <p>总阻变化值:初期值的$\pm 20\%$</p> | | | | | | | | | | | | | | | |
| 5.6. Change of temperature 温度循环试验 | <p>The potentiometer shall be subjected to 5 successive change of temperature cycles as shown in table below. Then is surface moisture shall be removed. And measure the potentiometer which shall be subjected to standard atmospheric conditions for 1hour.</p> <p>以下条件温度连续5个周期的试验后,置于常温常湿1小时除去水滴后,1小时内测定。</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 40%;">Temperature 温度</th> <th style="width: 55%;">Duration 放置时间</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">$-20\pm 3^{\circ}\text{C}$</td> <td style="text-align: center;">30 min (分)</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">standard atmospheric conditions 常温</td> <td style="text-align: center;">10 to 15 min(分)</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">$70\pm 2^{\circ}\text{C}$</td> <td style="text-align: center;">30 min (分)</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">standard atmospheric conditions 常温</td> <td style="text-align: center;">10 to 15 min(分)</td> </tr> </tbody> </table> | | Temperature 温度 | Duration 放置时间 | 1 | $-20\pm 3^{\circ}\text{C}$ | 30 min (分) | 2 | standard atmospheric conditions 常温 | 10 to 15 min(分) | 3 | $70\pm 2^{\circ}\text{C}$ | 30 min (分) | 4 | standard atmospheric conditions 常温 | 10 to 15 min(分) | <p>Change in total resistance is relative to the value before test : $\pm 30\%$</p> <p>总阻变化值: 初期值的$\pm 30\%$</p> <p>Insulation resistance: $100\text{M}\Omega$ or more</p> <p>绝缘阻抗 : $100\text{M}\Omega$ 以上。</p> <p>Dielectric strength : Without damage to parts arcing or breakdown etc.</p> <p>耐电压:无损伤,变形,绝缘破坏等情形。</p> <p>Appearance: There shall be no deformation or cracks of molded part.</p> <p>外观: 塑胶部分无形成破裂</p> |
| | Temperature 温度 | Duration 放置时间 | | | | | | | | | | | | | | | |
| 1 | $-20\pm 3^{\circ}\text{C}$ | 30 min (分) | | | | | | | | | | | | | | | |
| 2 | standard atmospheric conditions 常温 | 10 to 15 min(分) | | | | | | | | | | | | | | | |
| 3 | $70\pm 2^{\circ}\text{C}$ | 30 min (分) | | | | | | | | | | | | | | | |
| 4 | standard atmospheric conditions 常温 | 10 to 15 min(分) | | | | | | | | | | | | | | | |
| 5.7. Endurance 耐久性 | <p>When the total resistance value $\leq 1\text{K}\Omega$. The moving contact without electrical load shall be rotated from one end stop to the other and returned to its original position exceeds 90% of effective angle. (This procedure constitutes 1 cycle). And the moving contact shall be subjected to 600 cycles per hour. total 2000 cycles.</p> <p>当阻值$\leq 1\text{K}\Omega$时,轴以600周/小时(来回算1周)的速度旋转,有效旋转角度超过90%,共2000次。</p> <p>When the total resistance value $> 1\text{K}\Omega$. The moving contact without electrical load shall be rotated from one end stop to the other and returned to its original position exceeds 90% of effective angle. (This procedure constitutes 1 cycle). And the moving contact shall be subjected to 600 cycles per hour. total 10000cycles.</p> <p>当阻值$> 1\text{K}\Omega$时,轴以600周/小时(来回算1周)的速度旋转,有效旋转角度超过90%,共10000次。</p> | <p>Change in total resistance is relative to the value before test : $\pm 15\%$</p> <p>总阻变化值: 初期值的$\pm 15\%$</p> | | | | | | | | | | | | | | | |

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|--|------------|--|---|--|
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| 版本号: 03 | 2009-12-3 | | | |
| 变更记事: | 变更时间 | DSGD 主办 | CHKD 审查 | APPD. 核准 |
| 1、重新整理 | 2005-12-26 |  |  |  |
| 2、增加定位项目 | 2009-4-14 | | | |
| 3、修改耐久性内容 | 2009-12-3 | | | |
| TITLE标题: Slide Series Potentiometer 微调系列电位器 | | | | |
| DOCUMENT NO. 文号: PT 10 | | | | |

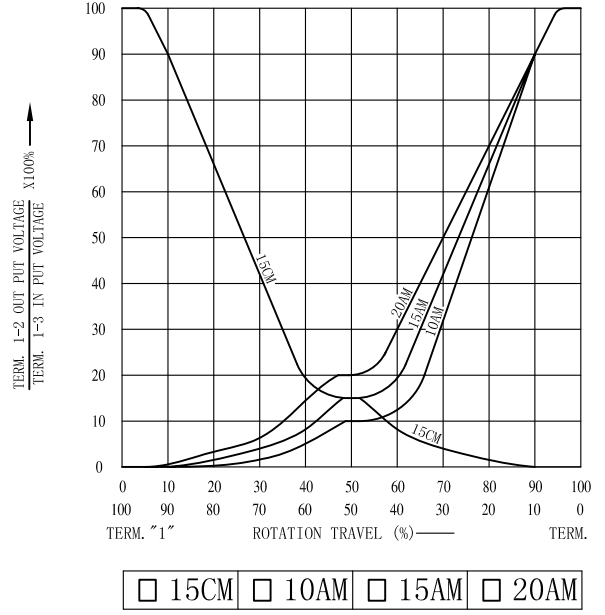
STANDARD RESISTANCE TAPER (電位器専用)

Rotary, Slide, Equalizer & Trimmer (Only be applicable to potentiometer)

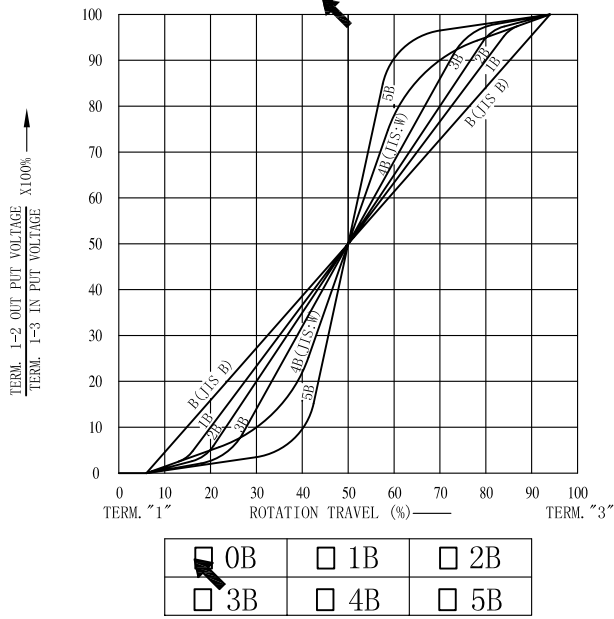
TAPERS (A) SERIES



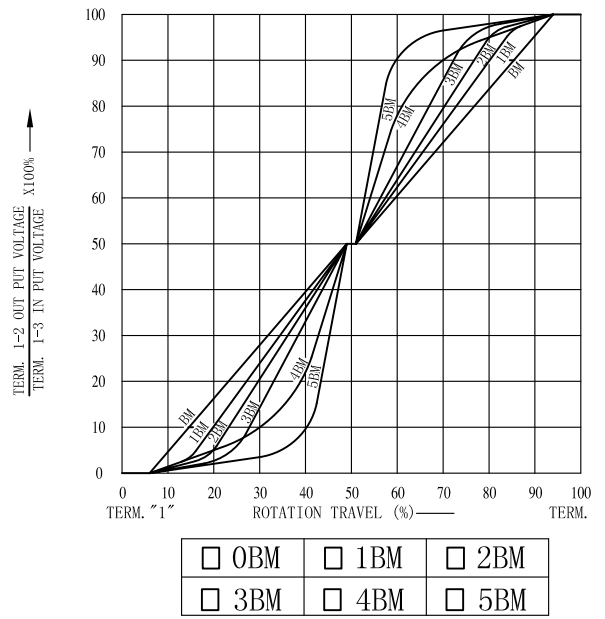
TAPERS (A&C) WITH 50% TAP



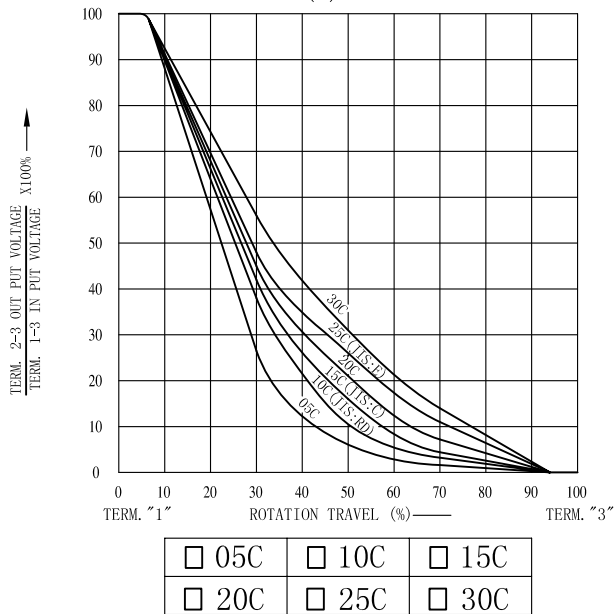
TAPERS (B) SERIES



TAPERS (B) WITH 50% TAP



TAPERS (C) SERIES



TAPERS (M & N)

