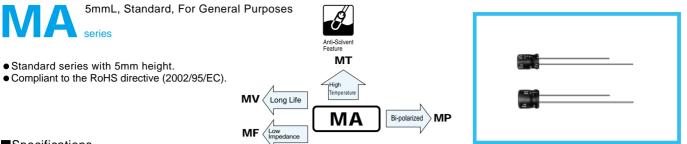
ALUMINUM ELECTROLYTIC CAPACITORS

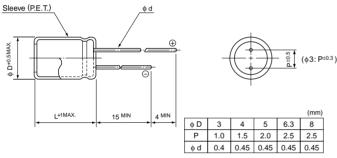
nichicon



Specifications

Item	Performance Characteristics													
Category Temperature Range	-40 to +85°C	-40 to +85°C												
Rated Voltage Range	4 to 50V	t to 50V												
Rated Capacitance Range	0.1 to 470µF	.1 to 470μF												
Rated Capacitance Tolerance	±20% at 120Hz, 20°C													
Leakage Current	After 2 minutes' a	After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or $3(\mu A)$, whichever is greater.												
Tangent of loss angle (tan $\delta)$	Measurement frequency : 120Hz, Temperature : 20°C													
	Rated voltage (V)	4	6.3		10	16		25	35		50	Figures in () are for	
	tan δ (MAX.)	0.35	0.24 (0.30)	0.20	(0.24)	0.16 (0.20)	0.14	1 (0.18)	0.12 (0	.16) 0.1	0 (0.13)	MR series.		
	Measurement frequency : 120Hz													
	Rated voltage (V)				6.3	10	10	6	25	35	50			
Stability at Low Temperature	Impedance ratio	Z-25°C / Z+			4	3	2		2	2	2			
	ZT / Z20 (MAX.)	Z-40°C / Z+	-20°C 1	5	8	6	4		4	3	3			
	The specifications listed at right shall be met									L () M(1) () () ()				
Endurance	when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at					Capacitance change tan δ			Within ±20% of the initial capacitance value (MR series &					
						Leakage current			Less than or equal to the initial specified value					
	85°C.													
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 configulation.

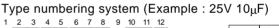
Dimensions

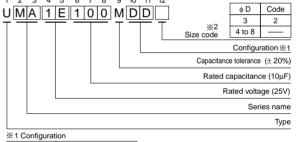
	V	4		6.3		10		16		25		35		50)
Cap.(µF)	Code	0G		0J		1A		1C		1E		1V		1H	l
0.1	0R1													4×5(3×5)	1.0(1.0)
0.22	R22								1					4×5(3×5)	2.0(2.0)
0.33	R33										1			4×5(3×5)	2.8(2.8)
0.47	R47						i							4×5(3×5)	
1	010								1		1			4×5(3×5)	8.4(8.0)
2.2	2R2											3×5	8.4	• 4×5	13(10)
3.3	3R3								1	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									Case size	Rated
470	471	8×5	185						1		1			∮D×L (mm)	ripple

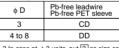
Size $\phi 3 \times 5$ is available for capacitors marked. *•'/ Size $\phi 5 \times 5$ is available for capacitors marked. *o" Size $\phi 6.3 \times 5$ is available for capacitors marked. "□" In such a case, $\mathbb{M}\mathbb{R}$ will be put at 2nd and 3rd digit of type numbering system.

Frequency coefficient of rated ripple current

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







Rated ripple current (mArms) at 85°C 120Hz () = ϕ 3 units and MR series.

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

