# 承 认 书

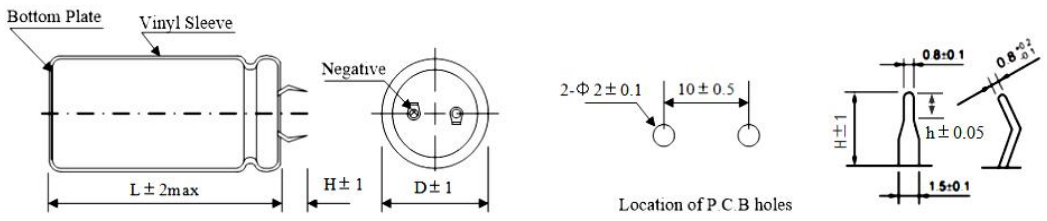
## APPROVAL SHEET

| | |
|---|---|
| 客户料号<br>Customer P/N | |
| 客户名称<br>Customer Name | |
| 产品名称<br>Product Name | Snap-in型铝电解电容 |
| 型号规格<br>Specification | RXA 270uF 450V 30X30 |
| 厂商料号<br>Vendor P/N | RXA450V270M30X30 |
| 发行日期<br>Issue Date | 2026/3/10 |

| 发行单位<br>ISSUED EPARTMENT | |
|---|---|
| 深圳市捷而瑞科技有限公司 | |
| 制作<br>PREPARED BY | 贺金欢<br>HE JIN HUAN |
| 批准<br>APPROVED | 李伟业<br>LI WEI YE |

| 客户承认<br>APPROVED COLUMN | |
|---|---|
| □合格<br>□不合格 | |
| 审核<br>CHECKED | |
| 批准<br>APPROVED | |

## 1.外形尺寸图（Dimensions）




| Item 项目 | D | L | H | h |
|---|---|---|---|---|
| 尺寸(mm) | 30 | 30 | 5.8 | 2.5 |

## 2.规格特性表(Specification and Specifications Table)

| 料号 Part Number | RXA450V270M30X30 | 备注 Note |
|---|---|---|
| 系列 Series | RXA | - |
| 标称容量 CAP(uF) | 270 | |
| 额定电压 WV(V) | 450 | |
| 尺寸 Size DxL(mm) | 30×30 | |
| 容差 Tolerance 120Hz | - 20%~20% | |
| 损失角 DF(%)120Hzmax | 17 | |
| 漏电流 LC(uA)60smax | 1045.7 | |
| 阻抗 ESR(Ω)100KHzmax | N/A | |
| 纹波电流 R.C(mA)120Hz/105°Cmax | 1350 | |
| 浪涌电压 SV(V) | 500 | |
| 寿命 Life(Hrs) | 2000 | |
| 套管颜色和材质 Sleeve | 黑底白字 PET | |
| 工作温度 TEMP(°C) | -40~105 | |

执行标准(Execution standard）:JISC 5101-4

测试环境(In the test environment）:温度 T 20±2°C ，湿度 RH 65%±5%

## 3. 纹波电流补正系数(Multiplier for Ripple Current)

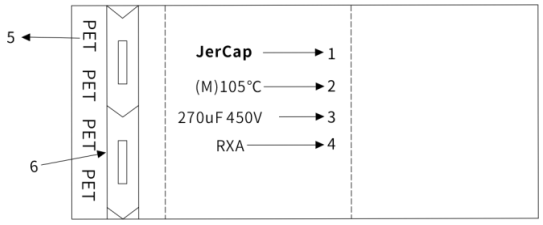
### 3.1 频率系数 Frequency Multipliers

| Freq | 50Hz/60Hz | 120Hz | 300Hz | 1KHz | 10KHz | 100KHz |
|---|---|---|---|---|---|---|
| 6.3V~100V | 0.88 | 1.0 | 1.01 | 1.03 | 1.05 | 1.08 |
| 160V~250V | 0.75 | 1.0 | 1.17 | 1.32 | 1.45 | 1.50 |
| 315V~450V | 0.74 | 1.0 | 1.16 | 1.30 | 1.41 | 1.43 |
| 500V~550V | 0.72 | 1.0 | 1.15 | 1.30 | 1.40 | 1.40 |

### 3.2 温度系数 Temperature Multipliers

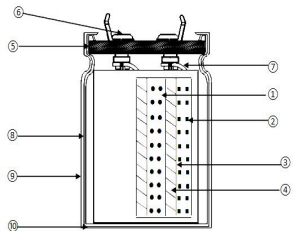
| 温度系数 Temperature Multipliers | | | | | |
|---|---|---|---|---|---|
| Temperatrue(°C) | ≦45 | 60 | 70 | 85 | 105 |
| Multiplier | 1.65 | 1.50 | 1.30 | 1.20 | 1.00 |

## 4.套管标识示意图（Marking)




| |
|---|
| 1.公司商标(Logo) |
| 2. 工作最高温度与容量范围<br>(Operating Temperature Range and Capacitance Tolerance ) |
| 3.电容器规格(额定电压和容量)<br>Capacitance and Rated Vlotage |
| 4.产品系列(Series) |
| 5.胶管材质(Material PET) |
| 6.负极表示带（Polarity bar) |
| 7.颜色印字 Sleeve Color :黑底白字 |

## 5.材料表(Material table)



| 序号<br>NO | 构成部件<br>Component | 材质成分<br>Material |
|---|---|---|
| 1 | 正极箔<br>Al Foil(+) | 高纯铝<br>Aluminum 99.99%或 99.98% |
| 2 | 负极箔<br>Al Foil(-) | 高纯铝<br>Aluminum 99.7% |
| 3 | 电解纸<br>Separator | 木材纸浆、有机纤维<br>paper puCP、Celluose |
| 4 | 电解液<br>Electrolyte | 乙二醇+有机酸盐<br>Glycol+organic acid salt |
| 5 | 盖板<br>Cover disc | 粘胶树脂<br>Viscose resin |
| 6 | 铆钉<br>Rivet | 铝<br>Aluminum |
| 7 | 导箔条<br>Tab | 铝<br>Aluminum |
| 8 | 铝壳<br>Case | 铝<br>Aluminum |
| 9 | 套管<br>Sleeve | 聚对苯二甲酸乙二醇酯<br>PET |
| 10 | 垫片<br>Bottom disc | 聚丙烯<br>PP |

注:电容产品和构成材料均满足 ROHS2.0、REACH、HF 禁用环境管理物质要求。

## 6.测试与试验项目（Test item)

<table>
<tr><th>No</th><th>项 目 Items</th><th>条 件<br>Conditions</th><th>判 定<br>Decide</th></tr>
<tr><td>1</td><td>静电容量<br>Capacitance</td><td rowspan="2">测试频率:120Hz±10Hz<br>Test Frequency ： 120Hz±10Hz<br>测试电压:≤ 0.5Vrms +1.0V.DC<br>Test Voltage:≤ 0.5Vrms +1.0V.DC<br>测试温度:20±2°C<br>Test Temperature:20±2°C</td><td rowspan="2">1.容量偏差符合 2.规格特性表<br>Tolerance capacitance see the table 2<br>2.耗角正切值: Dissipation Factor
<table>
<tr><td>Vote(V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td></tr>
<tr><td>tanδ</td><td>0.6</td><td>0.55</td><td>0.5</td><td>0.45</td><td>0.4</td><td>0.35</td><td>0.3</td></tr>
<tr><td>Vote(V)</td><td>80</td><td>100</td><td>120</td><td colspan="2">160~450</td><td colspan="2">500~550</td></tr>
<tr><td>tanδ</td><td>0.25</td><td>0.2</td><td>0.16</td><td colspan="2">0.15</td><td colspan="2">0.20</td></tr>
</table></td></tr>
<tr><td>2</td><td>耗角正切值<br>Dissipation Factor</td></tr>
<tr><td>3</td><td>漏电流<br>Leakage Current</td><td>测试电压:450 V<br>Test Voltage:450 V<br>充电时间:5 分钟<br>Charging :5min<br>测试温度;20±2°C<br>Test Temperature: 20±2°C</td><td>漏电流≦$3\sqrt{CV}$<br>I≦$3\sqrt{CV}$</td></tr>
<tr><td>4</td><td>温度循环<br>Temperature Cycle</td><td>
<table>
<tr><td rowspan="5">周期<br>One Cycle</td><td>温度<br>Temperature(°C)</td><td rowspan="2">时间 Time (minutes)</td></tr>
<tr><td>低温特性</td></tr>
<tr><td>Rated low category temperature±3</td><td>30±3</td></tr>
<tr><td>25°C</td><td>3max</td></tr>
<tr><td>Rated low category temperature±3</td><td>30±3</td></tr>
<tr><td></td><td>25°C</td><td>3max</td></tr>
</table>
循环次数 Total number of cycles: 5</td><td>1.外观无损坏<br>No appearance defect.<br>2.容量变化率在±5%以内<br>Capacitance change within ±5%<br>3.损失角小于规格值<br>DF smaller than specification value.<br>4.泄漏电流小于规格值<br>Leakage current smaller than specifica</td></tr>
<tr><td>5</td><td>耐焊接热<br>Resistance to Soldering Heat</td><td>预热时间： 120±2 秒<br>Warm up time :120±2 seconds 达到 120±2°C to reach 120±2°C<br>焊锡炉温度：260±5°C .<br>Solder bath temperature: 260±5°C .<br>焊料成分:<br>Solder bath composition:<br>Sn-96.5% ，Ag-3.0% ，Cu-0.5%<br>浸入深度： 1.5~2.0mm<br>Immersion depth: 1.5 to 2.0mm<br>浸入时间： 10±1 秒<br>Immersion duration: 10±1 seconds</td><td>1.无外观缺陷<br>No appearance defect<br>2.容量变化在±5%以内<br>Capacitance change within ±5%<br>3.损失角小于规定值<br>D.F.smaller than specification value.<br>4.泄漏电流值小于规定值<br>Leakage current smaller than specification value.</td></tr>
<tr><td>6</td><td>可焊性<br>Solder Ability</td><td>焊锡炉温度：235±5°C .<br>Solder bath temperature: 235±5°C .<br>焊料成分:<br>Solder bath composition:<br>Sn-96.5% ，Ag-3.0% ，Cu-0.5%<br>浸入深度： 1.5~2.0mm<br>Immersion depth: 1.5 to 2.0mm<br>浸入时间： 10±1 秒<br>Immersion duration: 10±1 seconds</td><td>锡液要覆盖导针浸入表面积的 95%以上<br>A minimum of95% the immersed surface is to be coated with the new solder.</td></tr>
</table>

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<tr><th>No</th><th>项 目<br>Items</th><th>条 件<br>Conditions</th><th>判 定<br>Decide</th></tr>
<tr><td>7</td><td>低温特性<br>（最大阻抗比）<br>Low Temperature Charcteriestics (MaxImpedance Ratio)</td><td colspan="2">
<table>
<tr><td>工作电压 working Voltage (v)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr>
<tr><td>阻抗 Impedance Z(-40°C)/Z(+20°C)</td><td>8</td><td>6</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr>
</table>
<table>
<tr><td>工作电压 working Voltage (v)</td><td>160</td><td>200</td><td>250</td><td>400</td><td>420</td><td>450</td><td>500</td><td>550</td></tr>
<tr><td>阻抗 Impedance Z(-25°C)/Z(+20°C)</td><td>3</td><td>3</td><td>4</td><td>6</td><td>6</td><td>8</td><td>8</td><td>8</td></tr>
</table>
</td></tr>
<tr><td>8</td><td>高湿度储存<br>High Humidty storage</td><td>温度：40±2°C<br>Temperature:40±2°C<br>相对湿度：90%至 95%<br>Relative humidity :90 to 95%<br>持续时间: 240±8 hours<br>Duration ： 240±8 hours</td><td>1.无电气或机械损坏.<br>No electrical or mechanical damage.<br>2.容量变化率在±15%以内.<br>Capacitance change within ±15%.<br>3.损失角值小于规定值.<br>DF smaller than specification volue.<br>4.泄漏电流小于规定值.<br>Leakage current smaller than specification volue.</td></tr>
<tr><td>9</td><td>防爆<br>Vent</td><td>反向电压试验：电压设定为 100±5V.<br>Reverse voltage test: Voltage set to 100±5V.
<table>
<tr><td>电容直径<br>Capacitor diameter</td><td>电流<br>Current(A)</td><td>时间<br>Time</td></tr>
<tr><td>More than 22.5mm</td><td>10</td><td>30 分钟内<br>Within</td></tr>
</table></td><td>在测试期间或之后，电容器不应发生爆炸、闪光、火焰 、火花或火灾，也不应从外壳中喷出任何金属.<br>There shall be no explosion,flash,flame,spark or fire from the capacitor during or after the test,nor shall there be expulsion of any metal from the casing</td></tr>
<tr><td>10</td><td>振动<br>Vibration</td><td>频率范围：10 Hz 至 55 Hz<br>Frequency range : 10 Hz to 55 Hz<br>振幅：0.75 毫米<br>Amplitude :0.75 mm<br>总持续时间：3×2h. X-Y-Z 方向各 2 小时<br>Total duration: 3× 2h.<br>x-y-z directions each for 2 hours</td><td>1.外观:无明显的损伤或电解液漏出<br>Appearance: No visible damage or leakage of electrolyte.<br>2.电容量变化：初始值的±5%以内<br>Capacitance change: within ±5% of the initial value.</td></tr>
<tr><td>11</td><td>高温负荷<br>Load Life</td><td>试验温度: 105±2°C<br>Test Temp: 105±2°C<br>额定电压: 450 V<br>Rated Voltage: 450V<br>试验时间: 2000(+72 -0)小时<br>Test Time: 2000(+72 -0)hours<br>在室温放置 16 小时后再测试。<br>Restore them to room temperature for 16 hours before testing.</td><td>1.外观:无明显的损伤或电解液漏出<br>Appearance: No visible damage or leakage of electrolyte.<br>2.电容量变化:初始值的±20%以内.<br>Capacitance change: within ±20% of the initial value.<br>3.损耗角正切：≤200%规定值<br>tanδ：≤200% of specified value<br>4.漏电流：≤规定值<br>Leakage Current：≤Specified value</td></tr>
<tr><td>12</td><td>高温储存<br>Shelf Life</td><td>试验温度:105±2°C<br>Test Temp: 105±2°C<br>试验时间:1000（+72 -0）小时<br>Test Time: 1000（+72 -0）hours<br>在室温放置 16 小时后再测试。<br>Restore them to room temperature for 16hours before testing.</td><td>1.外观:无明显的损伤或电解液漏出<br>Appearance: No visible damage or leakage of electrolyte.<br>2.电容量变化:初始值的±20%以内.<br>VCapacitance change: within ±20% of the initial value.<br>3.损耗角正切：≤200%规定值<br>tgδ：≤200% of specified value<br>4.漏电流：≤200%规定值<br>Leakage Current：≤200% of specified value</td></tr>
</table>

## 6.测试与试验项目（Test item)

<table>
<tr><th>No</th><th>项 目<br>Items</th><th>条 件<br>Conditions</th><th>判 定<br>Decide</th></tr>
<tr><td>13</td><td>浪涌电压<br>Surge Voltag</td><td>试验温度: 15~35 ℃，Test Temp: 15~35 ℃<br>试验电压：浪涌电压 Test voltage: surge voltage<br>施加浪涌电压 30 秒,然后放电 330 秒,<br>共循环 1000 次.<br>Charge surge voltage for 30 seconds and dischage for 330 seconds. Repeat this cycle 1000 times.
<table>
<tr><td>UR (V)</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>80</td><td>100</td></tr>
<tr><td>S.V(V)</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td><td>79</td><td>100</td><td>125</td></tr>
</table>
<table>
<tr><td>UR (V)</td><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td><td>500</td><td>550</td></tr>
<tr><td>S.V(V)</td><td>200</td><td>250</td><td>300</td><td>400</td><td>450</td><td>500</td><td>550</td><td>600</td></tr>
</table></td><td>1.电容量变化:初始值的±15%以内<br>Capacitance change: within ±15% of the initial value.<br>2.损耗角正切：≤规定值<br>Tgδ:≤ Specified value<br>3.漏电流：≤规定值<br>Leakage current:≤Specified value<br>4.外观：无可见损伤<br>Appearance: No visible damage</td></tr>
</table>