

# K50-100

ALUMINUM ELECTROLYTIC CAPACITOR

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AZHAR.673541.025 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, for operation in direct and pulse current circuits of radio electronic equipment. Sealed. In insulated case with or without butt pin. Radial leaded with screw terminals.

## MAIN PARAMETERS

Name	Value
Rated voltage, V	25...100
Rated capacitance, µF	1 500...330 000
Capacitance tolerance (25°C, 50 Hz), %	+50...-20; ±20
Maximum operating temperature Tenv, °C	+100
Minimal operating temperature Tenv, °C	-60

## CAPACITORS RELIABILITY

Operating conditions	Minimal nonfailure operating time, t <sub>λ</sub> , hours	Capacitor failure rate, λ, 1/hour, max
Maximum-permissible mode (U <sub>R</sub> , Tenv=100°C)	3 000	1×10 <sup>-4</sup>
Typical operating mode (0.7U <sub>R</sub> , Tenv=85°C)	12 000	5×10 <sup>-4</sup>
Typical operating mode (0.7U <sub>R</sub> , Tenv=55°C)	100 000	5×10 <sup>-5</sup>
Storageability Gamma-rated time of capacitor storageability Tcy at γ=95%, years, min	25	

# GENERAL VIEW DRAWING

## Variant A

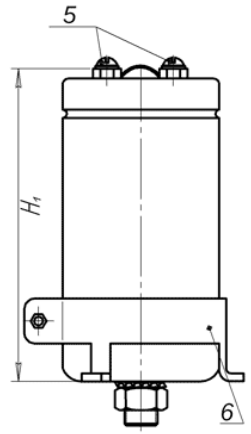
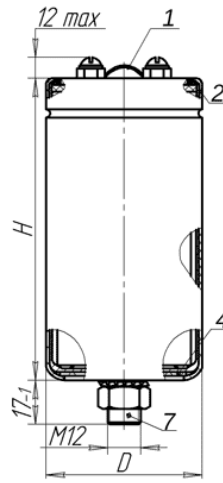
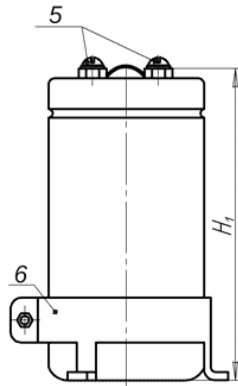
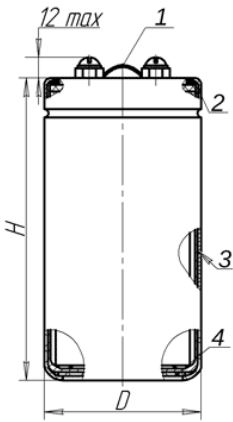
## Variant B

Without clamp

With clamp

With clamp

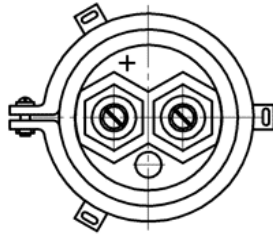
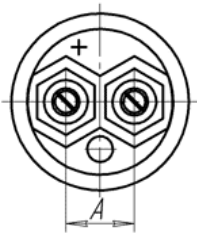
With clamp



### Lid version for D=35; 40; 45 mm

Without clamp

With clamp

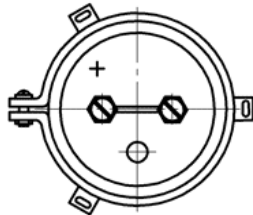
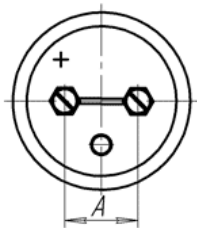


- 1 - Connecting strip (for D= 50; 65; 76.1 mm)
- 2 - Insulating sleeve
- 3 - Enamel coating (for all-climate version)
- 4 - Insulating pad
- 5 - Screw
- 6 - Clamp
- 7 - Butt pin

### Lid version for D=50; 65; 76.1 mm

Without clamp

With clamp



## CAPACITOR ELECTRIC PARAMETERS VALUE

U <sub>R</sub> , V	C <sub>R</sub> , μF T=25°C, F=50Hz	tg δ, % T=25°C, F=50Hz	I <sub>LEAK</sub> , mA T=25°C	Z, mOhm T=25°C, F=10kHz	ESR, mOhm T=25°C, F=100Hz	I <sub>R</sub> , AT=100°C	
						F=50Hz	F=100Hz
25	15000	75	0.98	31	42	2.4	5.3
25	22000	80	1.37	22	29	3.3	7.4
25	33000	85	1.93	17	20	4	8.8
25	47000	90	1.6	13	16	5	11
25	47000	95	7.1	13	15	3.5	7.8
25	47000	95	7.1	13	15	3.2	7.1
25	68000	100	10	10	12	4.2	9.4
25	68000	95	3.56	9.3	12	5.8	13
25	100000	100	4.94	7.6	9.4	6.7	15
25	100000	150	15	8	10	5.4	12
25	150000	150	6.97	6.4	8	8.1	18
25	220000	250	9.65	5.6	5.3	9	20
25	330000	250	13.63	5.1	4.5	10.8	24
40	10000	70	1.04	37	42	2.4	5.3
40	15000	80	1.47	16	23	3.3	7.4
40	22000	90	2.04	14	17	4.3	9.5
40	33000	110	2.87	13	12	4.9	11
40	47000	120	3.88	10	10	6.3	14
40	68000	150	5.31	8.4	9	6.7	15
40	100000	170	7.37	7	8.2	8.1	18
40	150000	190	10.4	6	7.2	9	20
40	220000	200	14.39	5.4	5	10.8	24
63	4700	65	0.81	64	60	2	4.4
63	6800	70	1.11	46	44	2.7	6
63	10000	75	1.53	16	27	3.6	8.1
63	15000	85	2.16	14	19	4.1	9.1
63	22000	95	2.99	14	14	5.4	12
63	22000	105	8.3	15	18	3.7	8.2
63	22000	115	8.3	13	18	3.4	7.7
63	33000	130	11	11	16	3.9	8.7
63	33000	125	4.22	12	11	6.7	15
63	47000	135	5.7	9.4	10	7.6	17

$U_R, V$	$C_R, \mu F$ T=25°C, F=50Hz	$tg \delta, \%$ T=25°C, F=50Hz	$I_{LEAK},$ mA T=25°C	$Z, m\Omega$ T=25°C, F=10kHz	$ESR, m\Omega$ T=25°C, F=100Hz	$I_R,$ AT=100°C	
63	47000	140	13	9	13	4.3	9.7
63	68000	145	7.81	7.8	5	8.5	19
63	100000	150	10.84	6.6	5	10.3	23
100	1500	50	0.45	90	104	1.5	3.4
100	2200	60	0.63	77	70	2.1	4.7
100	3300	65	0.89	53	48	2.5	5.7
100	4700	75	1.2	39	35	3.3	7.5
100	6800	85	1.64	25	24	3.9	8.7
100	6800	105	4	23	35	2.3	5.1
100	6800	115	4	23	35	2.1	4.8
100	10000	140	6	20	30	2.7	6
100	10000	130	6	21	30	2.8	6.3
100	10000	125	2.27	12	14	4.9	11
100	15000	145	3.2	10	10	6.7	15
100	22000	150	4.43	6	6	7.6	17
100	33000	155	6.25	8.4	5	9.4	21

## CAPACITORS OVERALL DIMENSIONS AND MASS

$U_R, V$	25	40	63	100
$C_R, \mu F$	<u>DxH, mm</u> mass, g			
1500				<u>35x55</u> 212
2200				<u>35x80</u> 308
3300				<u>35x80</u> 308
4700			<u>35x55</u> 212	<u>35x105</u> 404
6800			<u>35x80</u> 308	<u>50x80</u> 628; <u>35x75</u> 288; <u>45x45</u> 286
10000		<u>35x55</u> 212	<u>35x105</u> 404	<u>50x105</u> 824; <u>35x100</u> 384; <u>40x75</u> 376
15000	<u>35x55</u> 212	<u>35x80</u> 308	<u>50x80</u> 628	<u>65x105</u> 1394
22000	<u>35x80</u> 308	<u>35x105</u> 404	<u>50x105</u> 824; <u>35x100</u> 384; <u>40x75</u> 376	<u>76.1x105</u> 1910
33000	<u>35x80</u> 308	<u>50x80</u> 628	<u>65x105</u> 1394; <u>45x75</u> 476	<u>76.1x143</u> 2600
47000	<u>35x105</u> 384; <u>35x75</u> 288; <u>40x50</u> 250	<u>50x105</u> 824	<u>65x105</u> 1394; <u>45x100</u> 636	
68000	<u>50x80</u> 628; <u>40x75</u> 376	<u>50x105</u> 824	<u>76.1x105</u> 1910	
100000	<u>50x105</u> 824; <u>40x100</u> 502	<u>65x105</u> 1394	<u>76.1x143</u> 2600	
150000	<u>65x105</u> 1394	<u>76.1x105</u> 1910		
220000	<u>76.1x105</u> 1910	<u>76.1x143</u> 2600		
330000	<u>76.1x143</u> 2600			

Ripple current effective value versus temperature and frequency can be found from the formula  $I_{RIPPLE, A} = I_{R(50Hz, 100^{\circ}C)} \times K_{RT} \times K_{RF}$

### **K<sub>RT</sub> - I<sub>R</sub> CORRECTION FACTOR VERSUS TEMPERATURE**

<b>T<sub>env</sub>, °C</b>	<b>25</b>	<b>40</b>	<b>50</b>	<b>60</b>	<b>70</b>	<b>85</b>	<b>100</b>
K <sub>RT</sub>	2.1	2.04	1.98	1.9	1.73	1.5	1

### **K<sub>RF</sub> - I<sub>R</sub> CORRECTION FACTOR VERSUS FREQUENCY**

<b>F, Hz</b>	<b>50</b>	<b>100</b>	<b>300</b>	<b>600</b>	<b>1 000</b>	<b>100 000</b>
K <sub>RF</sub>	1	2.2	2.36	2.4	2.41	2.53

### **EXAMPLE OF REFERENCE DESIGNATION FOR ORDERING**

CAPACITOR K50-100a – 25V – 47 000µF (+50 -20)% – (35×105) – I AZHAR.673541.025 TU

CAPACITOR K50-100a – 25V – 47 000µF ±20% – (35×105) – I – V AZHAR.673541.025 TU

CAPACITOR K50-100b – 25V – 47 000µF ±20% – (35×105) – I AZHAR.673541.025 TU