

K50-99

ALUMINUM ELECTROLYTIC CAPACITOR

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AZHAR.673541.024 TU



Polar fixed capacitors are intended for indoor installation with resistance requirements to high humidity of 98% at the temperature 25°C and 35°C. Sealed. In an insulated case with radial snap-in terminals.

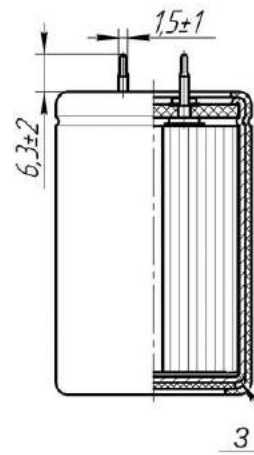
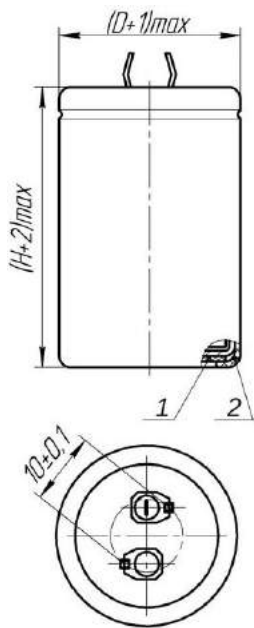
MAIN PARAMETERS

Name	Value
Rated voltage, V	16...100
Rated capacitance, μF	470...47 000
Capacitance tolerance (25°C, 50 Hz), %	+50...-20; ± 20
Maximum operating temperature T_{env} , °C	+125
Minimal operating temperature T_{env} , °C	-60

CAPACITORS RELIABILITY

Operating conditions	Minimal nonfailure operating time, t_{λ} , hours	Capacitor failure rate, λ , 1/hour, max
Maximum-permissible mode (U_R , $T_{env}=125^{\circ}\text{C}$)	4 100	1×10^{-4}
Maximum-permissible mode (U_R , $T_{env}=105^{\circ}\text{C}$)	12 500	2×10^{-5}
Typical operating mode ($0.7U_R$, $T_{env}=85^{\circ}\text{C}$)	51 000	5×10^{-4}
Typical operating mode ($0.7U_R$, $T_{env}=55^{\circ}\text{C}$)	200 000	5×10^{-5}
Storageability Gamma-rated time of capacitor storageability T_{cy} at $y=95\%$, years, min	25	

GENERAL VIEW DRAWING



- 1 – Insulation strip
- 2 – Isolation sleeve
- 3 – Enamel coating (for all-climate version)

CAPACITOR ELECTRIC PARAMETERS VALUE

U _R , V	C _R , μF T=25°C, F=50Hz	tg δ, % T=25°C, F=50Hz	I _{LEAK} , mA T=25°C, after 5min.	Z, mOhm T=25°C, F=10kHz	ESR, mOhm T=25°C, F=100Hz	I _R , A T=125°C	
						F=50Hz	F=100Hz
16	4700	20	0.23	35	45	1.6	2.7
16	6800	22	0.33	28	35	1.9	3.2
16	10000	28	0.48	25	30	2.3	3.8
16	15000	38	0.72	19	27	2.7	4.5
16	22000	41	1.1	17	20	3.5	5.8
16	33000	50	1.6	14	16	4.3	7.1
16	47000	62	2.2	12	14	5	8.3
25	3300	16	0.25	38	50	1.5	2.5
25	4700	19	0.35	31	43	1.9	3.2
25	6800	19	0.51	20	30	2.6	4.3
25	10000	28	0.75	19	30	2.7	4.5
25	15000	31	1.1	17	22	3.3	5.5
25	22000	41	1.7	16	20	4.2	7
25	33000	56	2.4	14	18	4.4	7.3
40	2200	12	0.26	45	60	1.5	2.5
40	3300	13	0.4	32	42	1.9	3.2
40	4700	15	0.56	24	33	2.5	4.1

U_R, V	$C_R, \mu F$ T=25°C, F=50Hz	$tg \delta, \%$ T=25°C, F=50Hz	I_{LEAK}, mA T=25°C, after 5min.	$Z, m\Omega$ T=25°C, F=10kHz	$ESR, m\Omega$ T=25°C, F=100Hz	I_R, A T=125°C	
40	6800	19	0.82	21	30	2.7	4.5
40	10000	26	1.2	19	28	3.2	5.4
40	15000	31	1.8	16	22	4	6.6
40	22000	41	2.6	14	20	4.2	7
50	1500	10	0.23	60	70	1.3	2.1
50	2200	10	0.33	38	45	1.9	3.1
50	3300	10	0.5	27	32	2.5	4.1
50	4700	13	0.71	22	30	2.7	4.5
50	6800	17	1	21	27	3	5
50	10000	21	1.5	17	22	4	6.6
50	15000	28	2.3	14	20	4.2	7
50	22000	35	3.2	12	18	4.3	7.2
63	1000	7	0.19	46	60	1.5	2.5
63	1500	8	0.28	43	50	1.7	2.9
63	2200	8	0.42	30	35	2.4	3.9
63	3300	9	0.62	22	30	3.1	5.2
63	4700	12	0.89	20	28	3.2	5.4
63	6800	16	1.3	19	25	3.7	6.2
63	10000	22	1.9	18	23	3.9	6.5
63	15000	29	2.5	17	21	4	6.7
100	470	8	0.14	130	190	0.8	1.4
100	680	10	0.2	100	150	1	1.7
100	1000	10	0.3	70	100	1.4	2.3
100	1500	10	0.45	54	70	1.7	2.9
100	2200	12	0.66	46	60	2.2	3.7
100	3300	17	1	42	55	2.5	4.2
100	4700	22	1.4	38	50	2.6	4.4

CAPACITORS OVERALL DIMENSIONS AND MASS

U _R , V	16	25	40	50	63	100
C _R , μF	<u>DxH, mm</u> mass, g					
470						<u>22x30</u> 84
680						<u>25x30</u> 108
1000					<u>22x30</u> 84	<u>25x40</u> 146
1500				<u>22x25</u> 70	<u>25x30</u> 108	<u>30x35</u> 184
2200			<u>22x30</u> 84	<u>25x30</u> 108	<u>25x40</u> 146	<u>35x40</u> 284
3300		<u>22x25</u> 70	<u>25x30</u> 108	<u>25x40</u> 146	<u>30x40</u> 210	<u>35x50</u> 356
4700	<u>22x25</u> 70	<u>25x30</u> 108	<u>25x40</u> 146	<u>30x35</u> 184	<u>35x40</u> 284	<u>35x50</u> 356
6800	<u>22x30</u> 84	<u>25x40</u> 146	<u>30x35</u> 184	<u>30x40</u> 210	<u>35x50</u> 356	
10000	<u>25x30</u> 108	<u>30x35</u> 184	<u>35x40</u> 284	<u>35x50</u> 356	<u>35x50</u> 356	
15000	<u>25x40</u> 146	<u>30x40</u> 210	<u>35x50</u> 356	<u>35x50</u> 356	<u>35x60</u> 428	
22000	<u>30x40</u> 210	<u>35x50</u> 356	<u>35x50</u> 356	<u>35x60</u> 428		
33000	<u>35x40</u> 284	<u>35x50</u> 356				
47000	<u>35x50</u> 356					

Ripple current effective value versus temperature and frequency can be found from the formula $I_{RIPPLE, A} = I_{R(50Hz, 125^{\circ}C)} \times K_{RT} \times K_{RF}$

K_{RT} - I_R CORRECTION FACTOR VERSUS TEMPERATURE

T _{env} , °C	25	40	50	60	70	85	100	125
K _{RT}	2.1	2.04	1.98	1.9	1.73	1.5	1	1

K_{RF} - I_R CORRECTION FACTOR VERSUS FREQUENCY

F, Hz	50	100	300	600	1 000	100 000
K _{RF}	1	1.66	2.02	2.19	2.27	2.53

EXAMPLE OF REFERENCE DESIGNATION FOR ORDERING

CAPACITOR K50-99 – 16V – 4 700 μ F (+50 -20)% – I AZHAR.673541.024 TU

CAPACITOR K50-99 – 16V – 4 700 μ F \pm 20% – I – V AZHAR.673541.024 TU