

K50-101

ALUMINUM ELECTROLYTIC CAPACITOR

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AZHAR.673541.026 TU



Polar fixed capacitors are intended for indoor installation with resistance requirements to high humidity of 98% at the temperature 35°C, for operation in direct and pulse current circuits of radio electronic equipment. Sealed. In bare case fixed on plastic dielectric platform.

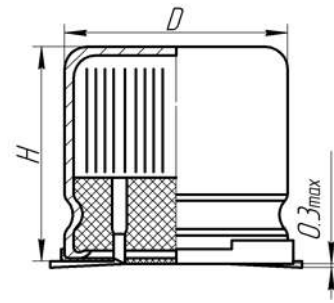
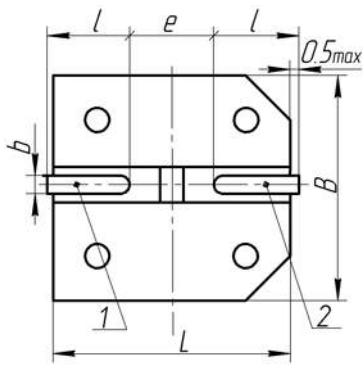
MAIN PARAMETERS

Name	Value
Rated voltage, V	6.3...160
Rated capacitance, μF	1...1 000
Capacitance tolerance (25°C, 50 Hz), %	+50...-20; ± 20
Maximum operating temperature T_{env} , °C	+100
Minimal operating temperature T_{env} , °C	-60

CAPACITOR RATINGS

U_R , V	6.3	10	16	25	35	40	50	63	100	160
C_R , μF										
1							✓	✓		
2.2						✓	✓	✓		
3.3					✓	✓	✓	✓	✓	
4.7				✓	✓	✓	✓	✓	✓	✓
10			✓	✓	✓	✓	✓	✓	✓	✓
22	✓	✓	✓	✓	✓	✓	✓	✓	✓	
33	✓	✓	✓	✓	✓	✓	✓	✓		
47	✓	✓	✓	✓	✓	✓	✓	✓		
100	✓	✓	✓	✓	✓	✓	✓			
220	✓	✓	✓	✓	✓	✓	✓			
330	✓	✓	✓	✓	✓		✓			
470	✓	✓	✓		✓		✓			
1 000	✓				✓					

GENERAL VIEW DRAWING



- 1 - Negative terminal
2 - Positive terminal

CAPACITORS RELIABILITY

Reliability Operation modes	Minimal nonfailure operating time, t_{λ} , hours	Capacitor failure rate, λ , 1/hour, max
Maximum-permissible mode (U_R , $T_{env}=100^{\circ}\text{C}$)	1 000	2×10^{-4} (for $D=4-6.3\text{mm}$)
	2 000	1×10^{-4} (for $D=8-16\text{mm}$)
Typical operating mode ($0.7U_R$, $T_{env}=55^{\circ}\text{C}$)	30 000	1×10^{-5} (for $D=4-6.3\text{mm}$)
	35 000	1×10^{-5} (for $D=8-16\text{mm}$)
Storageability Gamma-rated time of capacitor storageability T_{cy} at $\gamma=95\%$, years, min	20	

CAPACITORS OVERALL DIMENSIONS AND MASS

U _R , V	C _R , μF	Dimensions, mm						Mass, g, max
		D	H	L=W	l	b	e	
6.3	22	4	5.4	4.3	1.8	0.65	1	0.38
6.3	33	4	5.4	4.3	1.8	0.65	1	0.38
6.3	47	4	5.4	4.3	1.8	0.65	1	0.38
6.3	100	5	5.4	5.3	2.1	0.65	1.3	0.52
6.3	220	6.3	5.4	6.6	2.4	0.65	2.2	0.65
6.3	330	6.3	7.7	6.6	2.4	0.65	2.2	1
6.3	470	8	10.2	8.3	2.9	0.9	3.1	1.35
6.3	1000	8	10.2	8.3	2.9	0.9	3.1	1.35
10	22	4	5.4	4.3	1.8	0.65	1	0.38
10	33	4	5.4	4.3	1.8	0.65	1	0.38
10	47	5	5.4	5.3	2.1	0.65	1.3	0.52
10	100	5	5.4	5.3	2.1	0.65	1.3	0.52
10	220	6.3	7.7	6.6	2.4	0.65	2.2	1
10	330	8	10.2	8.3	2.9	0.9	3.1	1.35
10	470	8	10.2	8.3	2.9	0.9	3.1	1.35
16	10	4	5.4	4.3	1.8	0.65	1	0.38
16	22	4	5.4	4.3	1.8	0.65	1	0.38
16	33	5	5.4	5.3	2.1	0.65	1.3	0.52
16	47	5	5.4	5.3	2.1	0.65	1.3	0.52
16	100	6.3	5.4	6.6	2.4	0.65	2.2	0.65
16	220	6.3	7.7	6.6	2.4	0.65	2.2	1
16	330	8	10.2	8.3	2.9	0.9	3.1	1.35
16	470	8	10.2	8.3	2.9	0.9	3.1	1.35
25	4.7	4	5.4	4.3	1.8	0.65	1	0.38
25	10	4	5.4	4.3	1.8	0.65	1	0.38
25	22	5	5.4	5.3	2.1	0.65	1.3	0.52
25	33	5	5.4	5.3	2.1	0.65	1.3	0.52
25	47	6.3	5.4	6.6	2.4	0.65	2.2	0.65
25	100	6.3	7.7	6.6	2.4	0.65	2.2	1
25	220	8	10.2	8.3	2.9	0.9	3.1	1.35
25	330	8	10.2	8.3	2.9	0.9	3.1	1.35
35	3.3	4	5.4	4.3	1.8	0.65	1	0.38
35	4.7	4	5.4	4.3	1.8	0.65	1	0.38

U _R , V	C _R , μF	Dimensions, mm						Mass, g, max
35	10	4	5.4	4.3	1.8	0.65	1	0.38
35	22	5	5.4	5.3	2.1	0.65	1.3	0.52
35	33	6.3	5.4	6.6	2.4	0.65	2.2	0.52
35	47	6.3	5.4	6.6	2.4	0.65	2.2	0.65
35	100	6.3	7.7	6.6	2.4	0.65	2.2	1
35	220	8	10.2	8.3	2.9	0.9	3.1	1.35
35	330	10	10	10.3	3.4	0.8	4	1.72
35	470	12.5	13.5	13.6	5	1.2	4	3.75
35	1000	16	16.5	17.1	5.6	1.2	6.3	8.5
40	2.2	4	5.4	4.3	1.8	0.65	1	0.38
40	3.3	4	5.4	4.3	1.8	0.65	1	0.38
40	4.7	4	5.4	4.3	1.8	0.65	1	0.38
40	10	5	5.4	5.3	2.1	0.65	1.3	0.52
40	22	6.3	5.4	6.6	2.4	0.65	2.2	0.65
40	33	6.3	5.4	6.6	2.4	0.65	2.2	0.65
40	47	6.3	7.7	6.6	2.4	0.65	2.2	1
40	100	6.3	7.7	6.6	2.4	0.65	2.2	1
40	220	8	10.2	8.3	2.9	0.9	3.1	1.35
50	1	4	5.4	4.3	1.8	0.65	1	0.38
50	2.2	4	5.4	4.3	1.8	0.65	1	0.38
50	3.3	4	5.4	4.3	1.8	0.65	1	0.38
50	4.7	5	5.4	5.3	2.1	0.65	1.3	0.52
50	10	6.3	5.4	6.6	2.4	0.65	2.2	0.65
50	22	6.3	5.4	6.6	2.4	0.65	2.2	1
50	33	6.3	7.7	6.6	2.4	0.65	2.2	1
50	47	8	10.2	8.3	2.9	0.9	3.1	1.35
50	100	10	10	10.3	3.4	0.8	4	1.72
50	220	12.5	13.5	13.6	5	1.2	4	3.75
50	330	12.5	16.5	13.6	5	1.2	4	5.37
50	470	16	16.5	17.1	5.6	1.2	6.3	8.5
63	1	4	5.4	4.3	1.8	0.65	1	0.38
63	2.2	4	5.4	4.3	1.8	0.65	1	0.38
63	3.3	5	5.4	5.3	2.1	0.65	1.3	0.52
63	4.7	5	5.4	5.3	2.1	0.65	1.3	0.52
63	10	6.3	5.4	6.6	2.4	0.65	2.2	0.65

U _R , V	C _R , μF	Dimensions, mm						Mass, g, max
63	22	6.3	7.7	6.6	2.4	0.65	2.2	1
63	33	6.3	7.7	6.6	2.4	0.65	2.2	1
63	47	8	10.2	8.3	2.9	0.9	3.1	1.35
100	3.3	6.3	5.4	6.6	2.4	0.65	2.2	0.65
100	4.7	6.3	5.4	6.6	2.4	0.65	2.2	0.65
100	10	6.3	7.7	6.6	2.4	0.65	2.2	1
100	22	8	10.2	8.3	2.9	0.9	3.1	1.35
160	4.7	6.3	7.7	6.6	2.4	0.65	2.2	1
160	10	8	10.2	8.3	2.9	0.9	3.1	1.35

CAPACITOR ELECTRIC PARAMETERS VALUE WHEN DELIVERED

U _R , V	C _R , μF T=25°C, F=50Hz	tg δ, % T=25°C, F=50Hz	I _{LEAK} , μA T=25°C, after 5min.	Z, Ohm T=25°C, F=100kHz	ESR, Ohm T=25°C, F=100Hz	I _r , mA T=100°C, F=50Hz
6.3	22	45	1	8.19	20.95	127.2
6.3	33	45	7.2	7.152	18.76	192.5
6.3	47	45	9.8	6.452	17.26	148.4
6.3	100	45	24	4.564	16.82	490.4
6.3	220	45	51.6	2.568	12.84	602.1
6.3	330	45	72.4	0.968	1.84	659.6
6.3	470	45	102.8	0.658	1.29	689
6.3	1000	45	2100	0.3	0.5	698
10	22	45	8.6	8.19	20.95	125.4
10	33	45	12.9	7.152	18.76	189.8
10	47	45	21.1	6.452	17.26	146.2
10	100	45	54	4.564	16.82	483.4
10	220	45	96	2.1	6.84	593.5
10	330	45	129	0.968	1.84	650.1
10	470	45	161	0.658	1.29	675
16	10	35	7.8	16.25	23.4	59.6
16	22	35	20.6	11.369	21.1	118.1
16	33	35	35.8	8	19.5	178.8
16	47	35	52.6	6.5	18.4	137.8
16	100	35	98	4.2	6.5	455.4

U_R, V	$C_R, \mu F$ T=25°C, F=50Hz	$tg \delta, \%$ T=25°C, F=50Hz	$I_{LEAK}, \mu A$ T=25°C, after 5min.	Z, Ohm T=25°C, F=100kHz	ESR, Ohm T=25°C, F=100Hz	I_R, mA T=100°C, F=50Hz
16	220	35	195.6	2.1	3.4	559.1
16	330	35	239	1.5	2.1	612.5
16	470	35	361	0.8	1.8	635
25	4.7	25	6.5	24	58	15.8
25	10	25	17.5	21.254	42	57.8
25	22	25	36.5	12.896	36	114.5
25	33	25	54.8	8.2	15	173.3
25	47	25	85.3	4.3	10	133.5
25	100	25	175	2.5	6	441.4
25	220	25	300.5	1.9	5	541.9
25	330	25	495.6	1.6	3.5	593.6
35	3.3	25	5.5	28	75	6
35	4.7	25	10.5	26	65	15
35	10	25	20.5	23.147	48	55
35	22	25	43.1	14.256	42	109
35	33	25	84.6	7.8	14	165
35	47	25	109.3	5	12.5	127.2
35	100	25	305	3.85	8.5	420.3
35	220	25	531	2.65	6	516.1
35	330	25	1494	1.5	2	565.3
35	470	25	1650.2	0.95	1.5	608.3
35	1000	25	2200	0.1	0.2	700
40	2.2	15	4.5	30	85	6
40	3.3	15	8.5	29.125	80	6.2
40	4.7	15	18.5	27.564	68	14.8
40	10	15	32	8.8	21	54.1
40	22	15	76.4	7.2	19	107.2
40	33	15	99.6	6	15	162.3
40	47	15	156.4	4.4	8.82	125
40	100	15	320	4	8.7	413.3
40	220	15	615	3	6.5	507.5
50	1	15	4	32	89	6
50	2.2	15	12.5	31	88	6.5
50	3.3	15	21.9	30	81	7.2

U_R, V	$C_R, \mu F$ T=25°C, F=50Hz	$tg \delta, \%$ T=25°C, F=50Hz	$I_{LEAK}, \mu A$ T=25°C, after 5min.	Z, Ohm T=25°C, F=100kHz	ESR, Ohm T=25°C, F=100Hz	I_R, mA T=100°C, F=50Hz
50	4.7	15	37.1	16	45	14.3
50	10	15	65.4	9.5	25	52.3
50	22	15	93	7.5	22	103.6
50	33	15	149.5	4	18	156.8
50	47	15	370.5	2.4	12	120.8
50	100	15	650	1.8	8	399.3
50	220	15	730	0.92	3	490.3
50	330	15	1595	0.5	2	537.1
50	470	15	1850	0.18	0.535	571
63	1	12	8	36	90	6
63	2.2	12	16.2	34	89	6.5
63	3.3	12	28.8	32	60	7.1
63	4.7	12	49	29.562	50	13.8
63	10	12	99	8.5	30	50.4
63	22	12	141.6	5	24	99.9
63	33	12	162.4	4.65	20	151.3
63	47	12	388.8	2.65	16.25	116.6
100	3.3	10	49.9	15	20.6	6
100	4.7	10	94.1	12	18.5	9
100	10	10	130	10	12	13
100	22	10	266	4.2	9.8	15
160	4.7	10	102.6	12.5	23	6
160	10	10	260.5	4.1	15	6.2

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_{RT} - I_R CORRECTION FACTOR VERSUS TEMPERATURE

Tenv, °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	10 000	100 000	300 000
K _{RF}	1	1.25	1.5	1.63	1.69	1.88	1.98	2

EXAMPLE OF REFERENCE DESIGNATION FOR ORDERING

CAPACITOR K50-101 – 16V – 100µF (+50 -20)% AZHYAR.673541.026 TU

CAPACITOR K50-101 – 16V – 100µF ±20% AZHYAR.673541.026 TU