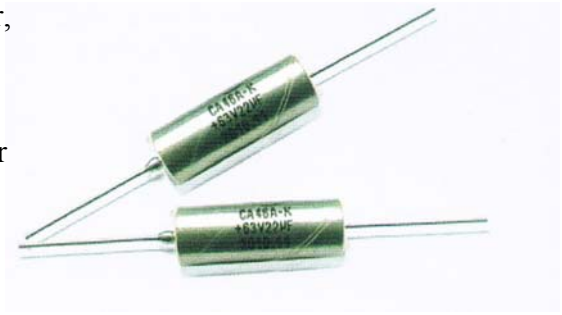
CA46A Series High Frequency Solid Electrolytic Tantalum Capacitor

Brief Introduction



●Metal case encapsulation, Hermitically-sealed, Tubular, Radial-lead,With Insulation Sleeve,Heteropolarity;
●Stable in Electrical Characteristics,High reliability & Storability & Withstanding voltage & Capacitance,Super Low ESR;
●The CAK46A Series capacitors applied in communication,Instruments and meters,missiles,which equipments demanding high-frequency filter circuit which can reduce more than 70% output ripple Currents in the switching power supply of the circuit;
●Operative Standard: QJ/PWV331-2010;
●Ordering Information: CA46A-337K006，100 pcs.

Features

●Operating Temperature Range:-55ºC~+125ºC（When ＞85ºC,with rated voltage derating）;
●Capacitance Tolerance:K：±10%; M：±20%;
●DC leakage at 25ºC: $I_0 \leq 0.01 C_R U_R$ (μA) or 0.5μA （Choose the greater one）;
●Rated Voltage, Category Voltage, Nominal Capacitance: See Table 3;
●ESR: Not exceed the parameter in Table 3;
●Dissipation Factors at 25°C: Not exceed the parameter in Table 3;
●Dimensions & Max Weight: See Figure1 & Table 1;
●Temperature Characteristics: Not exceed the parameter in Table 2.

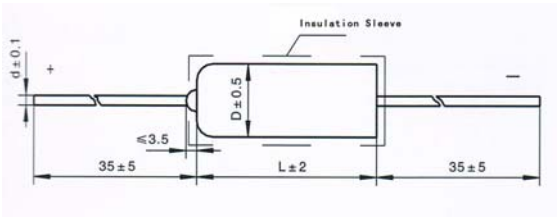


Table 1 Dimensions and Max weight

Case Code	Dimensions (mm)			Max Weight (g)
	D±0.5 (mm)	L±2 (mm)	d±0.1 (mm)	
2	5	12	0.6	2.3
3	6	14	0.6	3.0
4	8	14	0.8	4.0
5	8	22	0.8	8.0

P.S.:1 With thermoplasticity-insulation sleeve,the length of the sleeve will be 0.4mm~1.6mm more in both ends.

2 With thermoplasticity-insulation sleeve,D will be 0.3mm more at most,and Lwill be 0.3mm more at most.

Table2 Temperature Characteristics

Nominal Capacitance C_R（μF)	DF Max (%)			
	-55℃	25℃	85℃	125℃
3.3~10	6	4	6	
15~68	8	6	8	
100~220	10	8	10	
330	12	10	12	

Table 3 Electrical Chracteristics

Nominal Capacitance（μF)	Case Code	Series	DCL (μA)			DF(1KHz) at +25℃ (%)	ESR (100KHz) at +25℃ (mΩ)	Ripple Current (A)	
			+25℃	+85℃	+125℃			40KHz +25℃	1KHz +25℃
Rated Voltage U_R (+85℃) 6.3V,Category Voltage U_C (+125℃) 4V									
15	2	CA46A	0.9	7.2	9	5	190	1.2	0.4
22	2	CA46A	1.3	10.4	13	5	160	1.3	0.5
33	2	CA46A	2.0	16	20	6	130	1.7	0.6
47	2	CA46A	2.9	23.2	29	6	110	2.1	0.6
68	3	CA46A	4.2	33.6	42	6	95	2.3	1.0
100	3	CA46A	6.3	50.4	63	8	75	3.3	1.1
150	4	CA46A	9.4	75.2	94	8	65	3.7	2.0
220	4	CA46A	13.8	110.4	138	10	50	4.0	2.4
330	5	CA46A	20.7	165.6	207	12	45	4.3	3.4

Table 3 Electrical Chracteristics,Continued

Nominal Capacitance（μF)	Case Code	Series	DCL (μA)			DF(1KHz) at +25℃ (%)	ESR (100KHz) at +25℃ (mΩ)	Ripple Current (A)	
			+25℃	+85℃	+125℃			40KHz +25℃	1KHz +25℃
Rated Voltage U_R (+85℃) 10V,Category Voltage U_C (+125℃) 6.3V									
10	2	CA46A	1.0	8	10	5	230	1.3	1.3
15	2	CA46A	1.5	12	15	5	190	1.3	1.3
22	2	CA46A	2.2	17.6	22	6	160	1.4	1.4
33	2	CA46A	3.3	26.4	33	6	130	1.6	0.9
47	3	CA46A	4.7	37.6	47	6	110	1.7	1.1
68	3	CA46A	6.8	54.4	68	8	95	2.1	1.4
100	3	CA46A	10	80	100	8	75	3.0	2.2
150	4	CA46A	15	120	150	8	65	3.3	2.9
220	4	CA46A	22	176	220	10	55	3.9	3.4
Rated Voltage U_R (+85℃) 16V,Category Voltage U_C (+125℃) 10V									
6.8	2	CA46A	1.0	8	10	5	275	1.2	0.3
10	2	CA46A	1.6	12.8	16	5	230	1.3	0.4
15	2	CA46A	2.4	19.2	24	6	190	1.4	0.5
22	3	CA46A	3.5	28	35	6	160	1.4	0.8
33	3	CA46A	5.2	41	52	6	130	1.6	1.0
47	3	CA46A	7.5	60	75	6	110	1.7	1.4
68	4	CA46A	10.8	86.4	108	8	95	2.1	2.2
100	4	CA46A	16	128	160	8	75	3.0	2.2
150	5	CA46A	24	192	240	8	65	3.4	3.1
220	5	CA46A	35.2	281	352	10	55	3.7	3.5
Rated Voltage U_R (+85℃) 25V,Category Voltage U_C (+125℃) 16V									
4.7	2	CA46A	1.1	8.8	11	5	300	1.2	0.4
6.8	2	CA46A	1.7	13.6	17	5	275	1.3	0.4
10	2	CA46A	2.5	20	25	5	230	1.4	0.7
15	3	CA46A	3.75	30	37.5	6	190	1.4	0.8

Table 3 Electrical Chracteristics,Continued

Nominal Capacitance（μF)	Case Code	Series	DCL (μA)			DF(1KHz) at +25℃ (%)	ESR (100KHz) at +25℃ (mΩ)	Ripple Current (A)	
			+25℃	+85℃	+125℃			40KHz +25℃	1KHz +25℃
Rated Voltage U_R (+85℃) 25V,Category Voltage U_C (+125℃) 16V									
22	3	CA46A	5.5	44	55	6	160	1.5	1.1
33	3	CA46A	8.25	66	82.5	6	130	1.7	1.3
47	3	CA46A	11.75	94	117.5	6	110	1.8	2.0
68	4	CA46A	17	136	170	8	95	2.2	2.4
100	4	CA46A	25	200	250	8	75	3.0	2.6
Rated Voltage U_R (+85℃) 32V,Category Voltage U_C (+125℃) 20V									
3.3	2	CA46A	1.0	8	10	5	300	1.1	0.3
4.7	2	CA46A	1.5	12	15	5	300	1.1	0.4
6.8	2	CA46A	2.1	16.8	21	5	275	1.2	0.5
10	2	CA46A	3.2	25.6	32	5	230	1.3	0.8
15	3	CA46A	4.8	38.4	48	6	190	1.6	0.9
22	4	CA46A	7.0	56	70	6	160	1.8	1.4
33	4	CA46A	10.5	84	105	6	130	2.1	1.7
47	5	CA46A	15	120	150	6	110	2.5	1.9
68	5	CA46A	21.7	173.6	217	8	95	2.8	2.4
100	5	CA46A	32	256	320	8	75	3.2	2.6
Rated Voltage U_R (+85℃) 40V,Category Voltage U_C (+125℃) 25V									
6.8	2	CA46A	2.7	21.6	27	5	275	1.6	0.6
10	3	CA46A	4.0	32	40	5	230	1.7	0.9
15	3	CA46A	6.0	48	60	5	190	1.8	1.2
22	4	CA46A	8.8	70.4	88	6	160	1.9	1.4
33	4	CA46A	13.2	105.6	132	6	130	2.3	1.8
47	5	CA46A	18.8	150.4	188	6	110	2.9	2.3
68	5	CA46A	27.2	217.6	272	6	95	3.1	2.8
100	5	CA46A	40	320	400	8	75	3.8	3.2

Table 3 Electrical Chracteristics,Continued

Nominal Capacitance（μF)	Case Code	Series	DCL (μA)			DF(1KHz) at +25℃ (%)	ESR (100KHz) at +25℃ (mΩ)	Ripple Current (A)	
			+25℃	+85℃	+125℃			40KHz +25℃	1KHz +25℃
Rated Voltage U_R (+85℃) 63V,Category Voltage U_C (+125℃) 40V									
3.3	2	CA46A	2.0	16	20	5	300	1.1	0.3
4.7	3	CA46A	2.9	23.2	29	5	300	1.1	0.4
6.8	3	CA46A	4.2	33.6	42	5	275	1.6	0.6
10	4	CA46A	6.3	50.4	63	5	230	1.7	0.9
15	4	CA46A	9.4	75.2	94	6	190	1.8	1.2
22	5	CA46A	13.8	110.4	138	6	160	1.9	1.4

P.S. : 1 Please do not use multimeter through the measuring procedures.

2 Capacitance and DF measured at :100Hz，U__=2.2°$_{-1.0}$V，U~=1.0°$_{-0.5}$V,Frequency=100Hz.

3 Voltage derating is applied at +125℃.（The DCL parameter should be read after 5minutes when it connected to the circuit）.

4 Test only applied in series equivalent circuit.

5 When testing the DCL of Capacitors at 25℃,only category voltage applied.