

K50-93

ALUMINUM ELECTROLYTIC CAPACITOR

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AZHYAR.673541.021 TU

Polar capacitors, fixed capacitance with radial wire leads. They have a high specific charge, reduced overall dimensions and weight, in comparison with domestic counterparts, low ESR values. Capacitors are manufactured in climatic version UHL and V. Sealed. Isolated and non-isolated.

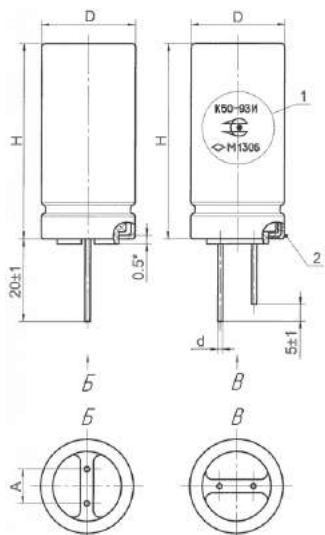
The capacitor type is produced for the internal wiring with the requirements to 98% air humidity at $T=35^{\circ}\text{C}$ and $T=25^{\circ}\text{C}$



MAIN PARAMETERS

Name	Value
Rated voltage, V	6.3...450
Rated capacitance, μF	1...2 200
Temporary overvoltage within 10 sec., V	1.15 U_R ($U_R \leq 315$) 1.1 U_R ($U_R > 315$)
Capacitance tolerance (25 °C, 50 Hz), %	+50...-20; ± 20
Maximum operating temperature T_{env} , °C	+100
Minimal operating temperature T_{env} , °C	-60

CAPASITOR PHYSICAL CONFIGURATION



- 1 – Marking example
- 2 – Isolation sleeve or lacquer coating

D, mm	H, mm	A, mm	d, mm
8	11.5	3.5	0.6
10	12.5	5.0	
	16		
12	20	7.5	0.8
	25		
16	20	10	1.0
	25		
20	31.5	10	1.0
	40		

CAPACITORS RELIABILITY

Reliability Operation modes	Minimal nonfailure operating time, t_{λ} , hours	Capacitor failure rate, λ , 1/hour, max
Maximum-permissible mode (U_R , $T_{env}=100^{\circ}\text{C}$) for capacitors $\varnothing = 8 \text{ mm}$	1 000	3×10^{-4}
Maximum-permissible mode (U_R , $T_{env}=100^{\circ}\text{C}$) for capacitors $\varnothing \geq 10 \text{ mm}$	2 000	1×10^{-4}
Light mode ($0.7U_R$, $T_{env}=85^{\circ}\text{C}$)	6 000	5×10^{-4}
Light 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 $y=95\%$, years, min	25	

CAPACITORS OVERALL DIMENSIONS AND MASS

U_R , V	6.3	10	16	25	40	63	100	160	250	315	350	400	450
C_R , μF	$D \times H$, mm mass, g												
1												$\frac{8 \times 11.5}{2.0}$	$\frac{8 \times 11.5}{2.0}$
2.2										$\frac{8 \times 11.5}{2.0}$	$\frac{8 \times 11.5}{2.0}$	$\frac{8 \times 11.5}{2.0}$	$\frac{10 \times 12.5}{3.0}$
3.3									$\frac{8 \times 11.5}{2.0}$	$\frac{10 \times 12.5}{3.0}$	$\frac{10 \times 12.5}{3.0}$	$\frac{10 \times 12.5}{3.0}$	$\frac{10 \times 16}{4.0}$
4.7									$\frac{8 \times 11.5}{2.0}$	$\frac{10 \times 12.5}{3.0}$	$\frac{10 \times 12.5}{3.0}$	$\frac{10 \times 16}{4.0}$	$\frac{10 \times 20}{5.0}$
10								$\frac{8 \times 11.5}{2.0}$	$\frac{10 \times 16}{4.0}$	$\frac{10 \times 20}{5.0}$	$\frac{10 \times 20}{5.0}$	$\frac{10 \times 20}{5.0}$	$\frac{12.5 \times 20}{5.0}$
22								$\frac{10 \times 16}{4.0}$	$\frac{10 \times 20}{5.0}$	$\frac{12.5 \times 20}{5.0}$	$\frac{12.5 \times 20}{5.0}$	$\frac{12.5 \times 20}{5.0}$	$\frac{16 \times 20}{10.0}$
33							$\frac{8 \times 11.5}{2.0}$	$\frac{10 \times 20}{5.0}$	$\frac{12.5 \times 20}{5.0}$	$\frac{16 \times 20}{10.0}$	$\frac{16 \times 20}{10.0}$	$\frac{16 \times 20}{10.0}$	$\frac{16 \times 25}{13.0}$
47							$\frac{10 \times 12.5}{3.0}$	$\frac{10 \times 20}{5.0}$	$\frac{12.5 \times 20}{5.0}$				$\frac{20 \times 40}{30.0}$
100							$\frac{8 \times 11.5}{2.0}$	$\frac{10 \times 20}{5.0}$	$\frac{12.5 \times 25}{10.0}$	$\frac{16 \times 25}{13.0}$			
220				$\frac{8 \times 11.5}{2.0}$	$\frac{8 \times 11.5}{2.0}$	$\frac{10 \times 16}{4.0}$	$\frac{12.5 \times 25}{10.0}$	$\frac{16 \times 25}{13.0}$					
330			$\frac{8 \times 11.5}{2.0}$	$\frac{8 \times 11.5}{2.0}$	$\frac{10 \times 12.5}{3.0}$	$\frac{10 \times 20}{5.0}$							
470			$\frac{8 \times 11.5}{2.0}$	$\frac{10 \times 12.5}{3.0}$	$\frac{10 \times 20}{5.0}$	$\frac{12.5 \times 25}{10.0}$							
1 000	$\frac{8 \times 11.5}{2.0}$	$\frac{10 \times 12.5}{3.0}$	$\frac{10 \times 16}{4.0}$	$\frac{12.5 \times 20}{5.0}$	$\frac{12.5 \times 25}{10.0}$	$\frac{16 \times 31.5}{18.0}$							
2 200	$\frac{10 \times 16}{4.0}$		$\frac{12.5 \times 25}{10.0}$	$\frac{16 \times 25}{13.0}$		$\frac{20 \times 31.5}{25.0}$							

* At the request of the consumer, if it is specified in the supply contract, capacitors with overall dimensions ($D \times H$) 8×11.5 ; 10×12.5 ; 10×16 , corresponding to installation group 2 of GOST RV 20.39.412, can be supplied in packaging designed for automated assembly of equipment.

CAPACITOR ELECTRIC PARAMETERS VALUE WHEN DELIVERED

U_R, V	$C_R, \mu F, 25^\circ C, 50 Hz$	$tg \delta, \%, 25^\circ C, 50 Hz, max$	$I_{LEAK}, \mu A, 25^\circ C, after 5 min., max$	$Z, Ohm, 25^\circ C, 100kHz, max$	$ESR, Ohm, 25^\circ C, 100Hz, max$	$I_R, mA, 100^\circ C, 50 Hz, max$
6.3	1 000	28	63	0.117	0.94	222
6.3	2 200	28	139	0.068	0.9	480
10	1 000	24	100	0.090	0.8	378
16	330	19	53	0.117	2.02	278
16	470	19	75	0.117	1.42	278
16	1 000	19	160	0.068	0.66	469
16	2 200	19	352	0.066	0.60	532
25	220	16	55	0.117	2.42	278
25	330	16	82	0.117	2.4	278
25	470	16	117	0.090	1.14	378
25	1 000	16	250	0.085	1.0	442
25	2 200	16	550	0.080	0.95	470
40	220	14	88	0.234	3.58	243
40	330	14	132	0.160	3.5	308
40	470	14	188	0.150	3.4	369
40	1 000	14	400	0.120	3.3	442
63	100	10	63	0.342	2.75	203
63	220	10	139	0.194	1.5	300
63	330	10	208	0.147	1.0	342
63	470	10	296	0.140	0.95	369
63	1 000	10	630	0.135	0.9	442
63	2 200	10	1 386	0.130	0.85	532
100	33	8	33	0.680	8.04	130
100	47	8	47	0.530	5.3	145
100	100	8	100	0.240	2.66	232
100	220	8	220	0.110	1.2	371
160	10	12	48	2.00	13.1	33
160	22	12	106	1.90	9.04	85
160	33	12	158	1.85	7.83	138
160	47	12	226	1.80	7.5	148
160	100	12	480	1.65	7.0	225
160	220	12	1 056	0.955	6.5	325
250	3.3	12	25	12.00	13.9	25

U_R, V	$C_R, \mu F, 25^\circ C, 50 Hz$	$tg \delta, \%, 25^\circ C, 50 Hz, max$	$I_{LEAK}, \mu A, 25^\circ C, after 5 min., max$	$Z, Ohm, 25^\circ C, 100kHz, max$	$ESR, Ohm, 25^\circ C, 100Hz, max$	$I_R, mA, 100^\circ C, 50 Hz, max$
250	4.7	12	35	7.50	8.54	33
250	10	12	75	6.80	8.41	70
250	22	12	165	3.45	3.6	105
250	33	12	248	3.72	3.83	148
250	47	12	532	1.94	2.25	153
250	100	12	750	1.80	2.13	245
315	2.2	20	21	25.10	43.0	23
315	3.3	20	31	31.60	36.0	28
315	4.7	20	44	16.50	25.5	38
315	10	20	94	9.70	16.7	65
315	22	20	208	5.20	11.4	115
315	33	20	312	6.10	9.95	165
350	2.2	15	23	36.00	76.7	20
350	3.3	15	35	26.00	70.0	28
350	4.7	15	49	20.00	54.4	45
350	10	15	105	16.00	35.5	60
350	22	15	231	10.00	18.5	115
350	33	15	346	5.00	9.7	165
400	1.0	15	12	55.00	81.8	8
400	2.2	15	26	40.00	75.0	15
400	3.3	15	40	35.00	66.8	30
400	4.7	15	56	30.00	64.5	40
400	10	15	120	20.00	29.1	60
400	22	15	264	15.00	23.0	103
400	33	15	396	7.00	19.9	165
450	1.0	17	13	80.00	138.0	10
450	2.2	17	30	50.00	93.2	18
450	3.3	17	45	40.00	73.5	30
450	4.7	17	63	35.00	60.4	40
450	10	17	135	25.00	39.0	65
450	22	17	297	20.00	30.0	110
450	33	17	445	9.00	25.0	145
450	47	17	634	8.00	23.0	227

EXAMPLE OF REFERENCE DESIGNATION FOR ORDERING

CAPACITOR K50-93 – 450V – 47 μ F \pm 20% – I – B AZHYAR.673541.021 TU

CAPACITOR K50-93 – 350V – 2.2 μ F (+50 -20)% – I AZHYAR.673541.021 TU

CAPACITOR K50-93 – 10V – 1000 μ F \pm 20% – B AZHYAR.673541.021 TU

CAPACITOR K50-93 – 160V – 47 μ F (+50 -20)% AZHYAR.673541.021 TU