

ALUMINUM ELECTROLYTIC CAPACITORS

皇御UMMAQF/MDD供应商

捷多邦, 专业PCB打样工厂, 24小时加急出货

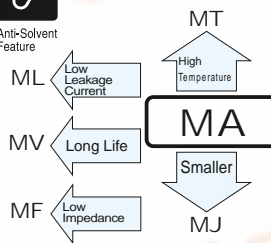
nichicon

MA series

5mmL, Standard, For General Purposes



Anti-Solvent Feature

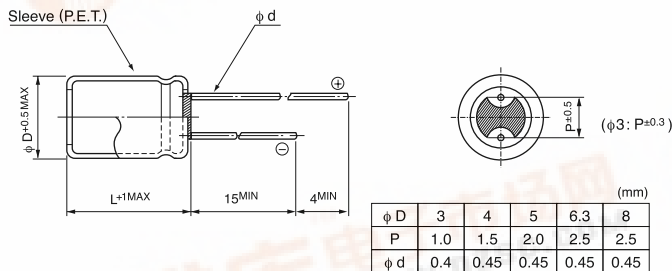


- Standard series with 5mm height.
- Adapted to the RoHS directive (2002/95/EC).

Specifications

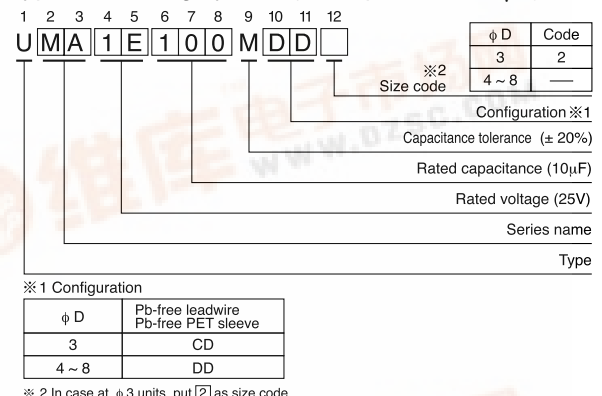
Item	Performance Characteristics																							
Category Temperature Range	-40 ~ +85°C																							
Rated Voltage Range	4 ~ 50V																							
Rated Capacitance Range	0.1 ~ 470μF																							
Rated Capacitance Tolerance	±20% at 120Hz, 20°C																							
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3(μA), whichever is greater.																							
tan δ	Measurement frequency : 120Hz, Temperature : 20°C																							
	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>4</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 (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> </tbody> </table> Figures in () are for MR series.	Rated voltage (V)	4	6.3	10	16	25	35	50	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)							
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Stability at Low Temperature	Measurement frequency : 120Hz																							
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Impedance ratio Z-25°C / Z+20°C	7	4	3	2	2	2	2																	
ZT / Z20 (MAX.)	15	8	6	4	4	3	3																	
Endurance	After 2000 hours' application of rated voltage at 85°C, capacitors meet the characteristic requirements listed at right.																							
	Capacitance change	Within ±20% of initial value (MR series & φ3 product : Within ±25%)																						
	tan δ	200% or less of initial specified value																						
Shelf Life	After storing the capacitors under no load at 85°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above.																							
	Leakage current	Initial specified value or less																						
Marking	Printed with white color letter on black sleeve.																							

Radial Lead Type



• Please refer to page 21 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		
0.1	0R1														4×5(3×5) 1.0(1.0)	
0.22	R22														4×5(3×5) 2.0(2.0)	
0.33	R33														4×5(3×5) 2.8(2.8)	
0.47	R47														4×5(3×5) 4.0(4.0)	
1	010														4×5(3×5) 8.4(8.0)	
2.2	2R2											3×5	8.4	• 4×5	13(10)	
3.3	3R3									3×5	10	• 4×5	15(10)	4×5	17	
4.7	4R7								3×5	10	• 4×5	16(12)	4×5	18	5×5	20
10	100			3×5	15			• 4×5	23(18)	5×5	27	5×5	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)	
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 3×5 is available for capacitors marked. "•"/ Size 5×5 is available for capacitors marked. "○"
Size 6.3×5 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 (mA rms) at 85°C 120Hz
() = φ3 units and MR series.

Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz ~
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Please refer to page 21, 22, 23 about the formed or taped product spec