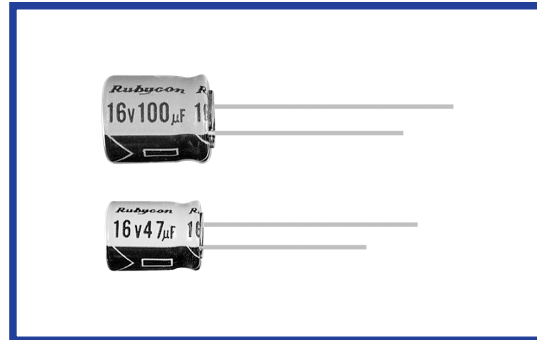


TWL シリーズ
SERIES

低漏れ電流品
Low Leakage Current

RoHS
compliance



◆規格表 / SPECIFICATIONS

| 項目 Items | 特 性 Characteristics | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-------------------------------|---|---------------------|----------------------|------------------------------|--|-----|---------------|----------------------------|---|------|------|----|----|----|--|------------------|------|------|------|------|------|------|--|--------|--|--|--|--|--|--|---------------|----------------------------|-----|----|----|----|----|----|--|------|------|------|------|------|------|------|--|
| カテゴリ温度範囲 Category Temperature Range | -40~+85°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 定格電圧範囲 Rated Voltage Range | 6.3~50Vdc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 静電容量許容差 Capacitance Tolerance | ±20% (20°C, 120Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 漏れ電流 Leakage Current (MAX) | I=0.002CV又は0.4µAのいずれか大なる値以下 (定格電圧印加2分後) I=0.002CV or 0.4µA whichever is greater. (After 2 minutes application of rated voltage) I=漏れ電流(µA) C=静電容量(µF) V=定格電圧(Vdc) Leakage Current Capacitance Rated Voltage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 損失角の正接 (tanδ) Dissipation Factor (MAX) | <table border="1"> <tr> <td colspan="2">〈L=7〉</td> <td colspan="5"></td> <td>(20°C, 120Hz)</td> </tr> <tr> <td>定格電圧(Vdc) Rated Voltage</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td></td> </tr> <tr> <td>tanδ</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td></td> </tr> <tr> <td colspan="2">〈L≥11〉</td> <td colspan="5"></td> <td>(20°C, 120Hz)</td> </tr> <tr> <td>定格電圧(Vdc) Rated Voltage</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td></td> </tr> <tr> <td>tanδ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td></td> </tr> </table> <p>1000µFを越えるものは1000µF増す毎に上表の値に0.02を加えた値とする。 When capacitance is over 1000µF, tanδ shall be added 0.02 to the listed value with increase of every 1000µF.</p> | 〈L=7〉 | | | | | | | (20°C, 120Hz) | 定格電圧(Vdc) Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | | tanδ | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | | 〈L≥11〉 | | | | | | | (20°C, 120Hz) | 定格電圧(Vdc) Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | | tanδ | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | |
| 〈L=7〉 | | | | | | | (20°C, 120Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 定格電圧(Vdc) Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| tanδ | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 〈L≥11〉 | | | | | | | (20°C, 120Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 定格電圧(Vdc) Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| tanδ | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 耐 久 性 Endurance | <p>85°C中で右表の時間定格電圧(リップル重量)印加後、下記項目を満足すること。 After applying rated voltage with rated ripple current for specified time at 85°C, the capacitors shall meet the following requirements.</p> <table border="1"> <tr> <td>静電容量変化率 Capacitance Change</td> <td>初期値の±25%以内 Within ±25% of the initial value.</td> <td>ケースサイズ Case Size</td> <td>時間(hrs) Life Time</td> </tr> <tr> <td>損失角の正接 Dissipation Factor</td> <td>規格値の200%以下 Not more than 200% of the specified value.</td> <td>L=7</td> <td>1000</td> </tr> <tr> <td>漏れ電流 Leakage Current</td> <td>規格値以下 Not more than the specified value.</td> <td>L≥11</td> <td>2000</td> </tr> </table> | 静電容量変化率 Capacitance Change | 初期値の±25%以内 Within ±25% of the initial value. | ケースサイズ Case Size | 時間(hrs) Life Time | 損失角の正接 Dissipation Factor | 規格値の200%以下 Not more than 200% of the specified value. | L=7 | 1000 | 漏れ電流 Leakage Current | 規格値以下 Not more than the specified value. | L≥11 | 2000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 静電容量変化率 Capacitance Change | 初期値の±25%以内 Within ±25% of the initial value. | ケースサイズ Case Size | 時間(hrs) Life Time | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 損失角の正接 Dissipation Factor | 規格値の200%以下 Not more than 200% of the specified value. | L=7 | 1000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 漏れ電流 Leakage Current | 規格値以下 Not more than the specified value. | L≥11 | 2000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 低温特性 Low Temperature Stability (インピーダンス比) Impedance Ratio (MAX) | <table border="1"> <tr> <td>定格電圧(Vdc) Rated Voltage</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>(120Hz)</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td></td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>8</td> <td>6</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td></td> </tr> </table> | 定格電圧(Vdc) Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | (120Hz) | Z(-25°C)/Z(20°C) | 4 | 3 | 2 | 2 | 2 | 2 | | Z(-40°C)/Z(20°C) | 8 | 6 | 6 | 4 | 4 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 定格電圧(Vdc) Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | (120Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z(-25°C)/Z(20°C) | 4 | 3 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z(-40°C)/Z(20°C) | 8 | 6 | 6 | 4 | 4 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

◆リップル電流補正係数 / MULTIPLIER FOR RIPPLE CURRENT

周波数係数 Frequency coefficient

| 周波数 (Hz) Frequency | 60(50) | 120 | 500 | 1k | 10k≤ |
|-----------------------|--------|------|------|------|------|
| 0.47~1µF | 0.50 | 1.00 | 1.20 | 1.30 | 1.50 |
| 2.2~4.7µF | 0.65 | 1.00 | 1.20 | 1.30 | 1.50 |
| 10~47µF | 0.80 | 1.00 | 1.20 | 1.30 | 1.50 |
| 100~1000µF | 0.80 | 1.00 | 1.10 | 1.15 | 1.20 |
| 2200µF | 0.80 | 1.00 | 1.05 | 1.10 | 1.15 |

◆副記号 / OPTION

| | 記号 Code |
|--------------------|---------|
| PETスリーブ PET Sleeve | EFC |

◆呼称方法 / PART NUMBER

| | | | | | | |
|-----------------------|-----------------|---------------------|----------------------------------|---------------|-------------------------|---------------------|
| □□□ | TWL | □□□□□ | M | □□□ | □□ | D×L |
| 定格電圧 Rated Voltage | シリーズ名 Series | 静電容量 Capacitance | 静電容量許容差 Capacitance Tolerance | 副記号 Option | リード加工記号 Lead Forming | ケースサイズ Case Size |

