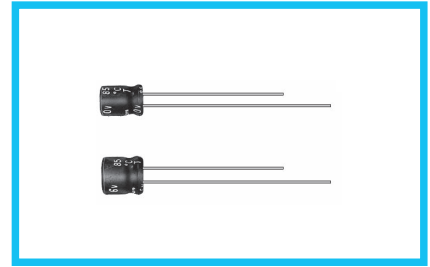
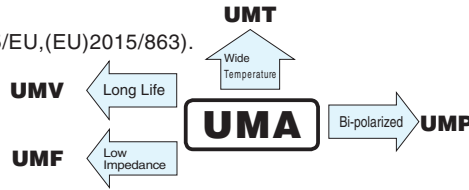


# UMA

5mmL, Standard, For General Purposes



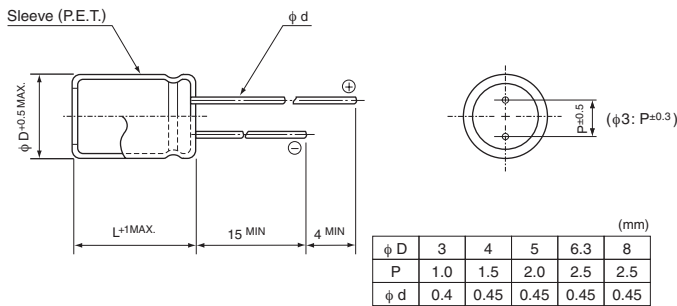
- Standard series with 5mm height.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).



## 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 colspan="2">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 rowspan="2">Impedance ratio (MAX.)</td> <td>Z-25°C / Z+20°C</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 (MAX.)	Z-25°C / Z+20°C	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 (MAX.)	Z-25°C / Z+20°C	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; φ 3 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 & φ 3 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 & φ 3 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

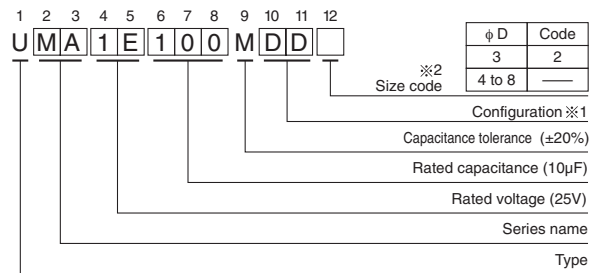


• Please refer to page 18 about the end seal configuration.

## 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

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



\*1 Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
3	CD
4 to 8	DD

\*2 In case at φ 3 units, put 2 as size code.

• Dimension table in next page.

UMA

## ■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 2 minutes)	Rated Ripple (mArms) (85°C/120Hz)	Part Number
4 (0G)	22	3×5	0.35	3	19	UMA0G220MCD2
	33	4×5	0.35	3	28	UMA0G330MDD
	47	4×5	0.35	3	33	UMA0G470MDD
	100	5×5	0.35	4	56	UMA0G101MDD
	220	6.3×5	0.35	8.8	96	UMA0G221MDD
	330	8×5	0.35	13.2	145	UMA0G331MDD
	470	8×5	0.35	18.8	185	UMA0G471MDD
6.3 (0J)	10	3×5	0.24	3	15	UMA0J100MCD2
	22	4×5	0.24	3	28	UMA0J220MDD
	22	3×5	0.30	3	21	UMR0J220MCD2
	33	5×5	0.24	3	37	UMA0J330MDD
	47	5×5	0.24	3	45	UMA0J470MDD
	100	6.3×5	0.24	6.3	70	UMA0J101MDD
	100	5×5	0.30	6.3	68	UMR0J101MDD
	220	8×5	0.24	13.86	110	UMA0J221MDD
	220	6.3×5	0.30	13.86	90	UMR0J221MDD
	330	8×5	0.24	20.79	170	UMA0J331MDD
10 (1A)	22	5×5	0.20	3	33	UMA1A220MDD
	33	5×5	0.20	3.3	41	UMA1A330MDD
	47	6.3×5	0.20	4.7	52	UMA1A470MDD
	47	5×5	0.24	4.7	43	UMR1A470MDD
	100	8×5	0.20	10	80	UMA1A101MDD
	100	6.3×5	0.24	10	76	UMR1A101MDD
	220	8×5	0.20	22	135	UMA1A221MDD
16 (1C)	4.7	3×5	0.16	3	10	UMA1C4R7MCD2
	10	4×5	0.16	3	23	UMA1C100MDD
	10	3×5	0.20	3	18	UMR1C100MCD2
	22	5×5	0.16	3.52	37	UMA1C220MDD
	33	6.3×5	0.16	5.28	49	UMA1C330MDD
	33	5×5	0.20	5.28	43	UMR1C330MDD
	47	6.3×5	0.16	7.52	58	UMA1C470MDD
	100	8×5	0.16	16	92	UMA1C101MDD
	100	6.3×5	0.20	16	86	UMR1C101MDD
25 (1E)	3.3	3×5	0.14	3	10	UMA1E3R3MCD2
	4.7	4×5	0.14	3	16	UMA1E4R7MDD
	4.7	3×5	0.18	3	12	UMR1E4R7MCD2
	10	5×5	0.14	3	27	UMA1E100MDD
	22	6.3×5	0.14	5.5	42	UMA1E220MDD
	33	6.3×5	0.14	8.25	52	UMA1E330MDD
	47	8×5	0.14	11.75	70	UMA1E470MDD
	47	6.3×5	0.18	11.75	62	UMR1E470MDD
	100	8×5	0.14	25	110	UMA1E101MDD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).  
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

## UMA

## ■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance ( $\mu$ F)	Case Size $\phi$ D $\times$ L (mm)	tan $\delta$	Leakage Current ( $\mu$ A) (at 20°C after 2 minutes)	Rated Ripple (mArms) (85°C/120Hz)	Part Number
35 (1V)	2.2	3 $\times$ 5	0.12	3	8.4	UMA1V2R2MCD2
	3.3	4 $\times$ 5	0.12	3	15	UMA1V3R3MDD
	3.3	3 $\times$ 5	0.16	3	10	UMR1V3R3MCD2
	4.7	4 $\times$ 5	0.12	3	18	UMA1V4R7MDD
	10	5 $\times$ 5	0.12	3.5	29	UMA1V100MDD
	22	6.3 $\times$ 5	0.12	7.7	46	UMA1V220MDD
	33	8 $\times$ 5	0.12	11.55	62	UMA1V330MDD
	33	6.3 $\times$ 5	0.16	11.55	52	UMR1V330MDD
	47	8 $\times$ 5	0.12	16.45	80	UMA1V470MDD
50 (1H)	1	4 $\times$ 5	0.10	3	8.4	UMA1H010MDD
	1	3 $\times$ 5	0.13	3	8.0	UMR1H010MCD2
	2.2	4 $\times$ 5	0.10	3	13	UMA1H2R2MDD
	2.2	3 $\times$ 5	0.13	3	10	UMR1H2R2MCD2
	3.3	4 $\times$ 5	0.10	3	17	UMA1H3R3MDD
	4.7	5 $\times$ 5	0.10	3	20	UMA1H4R7MDD
	10	6.3 $\times$ 5	0.10	5	33	UMA1H100MDD
	22	8 $\times$ 5	0.10	11	52	UMA1H220MDD
	22	6.3 $\times$ 5	0.13	11	48	UMR1H220MDD
	33	8 $\times$ 5	0.10	16.5	71	UMA1H330MDD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).  
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

Please refer to page 18, 19 about the formed or taped product spec.  
Please refer to page 4 for the minimum order quantity.

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