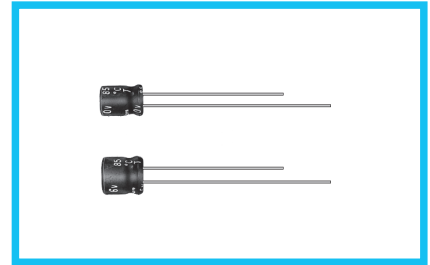


# UMA

5mmL, Standard, For General Purposes



- Standard series with 5mm height.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).



## Specifications

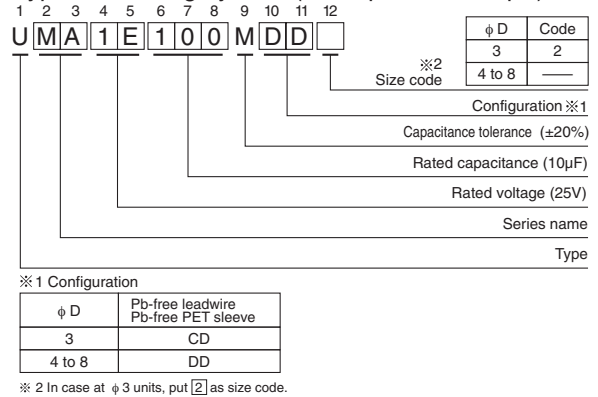
| Item                                   | Performance Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------|-------------|-----------------------------------------------|-----------------|---------------------------------------------------|-----------------------------|----|----------------------------------------|--------------|------|-------------|-------------|-------------|-------------|-------------|-----------------|----|---|---|---|---|---|
| Category Temperature Range             | -40 to +85°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Rated Voltage Range                    | 4 to 50V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Rated Capacitance Range                | 1 to 470μF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Rated Capacitance Tolerance            | ±20% at 120Hz, 20°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Leakage Current                        | After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3(μA), whichever is greater.                                                                                                                                                                                                                                                                                                                                                                           |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Tangent of loss angle (tan δ)          | Measurement frequency : 120Hz at 20°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
|                                        | <table border="1"> <tr> <td>Rated voltage (V)</td> <td>4</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td rowspan="2">Figures in ( ) are for UMR.</td> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.35</td> <td>0.24 (0.30)</td> <td>0.20 (0.24)</td> <td>0.16 (0.20)</td> <td>0.14 (0.18)</td> <td>0.12 (0.16)</td> <td>0.10 (0.13)</td> </tr> </table>                                                                                                                      | Rated voltage (V)  | 4                                                                             | 6.3         | 10                                            | 16              | 25                                                | 35                          | 50 | Figures in ( ) are for UMR.            | tan δ (MAX.) | 0.35 | 0.24 (0.30) | 0.20 (0.24) | 0.16 (0.20) | 0.14 (0.18) | 0.12 (0.16) | 0.10 (0.13)     |    |   |   |   |   |   |
| Rated voltage (V)                      | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6.3                | 10                                                                            | 16          | 25                                            | 35              | 50                                                | Figures in ( ) are for UMR. |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| tan δ (MAX.)                           | 0.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.24 (0.30)        | 0.20 (0.24)                                                                   | 0.16 (0.20) | 0.14 (0.18)                                   | 0.12 (0.16)     | 0.10 (0.13)                                       |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Stability at Low Temperature           | Measurement frequency : 120Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
|                                        | <table border="1"> <tr> <td>Rated voltage (V)</td> <td>4</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>Impedance ratio Z-25°C / Z+20°C (MAX.)</td> <td>7</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>15</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> </tr> </table>                                                                                          | Rated voltage (V)  | 4                                                                             | 6.3         | 10                                            | 16              | 25                                                | 35                          | 50 | Impedance ratio Z-25°C / Z+20°C (MAX.) | 7            | 4    | 3           | 2           | 2           | 2           | 2           | Z-40°C / Z+20°C | 15 | 8 | 6 | 4 | 4 | 3 |
| Rated voltage (V)                      | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6.3                | 10                                                                            | 16          | 25                                            | 35              | 50                                                |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Impedance ratio Z-25°C / Z+20°C (MAX.) | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4                  | 3                                                                             | 2           | 2                                             | 2               | 2                                                 |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Z-40°C / Z+20°C                        | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8                  | 6                                                                             | 4           | 4                                             | 3               | 3                                                 |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Endurance                              | <p>The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±20% of the initial capacitance value (UMR &amp; φ3 product : Within ±25%)</td> </tr> <tr> <td>tan δ</td> <td>200% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table> | Capacitance change | Within ±20% of the initial capacitance value (UMR & φ3 product : Within ±25%) | tan δ       | 200% or less than the initial specified value | Leakage current | Less than or equal to the initial specified value |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Capacitance change                     | Within ±20% of the initial capacitance value (UMR & φ3 product : Within ±25%)                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| tan δ                                  | 200% or less than the initial specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Leakage current                        | Less than or equal to the initial specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Shelf Life                             | After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.                                                                                                                                                                                                                                                                   |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |
| Marking                                | Printed with white color letter on black sleeve.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                                                                               |             |                                               |                 |                                                   |                             |    |                                        |              |      |             |             |             |             |             |                 |    |   |   |   |   |   |

## Radial Lead Type



● Please refer to page 20 about the end seal configuration.

## Type numbering system (Example : 25V 10μF)



## Dimensions

| Cap. (μF) | Code | 4        |  | 6.3            |  | 10             |  | 16             |  | 25           |  | 35           |  | 50           |                                       |
|-----------|------|----------|--|----------------|--|----------------|--|----------------|--|--------------|--|--------------|--|--------------|---------------------------------------|
|           |      | 0G       |  | 0J             |  | 1A             |  | 1C             |  | 1E           |  | 1V           |  | 1H           |                                       |
| 1         | 010  |          |  |                |  |                |  |                |  |              |  |              |  |              | 4×5(3×5) 8.4(8.0)                     |
| 2.2       | 2R2  |          |  |                |  |                |  |                |  |              |  |              |  |              | ● 4×5 13(10)                          |
| 3.3       | 3R3  |          |  |                |  |                |  |                |  |              |  |              |  |              | 4×5 17                                |
| 4.7       | 4R7  |          |  |                |  |                |  |                |  |              |  |              |  |              | 5×5 20                                |
| 10        | 100  |          |  | 3×5 15         |  |                |  |                |  |              |  |              |  |              | ● 4×5 23(18) 5×5 27 6.3×5 29 6.3×5 33 |
| 22        | 220  | 3×5 19   |  | ● 4×5 28(21)   |  | 5×5 33         |  | 5×5 37         |  | 6.3×5 42     |  | 6.3×5 46     |  | □ 8×5 52(48) | 8×5 71                                |
| 33        | 330  | 4×5 28   |  | 5×5 37         |  | 5×5 41         |  | ○ 6.3×5 49(43) |  | 6.3×5 52     |  | □ 8×5 62(52) |  | 8×5 71       |                                       |
| 47        | 470  | 4×5 33   |  | 5×5 45         |  | ○ 6.3×5 52(43) |  | 6.3×5 58       |  | □ 8×5 70(62) |  | 8×5 80       |  |              |                                       |
| 100       | 101  | 5×5 56   |  | ○ 6.3×5 70(68) |  | □ 8×5 80(76)   |  | □ 8×5 92(86)   |  | 8×5 110      |  |              |  |              |                                       |
| 220       | 221  | 6.3×5 96 |  | □ 8×5 110(90)  |  | 8×5 135        |  |                |  |              |  |              |  |              |                                       |
| 330       | 331  | 8×5 145  |  | 8×5 170        |  |                |  |                |  |              |  |              |  |              |                                       |
| 470       | 471  | 8×5 185  |  |                |  |                |  |                |  |              |  |              |  |              |                                       |

Size φ3 × 5 is available for capacitors marked. "●"/ Size φ5 × 5 is available for capacitors marked. "○"  
 Size φ6.3 × 5 is available for capacitors marked. "□" In such a case, [M][R] will be put at 2nd and 3rd digit of type numbering system.

Rated ripple current (mA rms) at 85°C 120Hz  
 ( ) = φ3 units and UMR.

## Frequency coefficient of rated ripple current

| Frequency   | 50 Hz | 120 Hz | 300 Hz | 1 kHz | 10kHz or more |
|-------------|-------|--------|--------|-------|---------------|
| Coefficient | 0.70  | 1.00   | 1.17   | 1.36  | 1.50          |

Please refer to page 20, 21, 22 about the formed or taped product spec.  
 Please refer to page 4 for the minimum order quantity.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.