

TMA

+105°C General Purpose Axial Lead Aluminum Electrolytic Capacitors



Applications

- Filtering
- Bypass
- Coupling

Features

- Standard case sizes
- Lead free
- RoHS compliant

Capacitance Tolerance		+20% at 120 Hz, 20°C														
Operating Temperature Range		-40°C to +105°C							-25°C to +105°C							
Surge voltage	WVDC	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	
	SVDC	7.9	13	20	32	44	63	79	125	200	250	300	400	450	500	
Dissipation Factor	WVDC	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	
	Tan δ	.28	.24	.2	.16	.14	.12	.1	.1	.2	.2	.2	.2	.25	.25	
Add .02 for every 1000uF above 1000uF																
Leakage current		6.3 to 100 WVDC							160 to 450 WVDC							
		2 Minutes							2 Minutes							
		.02CV or 4uA, Whichever is greater							.03CV+10A							
Low temperature stability Impedance ratio (120 Hz)	Rated WVDC	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	
	-25°C to +20°C	5	4	3	2	2	2	2	2	4	4	4	4	4	6	
	-40°C to +20°C	12	10	8	6	5	4	4	4	4	15	15	15	10	10	-
Load Life		2000 hours at 105°C with rated WVDC applied														
		Capacitance change	<20% of initial measured value													
		Dissipation factor	<200% of maximum specified value													
		Leakage current	>100% of maximum specified value													
Shelf Life		1000 hours at 105°C with no voltage applied														
		Capacitance change	<20% initial measured value													
		Dissipation factor	<200% of maximum specified value													
		Insulation resistance	>100% of maximum specified value													
Ripple Current Multipliers									Frequency (Hz)				Temperature (°C)			
		WVDC	Capacitance		50	120	300	1k	10k	+105	+85	+70				
		6.3 to 25V	$C < 47$		0.75	1.0	1.35	1.57	2	1.0	1.4	1.62				
		35 to 100V	$47 < C \leq 470$		0.8	1.0	1.23	1.34	1.5	1.0	1.4	1.62				
		160 to 250V	$470 < C \leq 22000$		0.85	1.0	1.1	1.13	1.15	1.0	1.4	1.62				
350 to 450V	$1 < C \leq 470$		0.8	1.0	1.25	1.40	1.6	1.0	1.4	1.62						



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Cap (uF)	VDC	PART #	Maximum ESR Ω 120Hz 20C	Maximum RMS ripple current (mA) 120Hz,85C	Dims DxL (mm)
0.47	100	474TMA100M	317.46	9	5x13
1	50	105TMA050M	198.94	10	5x13
1	100	105TMA100M	149.21	14	5x13
1	200	105TMA200M	331.57	10	6.3x13
1	350	105TMA350M	331.57	10	6.3x16
1	400	105TMA400M	414.47	12	8x16
1	450	105TMA450M	414.47	12	8x16
2.2	50	225TMA050M	90.43	18	5x13
2.2	100	225TMA100M	67.82	19	5x13
2.2	200	225TMA200M	150.71	17	6.3x16
2.2	350	225TMA350M	150.71	17	8x16
2.2	400	225TMA400M	188.39	19	8x20
2.2	450	225TMA450M	188.39	22	10x21
3.3	50	335TMA050M	60.29	22	5x13
3.3	100	335TMA100M	45.21	27	6.3x13
3.3	250	335TMA250M	100.48	24	8x16
3.3	350	335TMA350M	100.48	24	8x20
3.3	400	335TMA400M	125.60	27	10x21
3.3	450	335TMA450M	125.60	27	10x21
4.7	63	475TMA063M	35.27	32	5x13
4.7	100	475TMA100M	31.75	32	6.3x13
4.7	200	475TMA200M	70.55	28	8x16
4.7	250	475TMA250M	70.55	32	8x20
4.7	350	475TMA350M	70.55	33	10x21
4.7	400	475TMA400M	88.18	33	10x21
4.7	450	475TMA450M	88.18	36	10x26
10	35	106TMA035M	23.21	33	5x13
10	50	106TMA050M	19.89	36	5x13
10	63	106TMA063M	16.58	44	6.3x13
10	100	106TMA100M	14.92	52	6.3x16
10	160	106TMA160M	33.16	43	8x20
10	200	106TMA200M	33.16	50	10x21
10	250	106TMA250M	33.16	50	10x21
10	350	106TMA350M	33.16	60	13x26
10	400	106TMA400M	41.45	60	13x26
10	450	106TMA450M	41.45	67	13x31
22	25	226TMA025M	12.06	48	5x13
22	35	226TMA035M	10.55	57	6.3x13
22	63	226TMA063M	7.54	73	6.3x16
22	100	226TMA100M	6.78	85	8x16
22	160	226TMA160M	15.07	85	10x26
22	250	226TMA250M	15.07	100	13x26
22	350	226TMA350M	15.07	110	16x31

Cap (uF)	VDC	PART #	Maximum ESR Ω 120Hz 20C	Maximum RMS ripple current (mA) 120Hz,85C	Dims DxL (mm)
22	400	226TMA400M	18.84	110	16x31
22	450	226TMA450M	18.84	130	16x41
33	16	336TMA016M	10.05	54	5x13
33	25	336TMA025M	8.04	64	6.3x13
33	63	336TMA063M	5.02	89	6.3x16
33	100	336TMA100M	4.52	115	8x20
33	160	336TMA160M	10.05	120	13x26
33	200	336TMA200M	10.05	135	13x26
33	250	336TMA250M	10.05	135	13x31
33	350	336TMA350M	10.05	150	16x31
33	400	336TMA400M	12.56	155	16x41
33	450	336TMA450M	12.56	160	18x41
47	10	476TMA010M	8.47	57	5x13
47	16	476TMA016M	7.05	71	6.3x13
47	50	476TMA050M	4.23	100	6.3x16
47	63	476TMA063M	3.53	115	8x16
47	100	476TMA100M	3.17	135	8x20
47	160	476TMA160M	7.05	155	13x31
47	200	476TMA200M	7.05	155	13x31
47	250	476TMA250M	7.05	175	16x31
47	350	476TMA350M	7.05	185	16x41
47	400	476TMA400M	8.82	200	18x41
47	450	476TMA450M	8.82	220	22x41
100	6.3	107TMA6R3M	4.64	89	6.3x13
100	25	107TMA025M	2.65	120	6.3x16
100	50	107TMA050M	1.99	155	8x16
100	63	107TMA063M	1.66	185	8x20
100	100	107TMA100M	1.49	240	10x26
100	160	107TMA160M	3.32	300	16x41
100	200	107TMA200M	3.32	300	16x41
100	250	107TMA250M	3.32	300	16x41
100	350	107TMA350M	3.32	310	22x41
100	400	107TMA400M	4.14	330	22x51
220	10	227TMA010M	1.81	155	6.3x16
220	25	227TMA025M	1.21	200	8x16
220	35	227TMA035M	1.06	240	8x20
220	50	227TMA050M	0.90	290	10x20
220	63	227TMA063M	0.75	340	10x26
220	100	227TMA100M	0.68	430	13x31
220	160	227TMA160M	1.51	510	22x41
220	200	227TMA200M	1.51	510	22x41
220	250	227TMA250M	1.51	550	22x51
330	16	337TMA016M	1.00	230	8x16



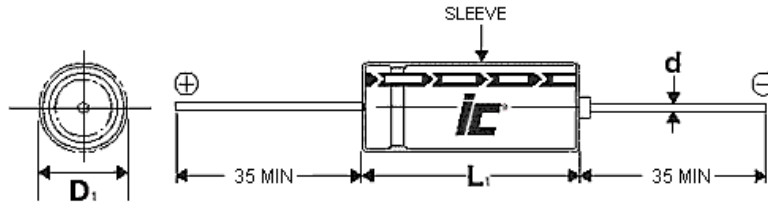
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105°C Axial lead
General Purpose
Aluminum Electrolytic
Capacitor

Cap (uF)	VDC	PART #	Maximum ESR Ω 120Hz 20C	Maximum RMS ripple current (mA) 120Hz,85C	Dims DxL (mm)
330	25	337TMA025M	0.80	270	8x20
330	35	337TMA035M	0.70	330	10x21
330	50	337TMA050M	0.60	400	10x26
330	63	337TMA063M	0.50	460	13x26
330	100	337TMA100M	0.45	570	16x31
470	10	477TMA010M	0.85	250	8x16
470	16	477TMA016M	0.71	310	8x20
470	25	477TMA025M	0.56	370	10x21
470	35	477TMA035M	0.49	430	10x26
470	50	477TMA050M	0.42	530	13x26
470	63	477TMA063M	0.35	590	13x31
470	100	477TMA100M	0.32	770	16x41
1000	10	108TMA010M	0.40	460	10x21
1000	16	108TMA016M	0.33	550	10x26
1000	25	108TMA025M	0.27	640	13x26
1000	35	108TMA035M	0.23	750	13x31
1000	50	108TMA050M	0.20	890	16x31
1000	63	108TMA063M	0.17	940	16x31
1000	100	108TMA100M	0.15	1210	22x41
2200	10	228TMA010M	0.21	780	13x26
2200	16	228TMA016M	0.18	910	13x31
2200	25	228TMA025M	0.15	1040	16x31
2200	35	228TMA035M	0.14	1120	16x31
2200	50	228TMA050M	0.12	1360	18x41
2200	63	228TMA063M	0.11	1520	22x41
3300	6.3	338TMA6R3M	0.17	860	13x26
3300	10	338TMA010M	0.15	980	13x31
3300	16	338TMA016M	0.13	1140	16x31

Cap (uF)	VDC	PART #	Maximum ESR Ω 120Hz 20C	Maximum RMS ripple current (mA) 120Hz,85C	Dims DxL (mm)
2200	25	108TMA025M	0.27	640	13x26
3300	35	108TMA035M	0.23	750	13x31
3300	50	108TMA050M	0.20	890	16x31
3300	63	108TMA063M	0.17	940	16x31
3300	100	108TMA100M	0.15	1210	22x41
3300	10	228TMA010M	0.21	780	13x26
3300	16	228TMA016M	0.18	910	13x31
3300	25	228TMA025M	0.15	1040	16x31
4700	35	228TMA035M	0.14	1120	16x31
4700	50	228TMA050M	0.12	1360	18x41
4700	63	228TMA063M	0.11	1520	22x41
4700	6.3	338TMA6R3M	0.17	860	13x26
4700	10	338TMA010M	0.15	980	13x31
4700	16	338TMA016M	0.13	1140	16x31
6800	25	338TMA025M	0.11	1200	16x31
6800	35	338TMA035M	0.10	1430	16x41
6800	50	338TMA050M	0.09	1660	22x41
6800	63	338TMA063M	0.08	1740	22x51
10000	6.3	478TMA6R3M	0.13	1060	13x31
10000	10	109TMA010M	0.07	1690	18x41
10000	16	109TMA016M	0.06	1900	22x41
10000	25	109TMA025M	0.07	1980	22x51
15000	6.3	159TMA6R3M	0.06	1740	18x41
15000	10	159TMA010M	0.06	1950	22x41
15000	16	159TMA016M	0.05	2050	22x51
22000	6.3	229TMA6R3M	0.05	2000	22x41
22000	10	229TMA010M	0.05	2080	22x51

Physical Dimensions



D	5	6.3	8	10	12.5	16	18	22	25
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8	0.8
B	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0

$L_1 = L + B$ mm Max
 $D_1 = D + 0.5$ mm Max.

mm

