

CA45 Chip Tantalum Capacitors (SMD Tantalum Capacitors)

◆ Brief Introduction

General purpose SMT chip tantalum series

General low power DC/DC and LDO

Operating Standard: QJ/PWV109-2003

Factory quality control system: Military Standard GJB90018-2009

Meets RoHS 2.0, Reach requirement

◆ Specifications

Operating Temperature Range: $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$; $>85^{\circ}\text{C}$ (with rated voltage derating);

DC Leakage at 25°C : $I_{\text{L}} \leq 0.01C_{\text{R}}U_{\text{R}}$ or $0.5\mu\text{A}$ (Choose the greater one)

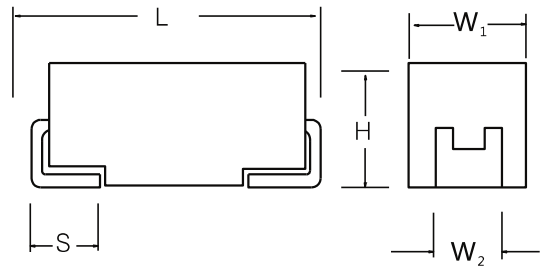
Capacitance Range: $1\mu\text{F} \sim 1000\mu\text{F}$

Voltage Range: 6.3V, 10V, 16V, 25V, 35V, 50V, 63V, 75V, 100V

Capacitance Tolerance: K: $\pm 10\%$; M: $\pm 20\%$ ($\pm 20\%$ tolerance is standard)

SPQ: A,B case: 2000pcs/reel; C,D case: 500pcs/reel; E case: 400pcs/reel

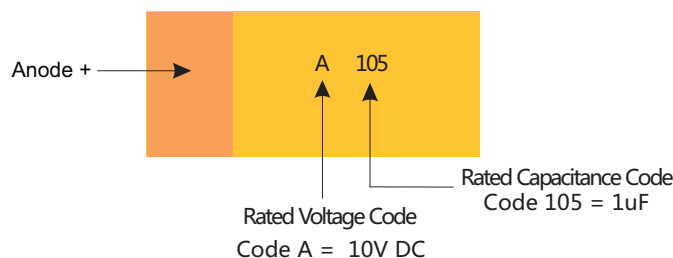
How to order, please refer to Part Number System



◆ Table 1 Dimensions (Unit: mm)

Case Size		$L \pm 0.2$	$W_1 \pm 0.2$	$H \pm 0.4$	$S \pm 0.2$	$W_2 \pm 0.2$
P	2012	2.00	1.25	1.20	0.50	0.90
A	3216	3.20	1.60	1.60	0.80	1.20
B	3528	3.50	2.80	1.90	0.80	2.20
C	6032	6.00	3.20	2.50	1.30	2.20
D	7343	7.30	4.30	2.80	1.30	2.40
E	7343	7.30	4.30	4.10	1.30	2.40

◆ Marking on Chip Tantalum Capacitor Body



Voltage Code Table for Chip Tantalum Capacitors

**CA45 Chip Tantalum Capacitors (SMD Tantalum Capacitors)****◆Table 2 Temperature Characteristics**

Max					
tgδ(%)				DCL μA)	
-55°C	25°C	85°C	125°C	85°C	125°C
6	4	6		8 I ₀	10 I ₀
8	6	8			
10	8	10			
12	10	12			
14	12	14			
18	16	18			

◆Table 3 Electrical Characteristics

Nominal Capacitance (μF)	Case Code	Max DCL at +25°CμA	Max DF(100Hz) at +25°C	Max ESR (100 kHz) +25°C Ω	Ripple Current (A) 100KHz Max		
					+ 25°C	+ 85°C	+ 125°C
Rated Voltage 4V, Category Voltage 2.7V							
2.2	A	0.5	6.0	8.0	0.049	0.089	0.059
3.3	A	0.5	6.0	8.0	0.108	0.102	0.068
4.7	A	0.5	6.0	8.0	0.151	0.143	0.096
4.7	B	0.5	6.0	6.0	0.151	0.143	0.096
6.8	A	0.5	6.0	6.0	0.05	0.047	0.032
6.8	B	0.5	6.0	5.5	0.151	0.143	0.096
10	A	0.5	6.0	6.0	0.132	0.125	0.084
10	B	0.5	6.0	3.5	0.151	0.143	0.096
15	A	0.6	8.0	4.0	0.151	0.143	0.096
15	B	0.6	6.0	3.5	0.169	0.16	0.107
22	A	0.9	8.0	2.5	0.108	0.102	0.068
22	B	0.9	6.0	3.2	0.151	0.143	0.096
33	B	1.3	8.0	3.2	0.211	0.2	0.133
33	C	1.3	6.0	1.8	0.247	0.235	0.156
47	A	1.9	12.0	2.5	0.141	0.134	0.089
47	B	1.9	6.0	2.6	0.262	0.249	0.166
47	C	1.9	6.0	1.8	0.433	0.411	0.274
68	A	2.7	30.0	2.5	0.254	0.243	0.16
68	B	2.7	6.0	1.8	0.258	0.245	0.163
68	C	2.7	6.0	1.5	0.303	0.287	0.191
100	A	4.0	30.0	4.0	0.463	0.438	0.292
100	B	4.0	10.0	0.9	0.463	0.439	0.293
100	C	4.0	10.0	1.2	0.303	0.287	0.191

CA45 Chip Tantalum Capacitors (SMD Tantalum Capacitors)

◆Table 3 Electrical Characteristics

Nominal Capacitance (μF)	Case Code	Max DCL at +25°CμA	Max DF(100Hz) at +25°C	Max ESR (100 kHz) +25°C Ω	Ripple Current (A) 100KHz Max		
					+25°C	+85°C	+125°C
100	D	4.0	8.0	0.8	0.433	0.411	0.274
150	C	6.0	10	1.1	0.428	0.406	0.271
150	D	6.0	8.0	0.8	0.428	0.406	0.271
220	B	8.8	18	0.5	0.573	0.543	0.362
220	C	8.8	12	1.1	0.574	0.544	0.363
220	D	8.8	10	0.8	0.463	0.439	0.293
330	V	13.2	12	0.8	0.574	0.547	0.372
330	E	13.2	12	0.8	0.433	0.411	0.274
330	D	13.2	14	0.7	0.094	0.089	0.059
470	V	18.8	12	0.5	0.05	0.048	0.034
470	E	18.8	12	0.5	0.05	0.047	0.032
470	D	18.8	14	0.5	0.094	0.089	0.059
680	E	27.2	16	0.35	1.535	1.381	0.614
1000	E	40	16	0.3	1.535	1.381	0.614
Rated Voltage 6.3V, Category Voltage 4V							
2.2	A	0.5	6.0	8.0	0.094	0.089	0.059
3.3	A	0.5	6.0	8.0	0.094	0.089	0.059
3.3	B	0.5	6.0	7.0	0.126	0.12	0.08
4.7	A	0.5	6.0	6.0	0.108	0.102	0.068
4.7	B	0.5	6.0	5.5	0.151	0.143	0.096
6.8	A	0.5	6.0	6.0	0.108	0.102	0.068
6.8	B	0.5	6.0	3.5	0.151	0.143	0.096
10	A	0.6	6.0	3.0	0.1	0.095	0.063
10	B	0.6	6.0	3.5	0.151	0.143	0.096
10	C	0.6	6.0	3.0	0.247	0.235	0.156
15	A	0.9	6.0	2.9	0.141	0.134	0.089
15	B	0.9	6.0	3.0	0.151	0.143	0.096
15	C	0.9	6.0	1.8	0.247	0.235	0.156
22	A	1.4	6.0	3.0	0.132	0.125	0.084
22	B	1.4	6.0	3.5	0.151	0.143	0.096

**CA45 Series Chip Tantalum Capacitors (SMD Tantalum Capacitor)****◆Table 3 Electrical Characteristics**

Nominal Capacitance (μF)	Case Code	Max DCL at +25°CμA	Max DF(100Hz) at +25°C	Max ESR (100 kHz) +25°C Ω	Ripple Current (A) 100KHz Max		
					+ 25°C	+ 85°C	+ 125°C
Rated Voltage 6.3V, Category Voltage4V							
33	A	2.0	8.0	2.2	0.153	0.145	0.097
33	B	2.0	6.0	3.0	0.179	0.17	0.113
33	C	2.0	6.0	1.8	0.247	0.235	0.156
47	A	2.9	12.0	2.5	0.141	0.134	0.089
47	B	2.9	8.0	1.0	0.2	0.19	0.126
47	C	2.9	6.0	1.6	0.262	0.249	0.166
68	B	4.1	8.0	0.9	0.258	0.245	0.163
68	C	4.1	8.0	1.2	0.35	0.322	0.221
100	B	6.3	14.0	1.7	0.163	0.155	0.103
100	C	6.3	8.0	0.7	0.35	0.332	0.221
100	D	6.3	8.0	0.8	0.433	0.411	0.274
150	C	9.5	12.0	1.1	0.303	0.287	0.191
150	D	9.5	10.0	0.7	0.463	0.439	0.293
150	E	9.5	10.0	0.9	0.574	0.544	0.363
220	C	13.8	14.0	0.7	0.303	0.287	0.191
220	D	13.8	12.0	0.5	0.463	0.439	0.293
220	E	13.2	12.0	0.4	0.486	0.460	0.307
330	C	20.8	14.0	0.5	0.574	0.547	0.372
330	D	19.8	10.0	0.4	0.612	0.581	0.387
330	E	20.8	12.0	0.4	0.642	0.608	0.406
470	E	29.6	12.0	0.4	0.642	0.608	0.406
680	E	40.8	12.0	0.5	1.535	1.381	0.614
Rated Voltage 10V, Category Voltage 6.3V							
2.2	A	0.5	6.0	8.0	0.049	0.089	0.059
2.2	B	0.5	6.0	3.5	0.133	0.126	0.084
3.3	A	0.5	6.0	5.5	0.108	0.102	0.068
3.3	B	0.5	6.0	5.0	0.126	0.12	0.08
4.7	A	0.5	6.0	5.0	0.118	0.112	0.075
4.7	B	0.5	6.0	3.5	0.151	0.143	0.096
6.8	A	0.7	6.0	3.5	0.132	0.125	0.084
6.8	B	0.7	6.0	3.5	0.151	0.143	0.096
10.0	A	1.0	6.0	3.0	0.1	0.095	0.063
10.0	B	1.0	6.0	3.5	0.151	0.143	0.096
10.0	C	1.0	6.0	1.8	0.247	0.235	0.156
15.0	A	1.5	6.0	3.2	0.108	0.102	0.068
15.0	B	1.5	6.0	2.8	0.169	0.16	0.107
15.0	C	1.5	6.0	1.8	0.247	0.235	0.156
22.0	A	2.2	6.0	3.0	0.108	0.102	0.068
22.0	B	2.2	6.0	1.9	0.183	0.173	0.115
22.0	C	2.2	6.0	1.8	0.247	0.235	0.156

**CA45 Series Chip Tantalum Capacitors (SMD Tantalum Capacitor)****◆Table 3 Electrical Characteristics**

Nominal Capacitance (μF)	Case Code	Max DCL at +25°CμA	Max DF(100Hz) at +25°C	Max ESR (100 kHz) +25°C Ω	Ripple Current (A) 100KHz Max		
					+ 25°C	+ 85°C	+ 125°C
Rated Voltage 10V, Category Voltage 6.3V							
33.0	B	3.3	6.0	1.4	0.211	0.2	0.133
33.0	C	3.3	6.0	1.5	0.262	0.249	0.166
47.0	B	4.7	6.0	1.0	0.258	0.245	0.163
47.0	C	4.7	6.0	0.9	0.332	0.315	0.21
68.0	B	6.8	10.0	1.4	0.258	0.245	0.163
68.0	C	6.8	6.0	0.8	0.303	0.287	0.191
68.0	D	6.8	6.0	0.8	0.433	0.411	0.274
100	B	10.0	14.0	1.4	0.163	0.155	0.103
100	C	10.0	10.0	0.7	0.35	0.332	0.221
100	D	10.0	8.0	0.6	0.463	0.439	0.293
150	D	15.0	8.0	0.6	0.463	0.439	0.293
150	E	15.0	8.0	0.9	0.486	0.46	0.307
220	E	22	8.0	0.5	0.574	0.544	0.363
220	D	22	8.0	0.5	0.548	0.52	0.346
330	E	33	10.0	0.9	0.574	0.544	0.363
330	D	33	10.0	0.5	0.548	0.52	0.346
470	E	47	12.0	0.5	0.642	0.608	0.406
Rated Voltage 16V, Category Voltage 10V							
1.0	A	0.5	4.0	7.5	0.08	0.076	0.05
1.5	A	0.5	6.0	8.0	0.094	0.089	0.059
2.2	A	0.5	6.0	5.0	0.108	0.102	0.068
2.2	B	0.5	6.0	5.5	0.132	0.125	0.083
3.3	A	0.5	6.0	4.5	0.118	0.112	0.075
3.3	B	0.5	6.0	3.5	0.151	0.143	0.096
4.7	A	0.8	6.0	4.0	0.141	0.134	0.089
4.7	B	0.8	6.0	3.5	0.141	0.134	0.089
4.7	C	0.8	6.0	2.4	0.214	0.203	0.135
6.8	A	1.1	6.0	3.5	0.132	0.125	0.084
6.8	B	1.1	6.0	2.5	0.179	0.17	0.113
6.8	C	1.1	6.0	1.9	0.241	0.228	0.152
10.0	A	1.6	6.0	3.0	0.1	0.095	0.063
10.0	B	1.6	6.0	2.5	0.169	0.16	0.107
10.0	C	1.6	6.0	1.8	0.247	0.235	0.156
15.0	B	2.4	6.0	2.0	0.179	0.17	0.113
15.0	C	2.4	6.0	1.8	0.247	0.235	0.156
22.0	B	3.6	6.0	2.2	0.191	0.181	0.121
22.0	C	3.6	6.0	1.1	0.262	0.249	0.166
22.0	D	3.6	6.0	0.8	0.433	0.411	0.274
33.0	C	5.3	6.0	1.1	0.303	0.287	0.191

CA45 Series Chip Tantalum Capacitors (SMD Tantalum Capacitor)

◆Table 3 Electrical Characteristics

Nominal Capacitance (μF)	Case Code	Max DCL at +25°CμA	Max DF(100Hz) at +25°C	Max ESR (100 kHz) +25°C Ω	Ripple Current (A) 100KHz Max		
					+ 25°C	+ 85°C	+ 125°C
Rated Voltage 16V, Category Voltage 10V							
33.0	D	5.3	6.0	0.8	0.433	0.411	0.274
47.0	C	7.5	6.0	0.9	0.303	0.287	0.191
47.0	D	7.5	6.0	0.7	0.433	0.411	0.274
47.0	E	7.5	6.0	0.9	0.574	0.544	0.363
68.0	C	10.9	8.0	1.2	0.271	0.257	0.171
68.0	D	10.9	8.0	0.6	0.463	0.439	0.293
68.0	E	10.9	6.0	0.9	0.486	0.46	0.307
100	C	16.0	12.0	1.0	0.303	0.287	0.191
100	D	16.0	8.0	0.7	0.463	0.439	0.293
100	E	16.0	8.0	0.9	0.486	0.46	0.307
150	D	24	10.0	0.7	0.463	0.439	0.293
150	E	24	10.0	0.3	0.574	0.544	0.363
220	E	35.2	12.0	0.5	0.574	0.544	0.363
220	V	35.2	12.0	0.5	0.575	0.546	0.375
330	E	52.8	12.0	0.8	0.574	0.544	0.363
330	V	52.8	12.0	0.8	0.574	0.54	0.372
Rated Voltage 20V, Category Voltage 15V							
1.0	A	2.0	4.0	9.0	0.088	0.084	0.056
1.5	A	3.0	4.0	6.5	0.104	0.098	0.066
2.2	A	5.0	6.0	5.3	0.1	0.095	0.063
2.2	B	5.0	6.0	3.5	0.151	0.143	0.096
3.3	A	0.7	6.0	4.5	0.125	0.118	0.079
3.3	B	0.7	6.0	3.0	0.163	0.155	0.103
3.3	C	0.7	6.0	3.5	0.21	0.199	0.133
4.7	A	1.0	6.0	3.0	0.132	0.125	0.084
4.7	B	1.0	6.0	2.8	0.163	0.155	0.103
4.7	C	1.0	6.0	2.4	0.214	0.203	0.135
6.8	B	1.4	6.0	2.4	0.179	0.17	0.113
6.8	C	1.4	6.0	1.9	0.241	0.228	0.152
10.0	B	2.0	6.0	2.0	0.195	0.185	0.123
10.0	C	2.0	6.0	1.2	0.247	0.235	0.156
15.0	B	3.0	6.0	2.0	0.187	0.177	0.118
15.0	C	3.0	6.0	1.2	0.254	0.241	0.161
22.0	C	4.4	6.0	1.1	0.303	0.287	0.191
22.0	D	4.4	6.0	0.8	0.433	0.411	0.274
33.0	C	6.6	6.0	1.1	0.303	0.287	0.191
33.0	D	6.6	6.0	0.7	0.433	0.411	0.274
47.0	C	9.7	8.0	0.5	0.303	0.287	0.191
47.0	D	9.7	6.0	0.7	0.463	0.439	0.293
47.0	E	9.7	6.0	0.9	0.574	0.544	0.363
68.0	D	13.6	8.0	0.4	0.463	0.439	0.293

CA45 Series Chip Tantalum Capacitors (SMD Tantalum Capacitor)

◆Table 3 Electrical Characteristics

Nominal Capacitance (μF)	Case Code	Max DCL at +25°CμA	Max DF(100Hz) at +25°C	Max ESR (100 kHz) +25°C Ω	Ripple Current (A) 100KHz Max		
					+ 25°C	+ 85°C	+ 125°C
Rated Voltage 20V, Category Voltage 15V							
68.0	E	13.6	6.0	0.9	0.486	0.46	0.307
100	D	20.0	10.0	0.5	0.463	0.439	0.293
100	E	20.0	10.0	0.4	0.574	0.544	0.363
150	D	30.0	10.0	0.9	0.463	0.439	0.293
150	E	30.0	10.0	0.3	0.574	0.544	0.363
220	E	44.0	12.0	0.9	0.574	0.544	0.363
220	V	44 0	12.0	0.9	0.575	0.546	0.375
Rated Voltage 25V, Category Voltage 17V							
0.33	A	0.5	4.0	15.0	0.068	0.065	0.043
0.47	A	0.5	4.0	13.0	0.071	0.067	0.045
0.68	A	0.5	4.0	10.0	0.084	0.079	0.053
0.68	B	0.5	4.0	7.5	0.084	0.079	0.053
1.0	A	0.5	4.0	8.0	0.094	0.089	0.059
1.0	B	0.5	4.0	5.0	0.126	0.12	0.08
1.5	A	0.5	6.0	6.7	0.097	0.092	0.061
1.5	B	0.5	6.0	5.0	0.126	0.12	0.08
2.2	A	0.6	6.0	6.3	0.105	0.1	0.067
2.2	B	0.6	6.0	4.5	0.133	0.126	0.084
2.2	C	0.6	6.0	3.5	0.177	0.168	0.112
3.3	B	0.8	6.0	3.5	0.151	0.143	0.096
3.3	C	0.8	6.0	2.5	0.21	0.199	0.133
4.7	B	1.2	6.0	1.5	0.183	0.173	0.115
4.7	C	1.2	6.0	2.4	0.271	0.257	0.171
6.8	B	1.7	6.0	2.8	0.169	0.16	0.107
6.8	C	1.7	6.0	1.9	0.271	0.257	0.171
10	B	2.5	6.0	2.5	0.271	0.257	0.171
10	C	2.5	6.0	1.5	0.271	0.257	0.171
15	C	3.8	6.0	1.5	0.272	0.256	0.17
15	D	3.8	6.0	0 9	0.271	0.257	0.171
22	C	5.5	6.0	1.4	0.28	0.266	0.177
22	D	5.5	6.0	0.8	0.433	0.411	0.274
33	D	7.5	8.0	0.7	0.463	0.439	0.293
33	E	7.5	6.0	0.9	0.486	0.46	0.307
47	D	11.8	8.0	0.7	0.463	0.439	0.293
47	E	11.8	6.0	0.9	0.486	0.46	0.307
68	E	17	8.0	0.9	0.486	0.46	0.307
68	V	17	8.0	0.7	0.486	0.47	0.308
100	E	25	8.0	0.3	0.464	0.438	0.295
100	V	25	8.0	0.3	0.466	0.437	0.296
150	E	38	8.0	0.8	0.486	0.46	0.307
150	V	38	8.0	0.4	0.487	0.462	0.308



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◆Table 3 Electrical Characteristics

Nominal Capacitance (μF)	Case Code	Max DCL at +25°CμA	Max DF(100Hz) at +25°C	Max ESR (100 kHz) +25°C Ω	Ripple Current (A) 100KHz Max		
					+ 25°C	+ 85°C	+ 125°C
Rated Voltage 35V, Category Voltage 23V							
0.1	A	0.5	4.0	20.0	0.059	0.056	0.037
0.15	A	0.5	4.0	19.0	0.061	0.058	0.038
0.22	A	0.5	4.0	18.0	0.062	0.059	0.039
0.33	A	0.5	4.0	15.0	0.068	0.065	0.043
0.47	A	0.5	4.0	12.0	0.076	0.072	0.048
0.68	A	0.5	4.0	8.0	0.094	0.089	0.059
1.0	A	0.5	4.0	7.5	0.097	0.092	0.061
1.0	B	0.5	4.0	4.0	0.126	0.12	0.08
1.5	B	0.5	6.0	5.0	0.126	0.12	0.08
1.5	C	0.5	6.0	4.5	0.156	0.148	0.099
2.2	B	0.8	6.0	4.0	0.141	0.134	0.089
2.2	C	0.8	6.0	3.2	0.177	0.168	0.112
3.3	B	1.2	6.0	3.5	0.151	0.143	0.096
3.3	C	1.2	6.0	2.5	0.21	0.199	0.133
4.7	B	1.7	6.0	3.1	0.224	0.211	0.14
4.7	C	1.7	6.0	2.2	0.224	0.212	0.141
6.8	C	2.4	6.0	1.8	0.247	0.235	0.156
6.8	D	2.4	6.0	1.3	0.34	0.322	0.215
10	C	3.5	6.0	1.6	0.262	0.249	0.166
10	D	3.5	6.0	1.0	0.387	0.367	0.245
15	D	5.3	6.0	0.8	0.408	0.387	0.258
15	E	5.3	6.0	0.9	0.454	0.43	0.287
22	D	7.7	6.0	0.7	0.463	0.439	0.293
22	E	7.7	6.0	0.5	0.486	0.46	0.307
33	D	11.6	8.0	0.9	0.463	0.439	0.293
33	E	11.6	6.0	0.9	0.486	0.46	0.307
47	D	16.5	8.0	1.2	0.463	0.439	0.293
47	E	16.5	6.0	0.9	0.486	0.46	0.307
68	E	24	6.0	1.0	0.486	0.46	0.307
Rated Voltage 40V, Category Voltage 25V							
0.1	A	0.5	4.0	23.0	0.059	0.056	0.037
0.15	A	0.5	4.0	19.0	0.061	0.058	0.038
0.22	A	0.5	4.0	16.0	0.062	0.059	0.039
0.33	A	0.5	4.0	14.0	0.068	0.065	0.043
0.47	A	0.5	4.0	9.0	0.076	0.072	0.048
0.68	A	0.5	4.0	20.0	0.094	0.089	0.059
0.68	B	0.5	4.0	7.5	0.111	0.105	0.07
1.0	B	0.5	4.0	6.5	0.126	0.12	0.08
1.0	C	0.5	4.0	6.0	0.141	0.134	0.089
1.5	B	0.6	6.0	4.5	0.126	0.12	0.08
1.5	C	0.6	6.0	4.5	0.156	0.148	0.099



CA45 Series Chip Tantalum Capacitors (SMD Tantalum Capacitor)

◆Table 3 Electrical Characteristics

Nominal Capacitance (μF)	Case Code	Max DCL at +25°CμA	Max DF(100Hz) at +25°C	Max ESR (100 kHz) +25°C Ω	Ripple Current (A) 100KHz Max		
					+ 25°C	+ 85°C	+ 125°C
Rated Voltage 40V, Category Voltage 25V							
2.2	C	0.8	6.0	3.2	0.177	0.168	0.112
2.2	D	0.8	6.0	3.0	0.245	0.232	0.155
3.3	C	1.3	6.0	2.4	0.21	0.199	0.133
3.3	D	1.3	6.0	2.0	0.274	0.26	0.173
4.7	C	1.8	6.0	2.0	0.224	0.212	0.141
4.7	D	1.8	6.0	1.5	0.327	0.311	0.207
6.8	D	2.7	6.0	1.2	0.34	0.322	0.215
6.8	E	2.7	6.0	1.2	0.406	0.385	0.257
10	D	4.0	6.0	1.0	0.387	0.367	0.245
10	E	4.0	6.0	1.0	0.486	0.46	0.307
15	E	6.0	6.0	0.9	0.454	0.43	0.287
22	E	8.8	6.0	0.9	0.486	0.46	0.307
Rated Voltage 50V, Category Voltage 33V							
0.15	A	0.5	4.0	15.0	0.066	0.063	0.042
0.22	A	0.5	4.0	14.0	0.068	0.065	0.043
0.33	A	0.5	4.0	14.0	0.069	0.066	0.042
0.47	B	0.5	4.0	9.0	0.094	0.089	0.06
0.47	C	0.5	4.0	8.0	0.117	0.111	0.074
0.68	B	0.5	4.0	8.0	0.1	0.095	0.063
0.68	C	0.5	4.0	7.0	0.125	0.119	0.079
1.0	B	0.5	4.0	6.0	0.107	0.101	0.068
1.0	C	0.5	4.0	5.0	0.141	0.134	0.089
1.5	C	0.7	6.0	4.5	0.156	0.148	0.099
1.5	D	0.7	6.0	3.5	0.207	0.196	0.131
2.2	C	1.1	6.0	2.5	0.191	0.182	0.121
2.2	D	1.1	6.0	2.5	0.245	0.232	0.155
3.3	C	1.6	6.0	2.0	0.210	0.199	0.133
3.3	D	1.6	6.0	2.0	0.274	0.26	0.173
4.7	C	2.3	6.0	1.4	0.326	0.31	0.206
4.7	D	2.3	6.0	1.2	0.327	0.311	0.207
6.8	D	3.4	6.0	1.0	0.328	0.312	0.207
6.8	E	3.4	6.0	1.5	0.387	0.367	0.245
10	D	5.0	6.0	0.8	0.433	0.411	0.274
10	E	5.0	6.0	1.0	0.486	0.46	0.307
15	E	7.5	6.0	0.6	0.454	0.43	0.287
22	E	11 0	6.0	0.9	0.486	0.46	0.307
Rated Voltage 63V, Category Voltage 40V							
0.33	C	0.5	4.0	9.0	0.09	0.086	0.057
0.47	C	0.5	4.0	7.0	0.117	0.111	0.074
0.68	C	0.5	4.0	6.0	0.125	0.119	0.079
1.0	C	0.6	4.0	5.0	0.141	0.134	0.089



CA45 Series Chip Tantalum Capacitors (SMD Tantalum Capacitor)

◆Table 3 Electrical Characteristics

Nominal Capacitance (μF)	Case Code	Max DCL at +25°CμA	Max DF(100Hz) at +25°C	Max ESR (100 kHz) +25°C Ω	Ripple Current (A) 100KHz Max		
					+ 25°C	+ 85°C	+ 125°C
Rated Voltage 63V, Category Voltage 40V							
1.5	D	0.9	6.0	3.5	0.207	0.196	0.131
2.2	D	1.3	6.0	2.0	0.245	0.232	0.155
3.3	D	2.0	6.0	1.5	0.274	0.26	0.173
4.7	E	2.9	6.0	1.0	0.325	0.322	0.215
6.8	E	4.1	6.0	0.8	0.406	0.385	0.257
10	E	6.3	6.0	0.6	0.486	0.46	0.307
15	E	9.0	6.0	0.4	0.454	0.43	0.287
15	V	9.0	6.0	0.4	0.545	0.46	0.324
22	V	13	6.0	0.4	0.625	0.54	0.423
Rated Voltage 75V, Category Voltage 50V							
0.22	C	0.5	4.0	11.0	0.086	0.072	0.054
0.33	C	0.5	4.0	9.0	0.09	0.086	0.057
0.47	C	0.5	4.0	7.0	0.117	0.111	0.074
0.68	C	0.5	4.0	6.0	0.125	0.119	0.079
1.0	D	0.7	4.0	4.5	0.202	0.185	0.124
1.5	D	1.0	6.0	3.5	0.207	0.196	0.131
2.2	E	1.6	6.0	1.8	0.246	0.238	0.158
3.3	E	2.3	6.0	1.3	0.324	0.285	0.205
4.7	E	3.5	6.0	0.9	0.325	0.322	0.215
4.7	V	3.5	6.0	0.9	0.352	0.332	0.232
Rated Voltage 100V, Category Voltage 63V							
0.22	C	0.5	4.0	10.0	0.086	0.072	0.054
0.33	C	0.5	4.0	8.0	0.09	0.086	0.057
0.47	C	0.5	4.0	6.5	0.117	0.111	0.074
0.68	D	0.6	4.0	5.0	0.125	0.119	0.079
1.0	D	1.0	4.0	4.5	0.202	0.185	0.124
1.5	E	1.5	6.0	3.0	0.208	0.202	0.134
2.2	E	2.2	6.0	1.5	0.246	0.238	0.158
2.2	V	2.2	6.0	1.5	0.248	0.239	0.162

Important Note

1. Please do not use multimeter to test tantalum capacitors.
2. Capacitance and DF measured at :100Hz , $U_{-} = 2.2^{+1.0}_{-0.5}V$, $U_{+} = 1.0^{+0.5}_{-0.5}V$, Frequency = 100Hz. Test only applied to series equivalent circuit.
3. Please refer to derating voltage or category voltage if temperature > 85°C
4. The DCL parameter should be read after 5 minutes when it connected to the circuit.
5. For special requirement please consult to our sales.

◆ How to order

<u>CA45</u>	<u>T</u>	<u>106</u>	<u>M</u>	<u>0025</u>	<u>000B</u>	<u>R</u>	<u>000</u>
<u>Type</u>	<u>Material Code</u>	<u>Capacitance Code</u>	<u>Tolerance</u>	<u>For DC Voltage</u>	<u>Size Code</u>	<u>Package</u>	<u>Suffix Indicate Special Requirement</u>
CA45	T: Tantalum Cap For CA45	pF Code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) 106 = 10μF	K: +/-10% M: +/-20%	0006: 6.3VDC 0010: 10VDC 0035: 35VDC 0050: 50VDC	Code for Case Size 000A: A case 000B: B case 000C: C case 000D: D case	R: Tape & Reel	000: Indicating Standard