

K50-83

ALUMINUM ELECTROLYTIC CAPACITOR

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AZHYAR. 673541.012 TU



Low impedance capacitors with radial wire leads. The design of the capacitors is sealed. Capacitor is used for operation in direct current and ripple current circuits, secondary power sources and converter equipment. Capacitor is available in all-climate and temperate/cold climate version. Sealed; isolated.

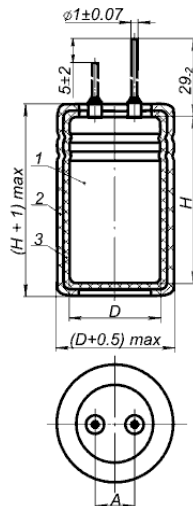
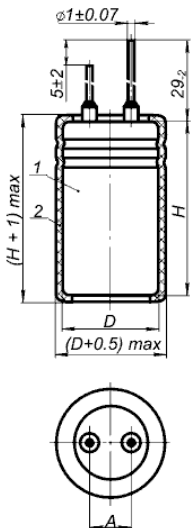
It is recommended to use this capacitor type as substitution for capacitors K50-15, K50-27 (the second variant), K50-29, K50-32, K50-32A, K50-33A, K50-68 types.

MAIN PARAMETERS

Name	Value
Rated voltage, V	6.3...450
Rated capacitance, μF	22...22 000
Temporary overvoltage within 10 sec., V	1.15 U_R
Capacitance tolerance (25 °C, 50 Hz), %	+30...-10; ± 20
Maximum operating temperature T_{env} , °C	+100
Minimal operating temperature T_{env} , °C	-60

Temperate/cold climate version

All climate version



A – spacing between terminals

- 1 – Case
- 2 – Isolation sleeve
- 3 – Lacquer coating

D, mm	A, mm
18	7.5 \pm 0.15
21	7.5 \pm 0.15
25	12.5 \pm 0.15

CAPACITOR ELECTRIC PARAMETERS VALUE WHEN DELIVERED

U_R, V	$C_R, \mu F$	$\text{tg } \delta, \%, 25^\circ C, 50 \text{ Hz, max}$	$I_{LEAK}, \mu A, 25^\circ C, \text{ after 5 min., max}$	$Z, \text{ Ohm}, 25^\circ C, 20\text{kHz, max}$	$ESR, \text{ Ohm}, 25^\circ C, 100\text{Hz, max}$	$I_r, A, 85^\circ C, 50 \text{ Hz, max}$
6.3	3 300	25	288	0.13	0.152	1.50
	4 700		344	0.082	0.075	1.77
	10 000		502	0.04	0.036	3.32
	15 000		614	0.032	0.027	4.60
	22 000		745	0.028	0.023	6.30
16	1 500		310	0.27	0.31	1.38
25	1 000		316	0.35	0.338	1.08
	1 500		387	0.20	0.159	1.38
40	330	20	230	0.36	0.39	0.66
63	220	15	235	0.34	0.45	0.66
100	220		296	0.24	0.395	0.60
160	100	10	480	0.31	0.92	0.60
300			693	2.3	1.95	0.60
350	47		513	5.0	5.2	0.32
	100		748	2.8	4.3	0.60
400	33		396	5.0	5.5	0.22
	47		548	5.0	6.1	0.35
450	22		297	5.0	6.3	0.21
	33		446	5.0	5.8	0.23

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 85 °C, 50 Hz (See Table “Capacitor electric parameters”)

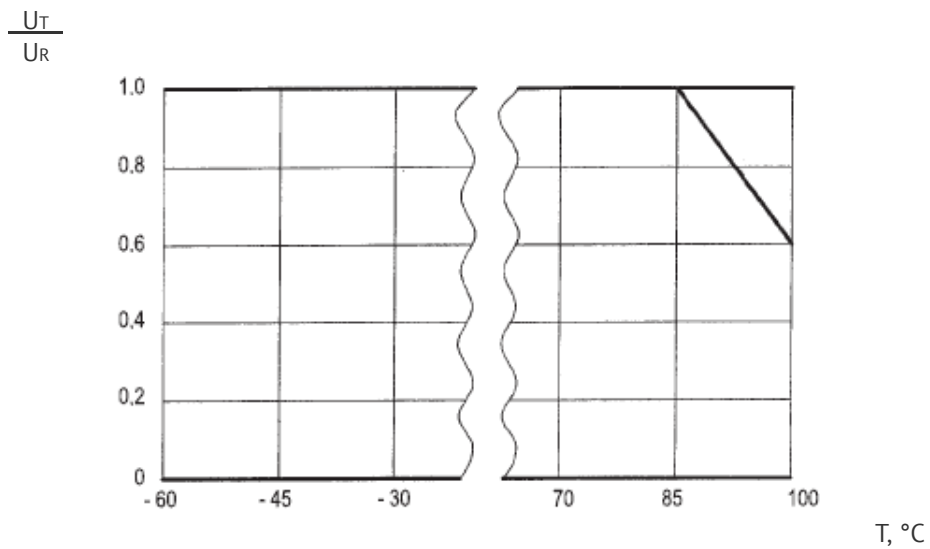
$K_T - I_r$ CORRECTION FACTOR VERSUS TEMPERATURE

$T_{env}, ^\circ C$	25	40	50	60	70	85	100
K_T	1.7	1.66	1.59	1.46	1.28	1	0.6

K_F - I_R CORRECTION FACTOR VERSUS FREQUENCY

U _R , V	F, Hz						
	100	200	300	1 000	5 000	10 000 and more	
50							
6.3	D = 18 mm						
	1	1.25	1.47	1.58	1.77	1.86	1.88
16...40	1	1.27	1.49	1.63	1.96	2.09	2.11
63	1	1.30	1.64	1.83	2.39	2.83	2.96
100...160	1	1.35	1.85	2.08	2.93	3.65	3.92
300...450	1	1.39	1.94	2.25	3.19	4.09	4.53
6.3	D = 21 mm						
	1	1.18	1.31	1.37	1.46	1.50	1.51
6.3	D = 25 mm						
	1	1.16	1.26	1.31	1.39	1.42	1.43

VOLTAGE VERSUS TEMPERATURE



CAPACITORS RELIABILITY

Reliability Operation modes	Minimal nonfailure operating time, t_{λ} , hours	Capacitor failure rate, λ , 1/hour, max
Maximum-permissible mode (U_R , $T_{okp}=85$ °C)	4 000	2×10^{-5}
Maximum-permissible mode (U_R , $T_{env}=100$ °C)	2 000	2×10^{-5}
Maximum-permissible mode ($0.6U_R$, $T_{env}=100$ °C)	4 000	2×10^{-5}
Light mode ($0.6U_R$, $T_{env}=60$ °C)	50 000	10^{-6}
Light mode ($0.6U_R$, $T_{env}=40$ °C)	100 000	10^{-7}
Storageability Gamma-rated time of capacitor storageability T_{cy} at $\gamma=95\%$, years, min		25

EXAMPLE OF REFERENCE DESIGNATION FOR ORDERING

CAPACITOR K50-83 – 400V – 33 μ F (± 20)% I AZHYAR. 673541.012 TU

CAPACITOR K50-83 – 400V – 33 μ F (± 20)% I B AZHYAR. 673541.012 TU