

# FB

## 特点 Features

- 保证105°C 2000小时。Endurance :2000h at 105°C.
- 额定电压范围：6.3~100V。Rated Voltage Range: 6.3~100V
- 双极性，标准品，用于极性翻转或极性变换的电路中。  
Bi-polar Standard series, used in polarity reverse and change circuits.
- 满足RoHS。RoHS Compliant.



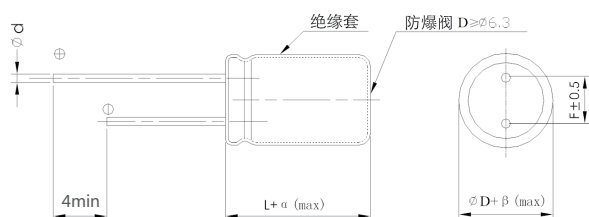
## 主要技术性能 Specifications

| 项目 Items  | 特性 Performance Characteristics   |                          |      |      |      |      |      |      |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
|---|--|--------------------------|------|------|------|------|------|------|----|-----|-------------------------------------|------|------|------|------|------|------|------|------|-------------------------------------|----|---|---|---|---|---|---|---|---------------|
| 类别温度范围<br>Category Temperature Range              | -40~+105°C   |                          |      |      |      |      |      |      |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| 额定电压范围<br>Rated Voltage Range ( $U_R$ )           | 6.3~100V   |                          |      |      |      |      |      |      |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| 标称电容量范围<br>Rated Capacitance Range( $C_R$ )       | 0.47~4700 $\mu$ F  | 120Hz, +20°C             |      |      |      |      |      |      |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| 标称电容量允许偏差<br>Rated Capacitance Tolerance( $C_T$ ) | $\pm 20\%$ (M)   | 120Hz, +20°C             |      |      |      |      |      |      |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| 漏电流<br>Leakage Current( $I_L$ )                   | $\leq 0.03 C_R U_R + 3\mu A$   | +20°C<br>after 2 minutes |      |      |      |      |      |      |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| 损耗角正切值<br>Tangent of loss angle( $\tan\delta$ )   | <table border="1"> <tr> <td><math>U_R</math> (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><math>\tan\delta</math></td> <td>0.28</td> <td>0.24</td> <td>0.22</td> <td>0.20</td> <td>0.15</td> <td>0.14</td> <td>0.13</td> <td>0.13</td> </tr> </table>   | $U_R$ (V)                | 6.3  | 10   | 16   | 25   | 35   | 50   | 63 | 100 | $\tan\delta$                        | 0.28 | 0.24 | 0.22 | 0.20 | 0.15 | 0.14 | 0.13 | 0.13 | Max.<br>120Hz, +20°C                |    |   |   |   |   |   |   |   |               |
| $U_R$ (V)   | 6.3  | 10                       | 16   | 25   | 35   | 50   | 63   | 100  |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| $\tan\delta$                                      | 0.28   | 0.24                     | 0.22 | 0.20 | 0.15 | 0.14 | 0.13 | 0.13 |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| 低温特性<br>Characteristics at low temperature        | <table border="1"> <tr> <td><math>U_R</math> (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><math>Z_{-25^\circ C} / Z_{+20^\circ C}</math></td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td><math>Z_{-40^\circ C} / Z_{+20^\circ C}</math></td> <td>10</td> <td>8</td> <td>6</td> <td>5</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> </tr> </table>                          | $U_R$ (V)                | 6.3  | 10   | 16   | 25   | 35   | 50   | 63 | 100 | $Z_{-25^\circ C} / Z_{+20^\circ C}$ | 4    | 3    | 2    | 2    | 2    | 2    | 2    | 2    | $Z_{-40^\circ C} / Z_{+20^\circ C}$ | 10 | 8 | 6 | 5 | 4 | 4 | 3 | 3 | Max.<br>120Hz |
| $U_R$ (V)   | 6.3  | 10                       | 16   | 25   | 35   | 50   | 63   | 100  |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| $Z_{-25^\circ C} / Z_{+20^\circ C}$               | 4  | 3                        | 2    | 2    | 2    | 2    | 2    | 2    |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| $Z_{-40^\circ C} / Z_{+20^\circ C}$               | 10   | 8                        | 6    | 5    | 4    | 4    | 3    | 3    |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| 耐久性<br>Load life                                  | +105°C, 不超过额定电压的范围内叠加额定纹波电流, 连续加载额定电压2000小时 (每250小时反转极性一次), 恢复16小时后:<br>Overlay the rated ripple current within the range of rated voltage and continuously load the rated voltage for 2000 hours<br>+105°C (with the polarity inverted every 250 hours), Rrecover for 16 hours;<br>电容量变化率Capacitance change: $\pm 20\%$ 初始测量值以内 within $\pm 20\%$ of initial value<br>损耗角正切值 $\tan\delta$ : $\leq 2$ 倍初始规定值 Not more than 200% of specified value<br>漏电流 Leakage current : $\leq$ 初始规定值 Not more than specified value |                          |      |      |      |      |      |      |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |
| 高温贮存<br>Shelf life                                | +105°C, 1000小时贮存后, 恢复16小时后:<br>After storage for 1000 hours at +105°C and then recovery 16 hours:<br>电容量变化率Capacitance change: $\pm 20\%$ 初始测量值以内 within $\pm 20\%$ of initial value<br>损耗角正切值 $\tan\delta$ : $\leq 2$ 倍初始规定值 Not more than 200% of specified value<br>漏电流 Leakage current : $\leq 2$ 倍初始规定值 Not more than 200% of specified value   |                          |      |      |      |      |      |      |    |     |                                     |      |      |      |      |      |      |      |      |                                     |    |   |   |   |   |   |   |   |               |

## 频率修正系数 Frequency Coefficient

| Frequency (Hz)   | Kf  |     |      |            |
|------------------|-----|-----|------|------------|
|                  | 60  | 120 | 1K   | $\geq 10k$ |
| $C_R$ ( $\mu$ F) |     |     |      |            |
| 0.47 ~ 68        | 0.8 | 1   | 1.45 | 1.7        |
| 100 ~ 470        | 0.8 | 1   | 1.35 | 1.5        |
| 680 ~ 4700       | 0.8 | 1   | 1.2  | 1.3        |

## 尺寸图 Dimension drawings



单位 Unit: mm

|   |     |     |          |     |      |     |     |
|---|-----|-----|----------|-----|------|-----|-----|
| D | 5   | 6.3 | 8        | 10  | 12.5 | 16  | 18  |
| F | 2.0 | 2.5 | 3.5      | 5.0 | 5.0  | 7.5 | 7.5 |
| d | 0.5 | 0.5 | 0.5, 0.6 | 0.6 | 0.6  | 0.8 | 0.8 |

|              |                        |
|--------------|------------------------|
| $\alpha$ MAX | $\leq L < 20 > 1.5$    |
|              | $\leq L \geq 20 > 2.0$ |

|             |                        |
|-------------|------------------------|
| $\beta$ MAX | $\leq D < 20 > 0.5$    |
|             | $\leq D \geq 20 > 1.0$ |

规格特性表  
Table of specifications and characteristics

| C <sub>R</sub> (μF) | U <sub>R</sub> (V) | 6.3           |   | 10            |   | 16            |   | 25            |   | 35            |   |
|---------------------|--------------------|---------------|---|---------------|---|---------------|---|---------------|---|---------------|---|
|                     |                    | ΦD×L<br>mm*mm | I <sub>AC,max</sub><br>120Hz<br>105°C<br>mA | ΦD×L<br>mm*mm | I <sub>AC,max</sub><br>120Hz<br>105°C<br>mA | ΦD×L<br>mm*mm | I <sub>AC,max</sub><br>120Hz<br>105°C<br>mA | ΦD×L<br>mm*mm | I <sub>AC,max</sub><br>120Hz<br>105°C<br>mA | ΦD×L<br>mm*mm | I <sub>AC,max</sub><br>120Hz<br>105°C<br>mA |
| 4.7                 |                    |               |   |               |   |               |   |               |   | 5×11          | 34  |
| 10                  |                    |               |   |               |   | 5×11          | 38  | 5×11          | 42  | 5×11          | 43  |
| 22                  |                    |               |   | 5×11          | 48  | 5×11          | 55  | 6.3×11        | 65  | 6.3×11        | 73  |
| 33                  |                    | 5×11          | 58  | 5×11          | 60  | 5×11          | 64  | 6.3×11        | 80  | 8×11.5        | 100   |
| 47                  |                    | 5×11          | 76  | 5×11          | 76  | 6.3×11        | 95  | 6.3×11        | 95  | 8×11.5        | 120   |
| 100                 |                    | 5×11          | 100   | 6.3×11        | 125   | 6.3×11        | 130   | 8×11.5        | 160   | 10×12.5       | 200   |
| 220                 |                    | 8×11.5        | 155   | 8×11.5        | 160   | 8×11.5        | 205   | 10×12.5       | 255   | 10×20         | 325   |
| 330                 |                    | 8×11.5        | 205   | 8×11.5        | 215   | 10×12.5       | 260   | 10×16         | 320   | 12.5×20       | 380   |
| 470                 |                    | 10×12.5       | 280   | 10×12.5       | 310   | 10×16         | 365   | 12.5×20       | 435   | 12.5×25       | 520   |
| 1000                |                    | 10×16         | 360   | 10×20         | 445   | 12.5×20       | 535   | 12.5×25       | 580   | 16×25         | 780   |
| 2200                |                    | 12.5×20       | 680   | 16×25         | 885   | 16×30         | 1050  |               |   |               |   |
| 3300                |                    | 16×25         | 1050  | 16×30         | 1150  |               |   |               |   |               |   |
| 4700                |                    | 16×30         | 1250  |               |   |               |   |               |   |               |   |

| C <sub>R</sub> (μF) | U <sub>R</sub> (V) | 50            |   | 63            |   | 100           |   |
|---------------------|--------------------|---------------|---|---------------|---|---------------|---|
|                     |                    | ΦD×L<br>mm*mm | I <sub>AC,max</sub><br>120Hz<br>105°C<br>mA | ΦD×L<br>mm*mm | I <sub>AC,max</sub><br>120Hz<br>105°C<br>mA | ΦD×L<br>mm*mm | I <sub>AC,max</sub><br>120Hz<br>105°C<br>mA |
| 0.47                |                    | 5×11          | 8   | 5×11          | 9   | 5×11          | 10  |
| 1                   |                    | 5×11          | 12  | 5×11          | 15  | 5×11          | 16  |
| 2.2                 |                    | 5×11          | 18  | 5×11          | 22  | 6.3×11        | 24  |
| 3.3                 |                    | 5×11          | 27  | 5×11          | 28  | 6.3×11        | 30  |
| 4.7                 |                    | 5×11          | 34  | 6.3×11        | 34  | 6.3×11        | 35  |
| 10                  |                    | 5×11          | 34  | 6.3×11        | 57  | 8×11.5        | 71  |
|                     |                    | 6.3×11        | 52  |               |   |               |   |
| 22                  |                    | 8×11.5        | 89  | 8×11.5        | 95  | 10×16         | 135   |
| 33                  |                    | 8×11.5        | 105   | 10×12.5       | 135   | 10×20         | 185   |
| 47                  |                    | 10×12.5       | 150   | 10×16         | 180   | 12.5×20       | 200   |
| 100                 |                    | 10×16         | 205   | 12.5×20       | 320   | 16×25         | 425   |
| 220                 |                    | 12.5×20       | 360   | 12.5×25       | 430   | 16×35         | 520   |
| 330                 |                    | 16×25         | 550   | 16×30         | 580   |               |   |
| 470                 |                    | 16×30         | 580   | 18×35         | 760   |               |   |