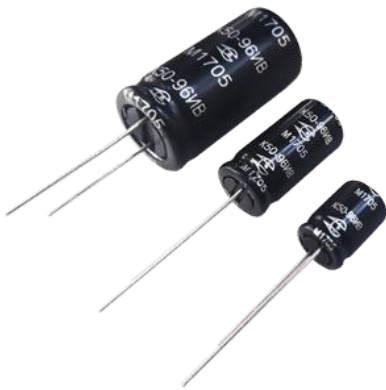


K50-96

ALUMINUM ELECTROLYTIC CAPACITOR

elecond-market@elcudm.ru

+7 (34147) 2-99-89



EVAYA.673541.052 TU

Capacitors with radial wire leads. They have a high specific charge, reduced overall dimensions and weight, in comparison with domestic counterparts, low ESR values. Polar, constant capacity, sealed in an insulated housing. Capacitors are designed to accumulate and store energy, smooth out ripples of direct and alternating currents, filter DC voltage from pulsating.

Miniature and compact aluminum electrolytic capacitors with operating temperature range from -60 to +105 °C

FEATURES

- ✓ Extended operating temperature range for all rated voltage classes;
- ✓ Small overall dimensions;
- ✓ Wide range of capacitance;
- ✓ High environmental stability;
- ✓ Increased reliability;
- ✓ Long-term stability of electrolytic parameters;
- ✓ High stability of electric parameters at low environmental temperatures

APPLICATION

- ✓ Miniature power sources and AC/DC converters in severe operating conditions;
- ✓ Mobile robotic systems;
- ✓ Communication equipment;
- ✓ Medical equipment;
- ✓ Light equipment;
- ✓ Aircraft industry;
- ✓ Gas and oil industry;
- ✓ Equipment for railways

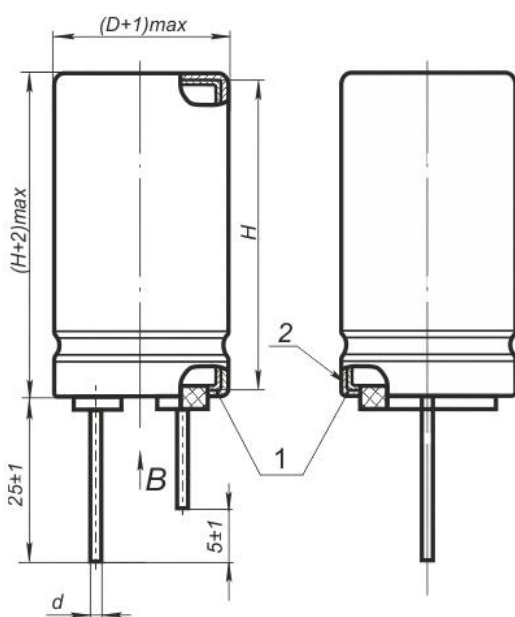
MAIN PARAMETERS

Name	Value
Rated voltage, V	6.3...450
Rated capacitance, μF	1...3 300
Capacitance tolerance (25°C, 50 Hz), %	+50...-20; ± 20
Maximum operating temperature T_{env} , °C	+105
Minimal operating temperature T_{env} , °C	-60

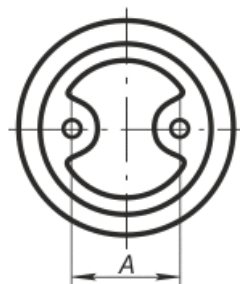
CAPACITORS RELIABILITY

Reliability Operation modes	Minimal nonfailure operating time, t_{λ} , hours	Capacitor failure rate, λ , 1/hour, max
Maximum-permissible mode (U_R , $T_{env}=105^\circ\text{C}$)	1 000	2×10^{-4}
Typical operating mode ($0.7U_R$, $T_{env}=85^\circ\text{C}$)	6 000	5×10^{-4}
Typical operating mode ($0.7U_R$, $T_{env}=55^\circ\text{C}$)	50 000	5×10^{-5}
Storageability Gamma-rated time of capacitor storageability T_{cy} at $\gamma=95\%$, years, min	25	

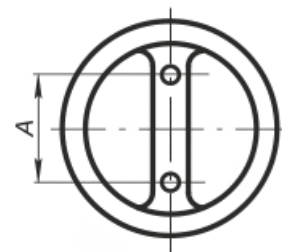
CAPASITOR PHYSICAL CONFIGURATION



View B. Lid. Type 1



View B. Lid. Type 2



- 1 – Isolation sleeve
- 2 – Enamel coating of capacitors which are meant for internal wiring with the requirements to 98% air humidity at $T=35^\circ\text{C}$

D, mm	H, mm	A, mm	d, mm	Lid type
4	7	1.5	0.45	1
5	11	2.0	0.5	
6.3		2.5		
8	11.5	3.5	0.6	2
10	12.5	5.0		
	16			
12.5	20			
	25			
16	20	7.5	0.8	
	25			
20	31.5	10	1.0	
	40			

CAPACITOR ELECTRIC PARAMETERS VALUE WHEN DELIVERED

U _R , V	C _R , μF, 25°C, 50Hz	tg δ, %, 25°C, 50Hz	I _{LEAK} , μA, 25°C	Z, Ohm, 25°C, 100kHz	ESR, Ohm, 25°C, 100Hz	I _r , mA, 105°C, 50 Hz	M _{spec} , g/C·h, max	Size DxH, mm	Mass, g
6.3	22	28	2.8	2.00	5.99	36	1.59	4x7	1.22
6.3	33	28	4.2	1.50	4.45	45	1.11	4x7	1.23
6.3	47	28	5.9	0.90	2.68	55	0.78	4x7	1.23
6.3	100	28	12.1	0.60	1.91	64	0.68	5x11	1.43
6.3	220	28	27.7	0.30	0.98	91	0.31	5x11	1.43
6.3	330	28	41.6	0.25	0.95	109	0.27	6.3x11	1.56
6.3	470	28	59.2	0.249	0.91	118	0.20	6.3x11	1.59
6.3	1 000	28	63.0	0.248	0.84	202	0.18	8x11.5	2.00
6.3	2 200	28	139.0	0.068	0.20	436	0.16	10x16	4.00
10	22	24	4.4	2.00	6.52	45	1.05	4x7	1.23
10	33	24	6.6	1.98	5.49	55	0.67	4x7	1.30
10	47	24	9.4	1.30	3.93	64	0.98	5x11	1.46
10	100	24	20.0	0.60	2.95	100	0.42	5x11	1.50
10	220	24	44.0	1.20	2.50	155	0.20	5x11	1.55
10	330	24	66.0	1.10	2.00	182	0.17	6.3x11	1.57
10	470	24	94.0	1.00	1.80	227	0.13	6.3x11	1.62
10	1 000	24	100	0.50	0.80	344	0.17	10x12.5	3.00
16	10	19	3.2	6.50	19.11	15	1.44	4x7	1.23
16	22	19	7.0	0.95	4.43	26	0.85	5x7	1.30

U _R , V	C _R , μF, 25°C, 50Hz	tg δ, %, 25°C, 50Hz	I _{LEAK} , μA, 25°C	Z, Ohm, 25°C, 100kHz	ESR, Ohm, 25°C, 100Hz	I _r , mA, 105°C, 50 Hz	M _{spec} , g/C·h, max	Size D×H, mm	Mass, g
16	33	19	10.6	0.70	3.35	45	0.57	5x7	1.30
16	47	19	15.0	0.60	2.95	46	0.53	5x11	1.40
16	100	19	32.0	0.58	2.76	125	0.32	5x11	1.51
16	220	19	70.4	0.55	1.55	220	0.16	6.3x11	1.57
16	330	19	70	0.516	1.33	253	0.18	8x11.5	2.00
16	470	19	75	0.514	1.21	0.14	0.18	8x11.5	2.00
16	1 000	19	160	0.192	0.66	426	0.12	10x16	4.00
16	2 200	19	352	0.166	0.60	484	0.11	12.5x25	10.00
25	4.7	16	2.3	9.5	27.10	13	1.87	4x7	1.22
25	10	16	5.0	2.0	7.23	33	0.92	4x7	1.23
25	22	16	11.0	0.95	3.58	57	0.60	5x7	1.33
25	33	16	16.5	0.6	2.95	62	0.48	5x11	1.40
25	47	16	23.5	0.6	2.95	96	0.37	5x11	1.43
25	100	16	50.0	0.25	0.65	159	0.22	6.3x11	1.55
25	220	16	55	0.502	2.42	253	0.18	8x11.5	2.00
25	330	16	82	0.501	2.4	0.13		8x11.5	2.00
25	470	16	117	0.298	1.14	344	0.15	10x12.5	3.00
25	1 000	16	250	0.185	1.0	402	0.12	12.5x20	5.00
25	2 200	16	550	0.180	0.95	427	0.15	16x25	13.00
35	4.7	16	1.6	14.00M	41.27	14	1.40	4x7	1.23
35	10	16	3.5	12.45	35.19	32	0.89	5x7	1.31
35	22	16	7.7	11.50	32.10	45	0.56	5x11	1.43
35	33	16	12.0	10.121	29.59	55	0.34	5x11	1.51
35	47	16	16.0	9.233	25.89	82	0.26	5x11	1.58
35	100	16	35.0	7.868	22.71	136	0.17	6.3x11	1.65
35	220	16	77.0	6.626	19.00	209	0.14	8x11.5	2.09
35	330	16	116.0	5.584	12.50	245	0.15	10x12.5	2.69
35	470	16	165.0	3.411	8.30	273	0.14	10x20	3.31
35	1 000	16	350.0	2.357	7.20	455	0.11	12.5x20	4.81
35	2 200	16	770.0	1.250	3.10	545	0.11	16x31.5	9.80
40	4.7	14	3.8	15.00	44.27	15	1.49	5x7	1.28
40	10	14	8.0	0.95	26.19	32	0.78	5x11	1.31
40	22	14	17.6	0.60	14.91	50	0.49	5x11	1.43
40	33	14	26.4	0.60	14.91	59	0.30	5x11	1.50

U _R , V	C _R , μF, 25°C, 50Hz	tg δ, %, 25°C, 50Hz	I _{LEAK} , μA, 25°C	Z, Ohm, 25°C, 100kHz	ESR, Ohm, 25°C, 100Hz	I _r , mA, 105°C, 50 Hz	M _{spec} , g/C·h, max	Size DxH, mm	Mass, g
40	47	14	37.6	0.50	7.82	91	0.22	5x11	1.70
40	100	14	80.0	0.40	4.21	141	0.15	6.3x11	1.80
40	220	14	88.0	0.234	3.58	221	0.12	8x11.5	2.00
40	330	14	132.0	0.16	3.50	280	0.13	10x12.5	3.00
40	470	14	188.0	0.15	3.40	335	0.12	10x20	5.00
40	1 000	14	400.0	0.12	3.30	402	0.10	12.5x20	10.00
40	2 200	14	880.0	0.10	2.18	861	0.09	16x25	11.00
50	3.3	14	1.7	17.12	50.60	15	1.33	4x7	1.22
50	4.7	14	2.4	14.23	41.27	16	1.23	5x7	1.29
50	10	14	5.0	12.40	35.99	32	0.60	5x7	1.30
50	22	14	11.0	11.30	32.91	55	0.39	5x11	1.43
50	33	14	17.0	10.90	30.01	64	0.26	5x11	1.43
50	47	14	24.0	9.60	28.50	100	0.24	6.3x11	1.56
50	100	14	125.0	8.54	25.80	145	0.20	8x11.5	2.02
50	220	14	130.0	7.115	22.50	209	0.18	10x16	2.94
50	330	14	165.0	6.975	17.30	259	0.14	10x20	3.39
50	470	14	235.0	6.060	15.00	264	0.14	12.5x20	4.35
50	1 000	14	500.0	4.032	19.90	364	0.14	16x25	8.50
50	2 200	14	1 100	3.030	7.80	464	0.12	20x31.5	15.30
50	3 300	14	1 650	1.025	2.70	473	0.11	20x40	20.00
63	2.2	10	2.8	19.00	55.5	11	1.66	4x7	1.23
63	3.3	10	4.2	17.00	45.6	18	1.06	4x7	1.23
63	4.7	10	5.9	15.00	33.27	19	0.98	5x7	1.29
63	10	10	12.6	2.10	11.99	32	0.68	5x11	1.43
63	22	10	27.7	1.500	5.91	87	0.30	5x11	1.42
63	33	10	41.6	0.710	3.28	93	0.26	6.3x11	1.55
63	47	10	59.2	0.600	2.58	147	0.20	6.3x11	1.58
63	100	10	63	0.342	1.75	185	0.17	8x11.5	2.00
63	220	10	139	0.194	0.70	273	0.15	10x16	4.00
63	330	10	208	0.147	0.60	311	0.12	10x20	5.00
63	470	10	296	0.140	0.95	335	0.14	12.5x20	10.00
63	1 000	10	630	0.135	0.9	402	0.13	16x31.5	18.00
63	2 200	10	1 386	0.130	0.85	484	0.11	20x31.5	25.00
100	1	8	2.0	20	60.24	3	3.70	5x11	1.37

U _R , V	C _R , μF, 25°C, 50Hz	tg δ, %, 25°C, 50Hz	I _{LEAK} , μA, 25°C	Z, Ohm, 25°C, 100kHz	ESR, Ohm, 25°C, 100Hz	I _r , mA, 105°C, 50 Hz	M _{spec} , g/C·h, max	Size DxD, mm	Mass, g
100	2.2	8	4.4	9.8	27.66	7	1.86	5x11	1.41
100	3.3	8	6.6	6.6	21.28	12	1.18	5x11	1.39
100	4.7	8	9.4	4.6	13.07	20	0.89	5x11	1.42
100	10	8	20.0	3.02	9.10	57	0.43	5x11	1.43
100	22	8	44.0	1.68	4.50	109	0.26	6.3x11	1.58
100	33	8	45.0	1.5	4.44	118	0.31	8x11.5	2.00
100	47	8	47	1.23	3.69	132	0.34	10x12.5	3.00
100	100	8	100	0.84	2.66	211	0.23	10x20	5.00
100	220	8	220	0.216	0.85	337	0.19	12.5x20	10.00
100	330	8	330	0.108	0.43	415	0.20	16x20	11.00
100	470	8	470	0.098	0.31	545	0.17	16x25	12.50
100	1 000	8	1 000	0.088	0.27	796	0.16	20x31.5	17.00
160	1	12	4.8	25.10	34.39	2	2.88	6.3x11	1.46
160	2.2	12	10.6	17.30	29.16	6	1.45	6.3x11	1.51
160	3.3	12	15.8	9.05	22.92	11	1.00	6.3x11	1.53
160	4.7	12	22.6	5.10	17.18	18	0.74	6.3x11	1.56
160	10	12	48	2.00	5.25	30	0.64	8x11.5	2.00
160	22	12	106	1.90	5.11	77	0.55	10x16	4.00
160	33	12	158	1.85	4.23	125	0.46	10x20	5.00
160	47	12	226	1.80	4.15	135	0.32	10x20	5.00
160	100	12	480	1.65	4.01	205	0.27	12.5x25	10.00
160	220	12	1 056	0.955	3.53	295	0.23	16x25	13.00
160	330	12	1 584	0.80	3.37	315	0.26	20x31.5	15.00
160	470	12	2 256	0.70	2.52	403	0.23	20x40	19.00
250	1	12	7.5	30.50	45.10	10	1.92	6.3x11	1.48
250	2.2	12	16.5	19.20	25.30	29	0.95	6.3x11	1.52
250	3.3	12	25	12.00	13.9	23	1.05	8x11.5	2.00
250	4.7	12	35	7.50	8.54	30	0.81	8x11.5	2.00
250	10	12	75	6.80	8.41	64	0.70	10x16	4.00
250	22	12	165	6.50	4.0	95	0.45	10x20	5.00
250	33	12	248	6.00	3.50	135	0.44	12.5x20	6.00
250	47	12	353	5.50	3.00	139	0.30	12.5x20	6.00
250	100	12	750	5.00	2.80	223	0.28	16x25	13.00
250	220	12	1 650	4.50	2.50	260	0.26	20x31.5	16.00

U _R , V	C _R , μF, 25°C, 50Hz	tg δ, %, 25°C, 50Hz	I _{LEAK} , μA, 25°C	Z, Ohm, 25°C, 100kHz	ESR, Ohm, 25°C, 100Hz	I _r , mA, 105°C, 50 Hz	M _{spec} , g/C·h, max	Size DxD, mm	Mass, g
315	1	20	9.4	31.00	84.0	15	1.62	6.3x11	1.51
315	2.2	20	21	25.10	43.0	21	1.31	8x11.5	2.00
315	3.3	20	31	31.60	36.0	25	1.39	10x12.5	3.00
315	4.7	20	44	16.50	25.5	35	1.03	10x12.5	3.00
315	10	20	94	9.70	16.70	59	0.69	10x20	4.00
315	22	20	208	5.20	11.40	105	0.47	12.5x20	6.00
315	33	20	312	6.10	9.95	150	0.52	16x20	10.00
315	47	20	444	5.00	8.00	173	0.44	16x25	12.00
315	100	20	945	4.00	7.00	247	0.42	20x31.5	13.30
350	1	15	11	45.0	95.0	14	1.46	6.3x11	0.51
350	2.2	15	23	36.0	76.7	18	1.18	8x11.5	2.00
350	3.3	15	35	26.0	70.0	25	1.24	10x12.5	3.00
350	4.7	15	49	20.0	54.4	41	0.92	10x12.5	3.00
350	10	15	105	16.0	35.5	55	0.54	10x20	4.00
350	22	15	231	10.0	18.5	105	0.37	12.5x20	6.00
350	33	15	346	5.0	9.7	150	0.50	16x20	10.00
350	47	15	494	4.0	8.0	195	0.38	16x25	11.00
350	100	15	1 050	3.0	6.0	283	0.33	20x31.5	14.00
400	1	15	12	55.0	81.8	7	2.48	8x11.5	2.00
400	2.2	15	26	40.0	75.0	14	1.17	8x11.5	2.00
400	3.3	15	40	35.0	66.8	27	1.13	10x12.5	3.00
400	4.7	15	56	30.0	64.5	36	0.94	10x16	4.00
400	10	15	120	20.0	29.1	55	0.50	10x20	5.00
400	22	15	264	15.0	23.0	94	0.32	12.5x20	6.00
400	33	15	396	7.0	19.9	150	0.38	16x20	10.00
450	1	17	14	80.0	138.0	9	2.09	8x11.5	2.00
450	2.2	17	30	50.0	93.2	16	1.64	10x12.5	3.00
450	3.3	17	45	40.0	73.5	27	1.20	10x16	4.00
450	4.7	17	63	35.0	60.4	36	0.92	10x20	5.00
450	10	17	135	25.0	39.0	59	0.71	12x20	6.00
450	22	17	297	20.0	30.0	100	0.56	16x20	10.00
450	33	17	445	9.0	25.0	132	0.38	16x25	13.00
450	47	17	634	8.0	23.0	206	0.57	20x40	30.00

Ripple current effective value

versus temperature and frequency can be found from the formula $I_{ro} = I_r \times K_T \times K_F$, where

I_r – allowable ripple current at 105 °C, 50 Hz (See Table “Capacitor electric parameters”)

K_T - I_r CORRECTION FACTOR VERSUS TEMPERATURE

T_{env}, °C	25	40	50	60	70	85	100	105
K_T	1.82	1.76	1.69	1.63	1.54	1.35	1.10	1.00

K_F - I_r CORRECTION FACTOR VERSUS FREQUENCY

F, Hz	50	100	300	600	1 000	10 000	≥50 000
K_F	1.0	1.25	1.5	1.63	1.69	1.88	2.0

CODED SYMBOL FOR CAPACITORS (IDENTIFICATION NUMBER (PARTNUMBER))

CAPACITOR K50-96 – 6.3V – 22MF (±20)% – I – EVAYA.673541.052TU
(K50-96-B-226M-D4H7-PET1Z5A-052)

1	2	3	4	5	6	7	8
Capacitor K50-96	6.3V	22μF	±20%	D=4mm	H=7mm	PET	EVAYA.673541.052TU
K50-96	B	226	M	D4	H7	PET1Z5A	052

1. K50-96 – capacitor K50-96

2. Rated voltage code

Code	B	D	E	G	H5	S	J	K	N	Q	W	X	T	Y	U
U_R, V	6.3	10	16	25	35	40	50	63	100	160	250	315	350	400	450

3. Nominal capacity code

Code	105	225	335	475	106	226	336	476
C_R, μF	1	2.2	3.3	4.7	10	22	33	47

Code	107	227	337	477	108	228	338
C_R, μF	100	220	330	470	1000	2200	3300

4. Capacity approval code

Code	M	S
Admittance, %	±20	+50; -20

5. Condenser diameter code

Code	D4	D5	D6Z3	D8	D10	D12Z5	D16	D20
Diameter, mm	4	5	6.3	8	10	12.5	16	20

6. Capacitor height code

Code	H7	H11	H11Z5	H12Z5	H16	H20	H25	H31Z5	H40
Height, mm	7	11	11.5	12.5	16	20	25	31.5	40

7. Isolation Code

Code	Decryption
PET	Insulated, packed in a box for manual assembly of equipment
PET1Z5A	Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the leads capacitor 1.5 mm
PET2A	Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the leads capacitor 2 mm
PET2Z5A	Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the leads capacitor 2.5 mm
PET3Z5A	Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the leads capacitor 3.5 mm
PET5A	Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the leads capacitor 5 mm
PET7Z5A	Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the leads capacitor 7.5 mm
PET10A	Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the leads capacitor 10 mm

8. Code TU

Code	TU designation
052	EVAYA.673541.052 TU

EXAMPLE OF REFERENCE DESIGNATION FOR ORDERING

CAPACITOR K50-96 – 6.3V – 47 μ F (+50 -20)% EVAYA.673541.052 TU

CAPACITOR K50-96 – 16V – 22 μ F (+50 -20)% – I EVAYA.673541.052 TU

CAPACITOR K50-96 – 6.3V – 47 μ F (+50 -20)% – V EVAYA.673541.052 TU

CAPACITOR K50-96 – 6.3V – 47 μ F (+50 -20)% – I – V EVAYA.673541.052 TU