

K50-103

ALUMINUM ELECTROLYTIC CAPACITOR

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AZHAR.673541.028 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	160...450
Rated capacitance, µF	680...15 000
Capacitance tolerance (25°C, 50 Hz), %	+50...-20; ±20
Maximum operating temperature Tenv, °C	+100
Minimal operating temperature Tenv, °C	-60

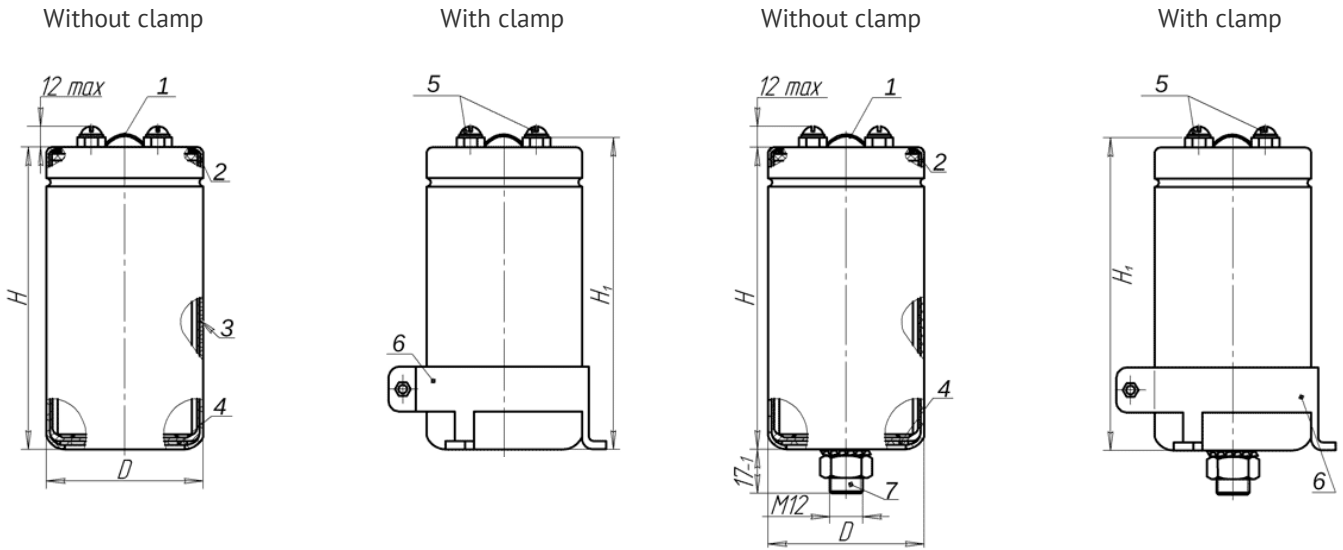
CAPACITORS RELIABILITY

Reliability Operation modes	Minima nonfailure operating time, t _λ , hours	Capacitor failure rate, λ, 1/hour, max
Maximum-permissible mode (U _R , Tenv=100°C)	3 000	1×10 ⁻⁵ (for D= 50mm)
	5 000	1×10 ⁻⁵ (for D= 65, 76mm)
Typical operating mode (0.7U _R , Tenv=55°C)	70 000	1×10 ⁻⁶ (for D= 50mm)
	100 000	1×10 ⁻⁷ (for D= 65, 76mm)
Storageability Gamma-rated time of capacitor storageability Tcy at γ=95%, years, min	25	

GENERAL VIEW DRAWING

Variant A

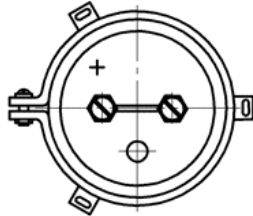
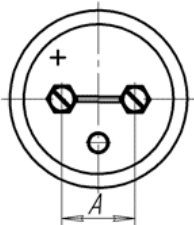
Variant B



Lid

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

CAPACITOR ELECTRIC PARAMETERS VALUE WHEN DELIVERED

U_R, V	$C_R, \mu F$ $T=25^\circ C, F=50Hz$	$tg \delta, \%$ $T=25^\circ C, F=50Hz$	I_{LEAK}, mA $T=25^\circ C$	$Z, m\Omega$ $T=25^\circ C, F=10kHz$	ESR, Ω $T=25^\circ C, F=100Hz$	I_R, A $T=100^\circ C, F=100Hz$
160	3300	25	5.8	3	6	2.1
160	4700	25	8.5	2.5	5	4.5
160	6800	25	9.9	1.2	2.4	6.1
160	10000	25	10.3	0.5	1	7.8
160	15000	25	10.5	0.1	0.5	8
250	1500	25	2.1	4	8	0.8
250	2200	25	6.6	3.7	7.4	1.1

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	$Z, m\Omega$ T=25°C, F=10kHz	ESR, Ω T=25°C, F=100Hz	I_R, A T=100°C, F=100Hz
250	3300	25	8.7	3.1	6.2	2
250	4700	25	10	2.6	3.2	4.2
250	6800	25	10.2	1.5	3	5.8
250	10000	25	10.4	0.6	1.2	7.5
250	15000	25	10.5	0.2	0.4	7.8
315	1500	25	5	4.1	8.2	0.7
315	2200	25	6.8	3.9	3.8	1
315	3300	25	9	3.5	7	1.8
315	4700	25	10.1	2.8	5.6	4
315	6800	25	10.2	1.7	3.4	5.6
315	10000	25	10.5	0.8	1.6	7.3
350	1500	25	5.8	4.3	8.6	0.65
350	2200	25	7	4	8	0.95
350	3300	25	9.1	3.8	7.6	1.65
350	4700	25	10.2	3	6	3.8
350	6800	25	10.4	1.8	3.6	5.4
350	10000	25	10.5	1	2	7.1
400	1000	25	6	4.8	9.6	0.55
400	1500	25	7.1	4.5	9	0.6
400	2200	25	7.3	4.1	8.2	0.8
400	3300	25	9.8	4	8	1.3
400	4700	25	10.5	3.5	7	3.6
400	6800	25	10.5	2.2	4.4	5
450	680	25	3.3	5	10	0.5
450	1000	25	6.2	4.9	9.6	0.54
450	1500	25	7.3	4.7	9.4	0.58
450	2200	25	8.9	4.3	8.6	0.7
450	3300	25	10.1	4.1	8.2	1.2
450	4700	25	10.5	3.8	7.6	3.4
450	6800	25	10.5	3	6	4.8

CAPACITORS OVERALL DIMENSIONS AND MASS

U _R , V	160	250	315	350	400	450
C _R , μF	<u>DxH, mm</u> mass, g					
680						<u>50x80</u> 310
1000					<u>50x80</u> 310	<u>65x80</u> 460
1500		<u>50x60</u> 260	<u>50x80</u> 310	<u>50x80</u> 310	<u>65x80</u> 460	<u>76x70</u> 620
2200		<u>50x80</u> 360	<u>65x80</u> 460	<u>65x80</u> 460	<u>76x70</u> 620	<u>76x80</u> 660
3300	<u>65x80</u> 510	<u>65x80</u> 510	<u>65x105</u> 620	<u>65x105</u> 620	<u>76x80</u> 660	<u>76x120</u> 1100
4700	<u>65x105</u> 690	<u>65x105</u> 650	<u>65x110</u> 760	<u>65x110</u> 760	<u>76x120</u> 1100	<u>76x155</u> 1300
6800	<u>65x110</u> 740	<u>65x110</u> 770	<u>76x120</u> 1100	<u>76x120</u> 1100	<u>76x155</u> 1300	<u>76x170</u> 1620
10000	<u>76x120</u> 1140	<u>76x120</u> 1220	<u>76x155</u> 1300	<u>76x155</u> 1300		
15000	<u>76x155</u> 1520	<u>76x155</u> 1600				

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

K_{RT} - I_R CORRECTION FACTOR VERSUS TEMPERATURE

T _{env} , °C	25	40	50	60	70	85	100
K _{RT}	1.2	1.19	1.18	1.16	1.13	1.08	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 K50-103a – 160V – 3 300μF (+50 -20)% – I AZHYAR.673541.028 TU

CAPACITOR K50-103a – 160V – 3 300μF ±20% – I – V AZHYAR.673541.028 TU

CAPACITOR K50-103b – 160V – 3 300μF ±20% – I AZHYAR.673541.028 TU