OS K53-68

TANTALUM SOLID-ELECTROLYTE CAPACITORS

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AZHYAR.673546.015 TU

Moulded capacitors in plastic case. These capacitors are available in two versions: standard and low profile. Case height in low profile does not exceed 2.2 mm.

Capacitors are impact-proof (40 000 g – for single impact), highly resistant to special factors. These items may be used in various types of special-purpose vehicles and civilian industry products as well.

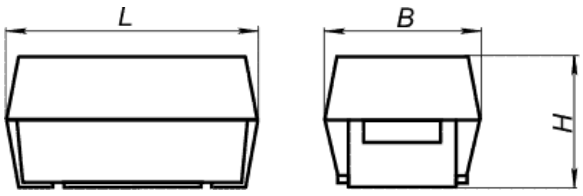
Capacitors are suitable for application in direct current, ripple current and pulse current circuits.

Capacitors are available in unified version suitable both for manual and automatic assembly.

MAIN PARAMETERS

Name	Value
Rated voltage, V	4...50
Rated capacitance, μF	0.1...470
Capacitance tolerance (20°C, 50 Hz), %	±5; ±10; ±20; ±30
Maximum operating temperature Tenv, °C	+125
Minimal operating temperature Tenv, °C	-60

DIMENSIONAL DRAWING

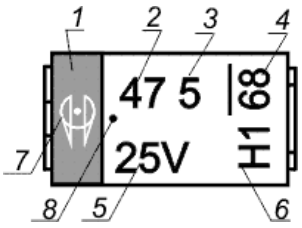


CAPACITORS OVERALL DIMENSIONS AND MASS

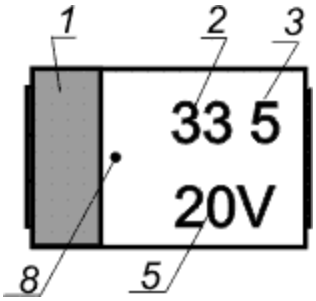
Case code	L, mm	W, mm	H, mm	Mass, g, max
A	3.2±0.2	1.6±0.2	1.6±0.2	0.05
B	3.5±0.2	2.8±0.2	1.9±0.2	0.06
C	6.0±0.3	3.2±0.3	2.5±0.3	0.3
D	7.3±0.3	4.3±0.3	2.9±0.3	0.5
E	7.3±0.3	4.3±0.3	4.1±0.3	0.6

MARKING OF CAPACITORS

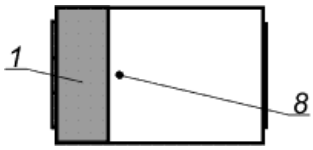
"C","D","E" case sizes marking



"B" case size marking



"A" case size marking



1 – Positive terminal
2 – Rated capacitance, pF
3 – Capacitance multiplier code
4 – Product code (stripe unavailability is acceptable)
5 – Rated voltage, V
6 – Production date code
7 – Trade mark
8 – Quality category “SM” (specialized military series), in the shape of a circle

MARKING CODES DESIGNATION

Capacitance multiplier code	Capacitance multiplier
4	10^4
5	10^5
6	10^6
7	10^7
8	10^8

Code	Year
F	2015
H	2016
I	2017
K	2018
L	2019
M	2020
N	2021
P	2022
R	2023

Code	Month	Code	Month
1	January	7	July
2	February	8	August
3	March	9	September
4	April	O	October
5	May	N	November
6	June	D	December

CAPACITORS CASE CODE

C_R, µF	U_R, V								
	4	6.3	10	16	20	25	32	40	50
0.1							A	A	A
0.15							A	A	A
0.22							A	A	B
0.33							A	A	B
0.47						A	A,B	B	B,C
0.68					A	A	B	B,C	B,C
1				A	A	A,B	B	B,C	C
1.5			A	A	A	B	C	C	D
2.2		A	A	A	A,B	B,C	C	C,D	D
3.3	A	A	A	B	B	B,C	C	D	D
4.7	A	A	A,B	B	B,C	C	C,D	D	D
6.8	A	A,B	B	B,C	C	C	D	E	E
10	B	B	B,C	C	C	C,D	D	E	
15	B	B,C	B,C	C	C,D	D	E	E	
22	B,C	C	C	C,D	C,D	D	E		
33	B,C	C	C,D	D	D	E			
47	C	C,D	C,D	D	D				
68	C,D	C,D	C,D	D	D,E				
100	C,D	C,D	D	E					
150	C,D	D	D,E	E					
220	D	E							
330	C,D	E							
470	E	E							

CAPACITORS RELIABILITY

Operation modes	Minimal nonfailure operating time, t_Λ, hours
Maximum-permissible mode (U_R, Tenv=85°C)	30 000
Maximum-permissible mode (0.7U_R, Tenv=125°C)	
Light mode (0.6U_R, Tenv=55°C)	200 000

Gamma-rated time of capacitor storageability Tcy at y=97% 25 years min

CAPACITOR ELECTRIC PARAMETERS VALUE WHEN DELIVERED

U_R, V	C_R, µF	Case code	tg δ, %, 50 Hz	I_{LEAK}, µA, after 60 sec	ESR, Ohm, 100 kHz	Iripple, 100 kHz
4	3.3	A	8	0.4	8	0.09
4	4.7	A	8	0.4	8	0.09
4	6.8	A	8	0.4	6	0.11
4	10	B	8	0.4	3.5	0.11
4	15	B	8	0.4	3.5	0.15
4	22	B	8	0.9	3.5	0.15
4	22	C	8	0.9	1.8	0.24
4	33	B	8	1.3	3.5	0.15
4	33	C	8	1.2	1.8	0.24
4	47	C	8	1.8	1.8	0.24
4	68	C	8	2.5	1.6	0.26
4	68	D	8	2.7	0.8	0.43
4	100	C	10	3.2	1.6	0.26
4	100	D	10	4	0.8	0.43
4	150	C	10	6	1.2	0.3
4	150	D	10	5	0.8	0.43
4	220	D	10	7	0.8	0.43
4	330	C	12	11	0.7	0.46
4	330	D	12	11	0.7	0.48
4	470	E	12	15	0.7	0.48
6.3	2.2	A	8	0.4	8	0.09
6.3	3.3	A	8	0.4	8	0.09
6.3	4.7	A	8	0.5	6	0.11
6.3	6.8	A	8	0.5	6	0.11
6.3	6.8	B	8	0.4	3.5	0.15
6.3	10	B	8	0.6	3.5	0.15
6.3	15	B	8	0.9	3.5	0.15
6.3	15	C	8	0.6	1.8	0.24
6.3	22	C	8	1	1.8	0.24
6.3	33	C	8	1.5	1.8	0.24
6.3	47	C	10	2.9	1.6	0.26
6.3	47	D	8	2	0.8	0.43
6.3	68	C	10	4.1	1.2	0.3
6.3	68	D	8	3.4	0.8	0.43

U_R, V	C_R, µF	Case code	tg δ, %, 50 Hz	I_{LEAK}, µA, after 60 sec	ESR, Ohm, 100 kHz	Iripple, 100 kHz
6.3	100	C	10	6.3	0.9	0.34
6.3	100	D	10	5	0.8	0.43
6.3	150	D	10	7.5	0.7	0.46
6.3	220	E	12	12	0.7	0.48
6.3	330	E	12	16.5	0.4	0.64
6.3	470	E	12	23.7	0.4	0.64
10	1.5	A	8	0.4	8	0.09
10	2.2	A	8	0.4	8	0.09
10	3.3	A	8	0.4	6	0.11
10	4.7	A	8	0.5	8	0.09
10	4.7	B	8	0.4	3.5	0.15
10	6.8	B	8	0.6	3.5	0.15
10	10	B	8	1	3.5	0.15
10	10	C	8	0.8	1.8	0.24
10	15	B	8	1.5	2.8	0.17
10	15	C	8	1.4	1.8	0.24
10	22	C	8	1.8	1.8	0.24
10	33	C	8	3.3	1.2	0.3
10	33	D	8	3	1.4	0.32
10	47	C	8	4.7	1.2	0.3
10	47	D	8	3.8	0.8	0.43
10	68	C	10	6.8	1.2	0.3
10	68	D	8	6.8	0.8	0.43
10	100	D	10	10	0.7	0.46
10	150	D	12	15	0.7	0.46
10	150	E	12	13	0.7	0.48
16	1	A	8	0.4	12	0.07
16	1.5	A	8	0.4	8	0.09
16	2.2	A	8	0.4	6	0.11
16	3.3	B	8	0.4	3.5	0.15
16	4.7	B	8	0.7	3.5	0.15
16	6.8	B	8	1.1	3.5	0.15
16	6.8	C	8	1	1.9	0.24
16	10	C	8	1.3	1.8	0.24
16	15	C	8	2	1.8	0.24

U_R, V	C_R, µF	Case code	tg δ, %, 50 Hz	I_{LEAK}, µA, after 60 sec	ESR, Ohm, 100 kHz	Iripple, 100 kHz
16	22	C	8	3.6	1.6	0.26
16	22	D	8	3.5	0.8	0.43
16	33	D	8	4	0.8	0.43
16	47	D	8	6	0.8	0.43
16	68	D	10	10.9	0.7	0.46
16	100	E	12	13	0.7	0.48
16	150	E	12	19	0.5	0.57
20	0.68	A	6	0.4	12	0.07
20	1	A	6	0.4	10	0.08
20	1.5	A	8	0.4	8	0.09
20	2.2	A	8	0.5	7	0.1
20	2.2	B	8	0.5	3.5	0.15
20	3.3	B	8	0.7	3.5	0.15
20	4.7	B	8	1	3.5	0.15
20	4.7	C	8	1	2.4	0.21
20	6.8	C	8	1.2	1.9	0.24
20	10	C	8	2	1.8	0.24
20	15	C	8	3	1.7	0.25
20	15	D	8	2.4	1	0.38
20	22	C	8	4.4	1.2	0.37
20	22	D	8	3.6	0.8	0.43
20	33	D	8	5.2	0.8	0.43
20	47	D	8	9.4	0.7	0.46
20	68	D	10	13.6	0.7	0.46
20	68	E	8	11	0.7	0.48
25	0.47	A	6	0.4	14	0.07
25	0.68	A	6	0.4	10	0.08
25	1	A	6	0.5	8	0.09
25	1	B	6	0.5	5	0.13
25	1.5	B	6	0.5	5	0.13
25	2.2	B	6	0.6	4.5	0.13
25	2.2	C	6	0.6	3.5	0.17
25	3.3	B	6	0.9	3.5	0.15
25	3.3	C	6	0.7	2.5	0.2
25	4.7	C	8	1	2.4	0.21

U_R, V	C_R, µF	Case code	tg δ, %, 50 Hz	I_{LEAK}, µA, after 60 sec	ESR, Ohm, 100 kHz	Iripple, 100 kHz
25	6.8	C	8	1.2	1.9	0.24
25	10	C	8	2.5	1.5	0.27
25	10	D	8	2.2	1	0.38
25	15	D	8	3	1	0.38
25	22	D	8	5.5	0.8	0.43
25	33	E	8	7	0.7	0.48
32	0.1	A	6	0.5	20	0.06
32	0.15	A	6	0.5	19	0.06
32	0.22	A	6	0.5	18	0.06
32	0.33	A	6	0.5	15	0.07
32	0.47	A	6	0.5	14	0.07
32	0.47	B	6	0.4	8	0.1
32	0.68	B	6	0.5	6.5	0.11
32	1	B	6	0.5	5	0.13
32	1.5	C	6	0.5	4.5	0.15
32	2.2	C	6	0.6	3.5	0.17
32	3.3	C	6	1	2.5	0.2
32	4.7	C	8	1.5	2.5	0.2
32	4.7	D	8	1.2	1.5	0.31
32	6.8	D	8	2	1.3	0.33
32	10	D	8	3	1	0.38
32	15	E	8	4.5	0.9	0.42
32	22	E	8	6	0.7	0.48
40	0.1	A	6	0.5	20	0.06
40	0.15	A	6	0.5	19	0.06
40	0.22	A	6	0.4	18	0.06
40	0.33	A	6	0.5	15	0.07
40	0.47	B	6	0.5	9	0.09
40	0.68	B	6	0.5	8	0.1
40	0.68	C	6	0.5	7	0.12
40	1	B	6	0.5	8	0.1
40	1	C	6	0.5	5.5	0.14
40	1.5	C	6	0.6	4.5	0.15
40	2.2	C	8	0.8	3.5	0.17
40	2.2	D	8	0.8	2.5	0.24

U_R, V	C_R, µF	Case code	tg δ, %, 50 Hz	I_{LEAK}, µA, after 60 sec	ESR, Ohm, 100 kHz	Iripple, 100 kHz
40	3.3	D	8	1.2	2.2	0.26
40	4.7	D	8	2	1.5	0.31
40	6.8	E	8	2.5	1	0.4
40	10	E	8	3.4	0.9	0.42
40	15	E	8	5	0.9	0.42
50	0.1	A	6	0.4	20	0.06
50	0.15	A	6	0.4	19	0.06
50	0.22	B	6	0.4	14	0.07
50	0.33	B	6	0.4	10	0.09
50	0.47	B	6	0.5	9	0.09
50	0.47	C	6	0.4	8	0.11
50	0.68	B	6	0.5	8	0.1
50	0.68	C	6	0.4	7	0.12
50	1	C	8	0.4	5.5	0.14
50	1.5	D	8	0.8	3.5	0.2
50	2.2	D	8	1.1	2.5	0.24
50	3.3	D	8	1.6	2	0.27
50	4.7	D	8	2.4	1.5	0.31
50	6.8	E	8	3	1	0.4

EXAMPLE OF REFERENCE DESIGNATION FOR ORDERING

CAPACITOR OS K53-68 “C” – 25V – 15µF ±10% AZHYAR.673546.015 TU

If the capacitors for automatic assembly are required it is to be stated in the delivery contract.