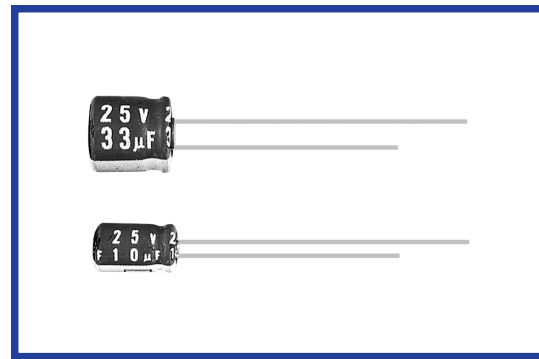


MS7 シリーズ  
SERIES

85°C 高さ7mm品  
85°C 7mm Height

・85°C 1000時間品。  
Load Life : 85°C 1000 hours.

RoHS  
compliance



◆規格表／SPECIFICATIONS

| 項 目<br>Items                                                               | 特 性<br>Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                     |                                                 |                                   |                                                          |                            |                                             |      |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------|-----------------------------------|----------------------------------------------------------|----------------------------|---------------------------------------------|------|----|----|----------------|------|------|------|------|------|------|------|------|----------------|----|----|---|---|---|---|---|---|
| カ テ ゴ リ 温 度 範 囲<br>Category Temperature Range                              | -40~+85℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                     |                                                 |                                   |                                                          |                            |                                             |      |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| 定 格 電 圧 範 囲<br>Rated Voltage Range                                         | 4~63Vdc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                     |                                                 |                                   |                                                          |                            |                                             |      |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| 静 電 容 量 許 容 差<br>Capacitance Tolerance                                     | ±20% (20℃, 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                     |                                                 |                                   |                                                          |                            |                                             |      |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| 漏 れ 電 流<br>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)<br>I=0.01CV or 3μA whichever is greater. (After 2 minutes application of rated voltage)<br><br>I=漏れ電流(μA)                      C=静電容量(μF)                      V=定格電圧(Vdc)<br>Leakage Current                      Capacitance                      Rated Voltage                                                                                                                                                                                                                             |                                     |                                                 |                                   |                                                          |                            |                                             |      |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| 損 失 角 の 正 接 (tanδ)<br>Dissipation Factor(MAX)                              | <table><tr><td>定格電圧(Vdc)<br/>Rated Voltage</td><td>4</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>0.35</td><td>0.24</td><td>0.20</td><td>0.17</td><td>0.15</td><td>0.13</td><td>0.10</td><td>0.10</td></tr></table> (20℃, 120Hz)                                                                                                                                                                                                                                    | 定格電圧(Vdc)<br>Rated Voltage          | 4                                               | 6.3                               | 10                                                       | 16                         | 25                                          | 35   | 50 | 63 | tanδ           | 0.35 | 0.24 | 0.20 | 0.17 | 0.15 | 0.13 | 0.10 | 0.10 |                |    |    |   |   |   |   |   |   |
| 定格電圧(Vdc)<br>Rated Voltage                                                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6.3                                 | 10                                              | 16                                | 25                                                       | 35                         | 50                                          | 63   |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| tanδ                                                                       | 0.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0.24                                | 0.20                                            | 0.17                              | 0.15                                                     | 0.13                       | 0.10                                        | 0.10 |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| 耐 久 性<br>Endurance                                                         | 85℃中で1000時間定格電圧(リプル重畳)印加後、下記項目を満足すること。<br>After applying rated voltage with rated ripple current for 1000 hrs at 85℃, the capacitors shall meet the following requirements. <table><tr><td>静 電 容 量 変 化 率<br/>Capacitance Change</td><td>初期値の±20%以内<br/>Within ±20% of the initial value.</td></tr><tr><td>損 失 角 の 正 接<br/>Dissipation Factor</td><td>規格値の200%以下<br/>Not more than 200% of the specified value.</td></tr><tr><td>漏 れ 電 流<br/>Leakage Current</td><td>規格値以下<br/>Not more than the specified value.</td></tr></table> | 静 電 容 量 変 化 率<br>Capacitance Change | 初期値の±20%以内<br>Within ±20% of the initial value. | 損 失 角 の 正 接<br>Dissipation Factor | 規格値の200%以下<br>Not more than 200% of the specified value. | 漏 れ 電 流<br>Leakage Current | 規格値以下<br>Not more than the specified value. |      |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| 静 電 容 量 変 化 率<br>Capacitance Change                                        | 初期値の±20%以内<br>Within ±20% of the initial value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                                 |                                   |                                                          |                            |                                             |      |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| 損 失 角 の 正 接<br>Dissipation Factor                                          | 規格値の200%以下<br>Not more than 200% of the specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                     |                                                 |                                   |                                                          |                            |                                             |      |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| 漏 れ 電 流<br>Leakage Current                                                 | 規格値以下<br>Not more than the specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |                                                 |                                   |                                                          |                            |                                             |      |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| 低 温 特 性<br>Low Temperature Stability<br>(インピーダンス比)<br>Impedance Ratio(MAX) | <table><tr><td>定格電圧(Vdc)<br/>Rated Voltage</td><td>4</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>Z(-25℃)/Z(20℃)</td><td>7</td><td>4</td><td>3</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(-40℃)/Z(20℃)</td><td>15</td><td>10</td><td>8</td><td>6</td><td>4</td><td>4</td><td>4</td><td>4</td></tr></table> (120Hz)                                                                                                                                     | 定格電圧(Vdc)<br>Rated Voltage          | 4                                               | 6.3                               | 10                                                       | 16                         | 25                                          | 35   | 50 | 63 | Z(-25℃)/Z(20℃) | 7    | 4    | 3    | 3    | 2    | 2    | 2    | 2    | Z(-40℃)/Z(20℃) | 15 | 10 | 8 | 6 | 4 | 4 | 4 | 4 |
| 定格電圧(Vdc)<br>Rated Voltage                                                 | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6.3                                 | 10                                              | 16                                | 25                                                       | 35                         | 50                                          | 63   |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| Z(-25℃)/Z(20℃)                                                             | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4                                   | 3                                               | 3                                 | 2                                                        | 2                          | 2                                           | 2    |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |
| Z(-40℃)/Z(20℃)                                                             | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10                                  | 8                                               | 6                                 | 4                                                        | 4                          | 4                                           | 4    |    |    |                |      |      |      |      |      |      |      |      |                |    |    |   |   |   |   |   |   |

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

周波数係数 Frequency coefficient

| 周波数(Hz)<br>Frequency | 60(50) | 120  | 500  | 1k   | 10k≤ |
|----------------------|--------|------|------|------|------|
| 係数<br>Coefficient    |        |      |      |      |      |
| 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 |
| 100~470μF            | 0.80   | 1.00 | 1.10 | 1.15 | 1.20 |

◆副記号／OPTION

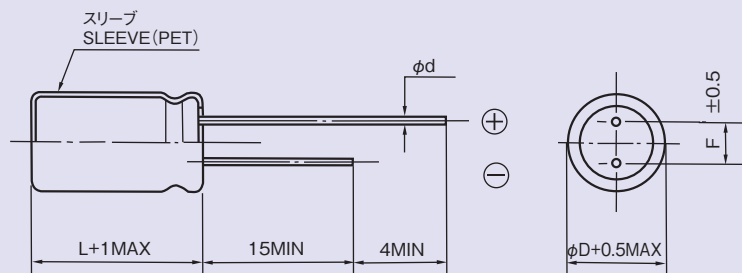
|                    | 記号 Code |
|--------------------|---------|
| PETスリーブ PET Sleeve | EFC     |

◆呼称方法／PART NUMBER

|                       |                 |                     |                                  |               |                         |                     |
|-----------------------|-----------------|---------------------|----------------------------------|---------------|-------------------------|---------------------|
| □□□                   | MS7             | □□□□□               | M                                | □□□           | □□                      | D×L                 |
| 定格電圧<br>Rated Voltage | シリーズ名<br>Series | 静電容量<br>Capacitance | 静電容量許容差<br>Capacitance Tolerance | 副記号<br>Option | リード加工記号<br>Lead Forming | ケースサイズ<br>Case Size |

◆寸法図／DIMENSIONS

(mm)



|    |      |     |     |     |
|----|------|-----|-----|-----|
| φD | 4    | 5   | 6.3 | 8   |
| φd | 0.45 |     |     |     |
| F  | 1.5  | 2.0 | 2.5 | 3.5 |

◆標準品一覧表／STANDARD SIZE

Size φD×L(mm), Rated Ripple Current (mA r.m.s./85°C, 120Hz)

| 定格電圧<br>Vdc<br>静電容量<br>Cap (μF) | 4     |        | 6.3   |        | 10    |        | 16    |        |
|---------------------------------|-------|--------|-------|--------|-------|--------|-------|--------|
|                                 | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple |
| 10                              |       |        |       |        |       |        | 4×7   | 28     |
| 22                              |       |        | 4×7   | 34     | 4×7   | 38     | 4×7   | 42     |
| 33                              | 4×7   | 33     | 4×7   | 42     | 4×7   | 46     | 5×7   | 62     |
| 47                              | 4×7   | 39     | 4×7   | 50     | 5×7   | 66     | 5×7   | 73     |
| 100                             | 5×7   | 65     | 5×7   | 87     | 6.3×7 | 99     | 6.3×7 | 110    |
| 220                             | 6.3×7 | 110    | 6.3×7 | 133    | 8×7   | 165    | 8×7   | 145    |
| 330                             | 8×7   | 165    | 8×7   | 180    | 8×7   | 210    |       |        |
| 470                             | 8×7   | 190    |       |        |       |        |       |        |

| 定格電圧<br>Vdc<br>静電容量<br>Cap (μF) | 25    |        | 35    |        | 50    |        | 63    |        |
|---------------------------------|-------|--------|-------|--------|-------|--------|-------|--------|
|                                 | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple |
| 1                               |       |        |       |        | 4×7   | 12     | 4×7   | 12     |
| 2.2                             |       |        |       |        | 4×7   | 16     | 4×7   | 16     |
| 3.3                             |       |        | 4×7   | 18     | 4×7   | 19     | 5×7   | 24     |
| 4.7                             | 4×7   | 21     | 4×7   | 22     | 4×7   | 24     | 6.3×7 | 33     |
| 10                              | 4×7   | 31     | 5×7   | 32     | 5×7   | 42     | 6.3×7 | 45     |
| 22                              | 5×7   | 55     | 6.3×7 | 60     | 6.3×7 | 64     |       |        |
| 33                              | 6.3×7 | 66     | 6.3×7 | 73     | 8×7   | 75     |       |        |
| 47                              | 6.3×7 | 80     | 8×7   | 95     | 8×7   | 85     |       |        |
| 100                             | 8×7   | 115    | 8×7   | 115    |       |        |       |        |