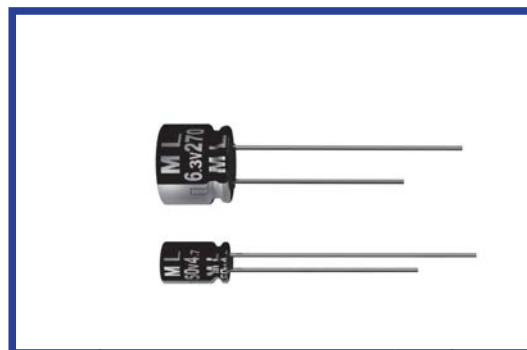


ML series

105°C 3000~5000時間品 高さ5mm~9mm
105°C 3000~5000hours. 5mm~9mm Height



◆規格表/SPECIFICATIONS

| 項目 Item | 特性 Characteristics | | | | | | | | | | | | | | | | | | | | | |
|--|---|-------------------------------|---|---------------------|----------------------|------------------------------|--|-------|-------------------|-------------------------|---|-------|------|------|------|-------------------|----|----|---|---|---|---|
| カテゴリ温度範囲 Category Temperature Range | -40~+105°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=0.01CV又は3μAのいずれか大なる値以下(定格電圧印加2分後) I=0.01CV or 3μA 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(tan δ) Dissipation Factor (MAX) | <table border="1"> <thead> <tr> <th>定格電圧(Vdc) Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>tan δ</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.20</td> </tr> </tbody> </table> (20°C, 120Hz) | 定格電圧(Vdc) Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | tan δ | 0.40 | 0.35 | 0.30 | 0.25 | 0.20 | 0.20 | | | | | | | |
| 定格電圧(Vdc) Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | |
| tan δ | 0.40 | 0.35 | 0.30 | 0.25 | 0.20 | 0.20 | | | | | | | | | | | | | | | | |
| 耐久性 Endurance | 105°C中で右表の時間定格電圧(リップル重畳)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 105°C, the capacitors shall meet the following requirements. <table border="1"> <thead> <tr> <th>静電容量変化率 Capacitance Change</th> <th>初期値の±30%以内 Within ±30% of the initial value.</th> <th>ケースサイズ Case Size</th> <th>時間(hrs) Time(hrs)</th> </tr> </thead> <tbody> <tr> <td>損失角の正接 Dissipation Factor</td> <td>規格値の300%以下 Not more than 300% of the specified value.</td> <td>L=5mm</td> <td>3000</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≥7mm</td> <td>5000</td> </tr> </tbody> </table> | 静電容量変化率 Capacitance Change | 初期値の±30%以内 Within ±30% of the initial value. | ケースサイズ Case Size | 時間(hrs) Time(hrs) | 損失角の正接 Dissipation Factor | 規格値の300%以下 Not more than 300% of the specified value. | L=5mm | 3000 | 漏れ電流 Leakage Current | 規格値以下 Not more than the specified value. | L≥7mm | 5000 | | | | | | | | | |
| 静電容量変化率 Capacitance Change | 初期値の±30%以内 Within ±30% of the initial value. | ケースサイズ Case Size | 時間(hrs) Time(hrs) | | | | | | | | | | | | | | | | | | | |
| 損失角の正接 Dissipation Factor | 規格値の300%以下 Not more than 300% of the specified value. | L=5mm | 3000 | | | | | | | | | | | | | | | | | | | |
| 漏れ電流 Leakage Current | 規格値以下 Not more than the specified value. | L≥7mm | 5000 | | | | | | | | | | | | | | | | | | | |
| 低温特性 Low Temperature Stability (インピーダンス比) Impedance Ratio (MAX) | <table border="1"> <thead> <tr> <th>定格電圧(Vdc) Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>12</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> </tr> </tbody> </table> (120Hz) | 定格電圧(Vdc) Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | Z(-25°C)/Z(+20°C) | 6 | 4 | 4 | 3 | 2 | 2 | Z(-40°C)/Z(+20°C) | 12 | 10 | 8 | 6 | 4 | 4 |
| 定格電圧(Vdc) Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | |
| Z(-25°C)/Z(+20°C) | 6 | 4 | 4 | 3 | 2 | 2 | | | | | | | | | | | | | | | | |
| Z(-40°C)/Z(+20°C) | 12 | 10 | 8 | 6 | 4 | 4 | | | | | | | | | | | | | | | | |

◆呼称方法/PART NUMBER

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

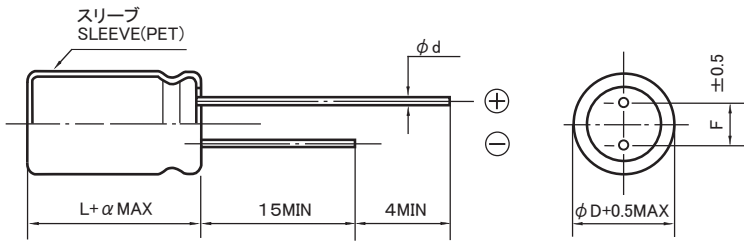
◆リップル電流補正係数/
MULTIPLIER FOR RIPPLE CURRENT

| 周波数(Hz) Frequency | 60(50) | 120 | 1k | 10k | 100k≤ |
|----------------------|--------|------|------|------|-------|
| 1μF | 0.50 | 1.00 | 1.20 | 1.30 | 1.50 |
| 2.2~6.8μF | 0.65 | 1.00 | 1.20 | 1.30 | 1.50 |
| 10~82μF | 0.80 | 1.00 | 1.20 | 1.30 | 1.50 |
| 100~1000μF | 0.80 | 1.00 | 1.10 | 1.15 | 1.20 |

◆副記号/OPTION

EFC : PETスリーブ PET Sleeve

◆寸法図／DIMENSIONS



| | | (mm) | | | | | | |
|----------|---|------|--|-----|-----|-------|-----|-----|
| ϕD | 4 | 5 | 6.3 | 8x5 | 8x7 | 8x7.5 | 8x9 | 10 |
| ϕd | 0.45 | | | | | | | 0.6 |
| F | 1.5 | 2.0 | 2.5 | 3.5 | | | 5.0 | |
| α | 35~100V _{dc} 160~450V _{dc} | | L=7 : α = 1.0 L=5 : α = 1.5 | | 1.5 | 1.0 | 2.0 | |

◆標準品一覧表／STANDARD SIZE

Size $\phi D \times L$ (mm), Rated Ripple Current (mA r.m.s./105°C, 120Hz)

| 定格電圧 (V _{dc}) 静電容量 (μF) | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | |
|---|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple |
| 1 | | | | | | | | | | | 4x5 | 8 |
| 2.2 | | | | | | | | | | | 4x5 | 11 |
| 3.3 | | | | | | | | | | | 4x5 | 14 |
| 4.7 | | | | | | | | | | | 4x7 | 23 |
| 6.8 | | | | | | | | | 4x5 | 17 | 5x5 | 25 |
| 10 | | | | | | | 4x5 | 18 | 4x7 | 28 | 5x7 | 30 |
| 12 | | | | | | | | | 5x5 | 34 | 6.3x5 | 37 |
| 15 | | | | | | | 4x7 | 35 | | | | |
| 18 | | | | | 4x5 | 20 | | | 5x7 | 48 | 6.3x7 | 50 |
| 22 | | | 4x5 | 22 | 4x7 | 40 | 5x5 | 42 | | | 8x5 | 62 |
| 27 | 4x5 | 25 | | | | | 5x7 | 57 | 6.3x5 | 58 | 6.3x7 | 62 |
| 33 | | | 4x7 | 43 | 5x5 | 45 | | | | | 8x7 | 75 |
| 39 | | | | | 5x7 | 65 | | | 6.3x7 | 76 | | |
| 47 | 4x7 | 47 | 5x5 | 48 | | | 6.3x5 | 65 | 8x5 | 80 | | |
| 56 | 5x5 | 50 | 5x7 | 68 | | | 6.3x7 | 85 | 8x7 | 105 | 8x7.5 | 115 |
| 68 | | | | | 6.3x5 | 70 | | | | | | |
| 82 | 5x7 | 75 | | | | | 8x5 | 100 | | | 8x9 | 160 |
| 100 | | | 6.3x5 | 75 | 6.3x7 | 95 | 8x7 | 112 | 8x7.5 | 125 | | |
| 120 | 6.3x5 | 80 | 6.3x7 | 100 | 8x5 | 110 | | | | | 10x9 | 315 |
| 150 | | | | | 8x7 | 125 | 8x7.5 | 140 | 8x9 | 180 | | |
| 180 | 6.3x7 | 110 | 8x5 | 120 | | | | | | | | |
| 220 | 8x5 | 125 | 8x7 | 160 | 8x7.5 | 170 | 8x9 | 190 | 10x9 | 360 | | |
| 270 | 8x7 | 165 | | | | | | | | | | |
| 330 | | | 8x7.5 | 180 | 8x9 | 195 | 10x9 | 450 | | | | |
| 470 | 8x7.5 | 190 | 8x9 | 210 | 10x9 | 460 | | | | | | |
| 560 | 8x9 | 230 | | | | | | | | | | |
| 680 | | | 10x9 | 470 | | | | | | | | |
| 1000 | 10x9 | 480 | | | | | | | | | | |