

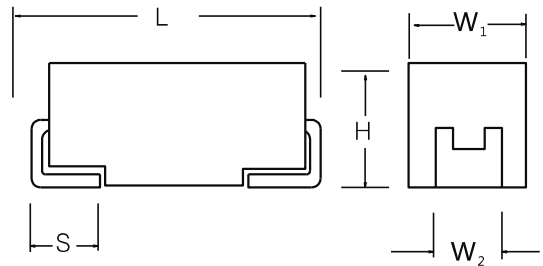
CA45 Chip Tantalum Capacitors (SMD Tantalum Capacitors)

◆ 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 GJB9001C-2017
 Meets RoHS , Reach requirement

◆ Specifications

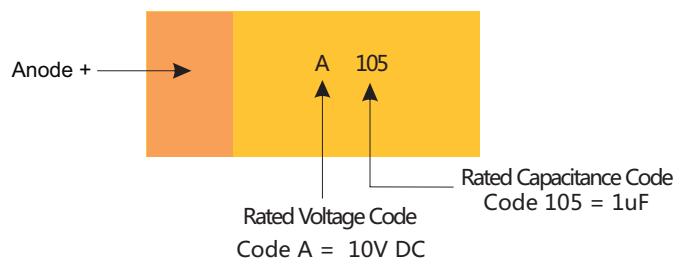
Operating Temperature Range: -55°C ~ +125°C; >85°C(with rated voltage derating);
 DC Leakage at 25°C: $I_0 \leq 0.01C_R U_R$ or 0.5uA (Choose the greater one)
 Capacitance Range: 1uF~1000uF
 Voltage Range: 6.3V, 10V, 16V, 25V, 35V, 50V, 63V, 75V, 100V
 Capacitance Tolerance: K: +/-10%; M: +/-20% (+/-20% 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±0.2	W ₁ ±0.2	H±0.4	S±0.2	W ₂ ±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

Voltage Code	G	J	A	C	D	E	V	H	T
Rated Voltage	4V	6.3V	10V	16V	20V	25V	35V	40V	50V

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◆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 _o	10 I _o
8	6	8			
10	8	10			
12	10	12			
14	12	14			
18	16	18			

◆ 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>
Type	Material Code	Capacitance Code	Tolerance	For DC Voltage	Size Code	Package	Suffix Indicate Special Requirement
CA45	T: Tantalum Cap For CA45	pF Code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) 106 = 10uF 105 = 1uF	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 000E: E case	R: Tape & Reel	000: Indicating Standard

CA45 Chip Tantalum Capacitors (SMD Tantalum Capacitors)

◆ Table 3 Electrical Characteristics

Part Number	Rated Voltage	Nominal Capacitance	Case Code	Rated Temperature	Category Temperature	Category Voltage	Max DCL at +25°C	Max DF at +25°C 100Hz	Max ESR +25°C Ω 100KHz	Ripple Current (mA)		
										100KHz	Max	
	V	uF	C	C	C	V	Ua	%	Ω	25C	85C	125C
CA45T336#0002000A	2.5	33	A	85	125	1.7	0.8	8	3	158	142	63
CA45T476#0002000A	2.5	47	A	85	125	1.7	1.2	6	3	158	142	63
CA45T686#0002000A	2.5	68	A	85	125	1.7	1.7	8	2.5	173	156	69
CA45T107#0002000A	2.5	100	A	85	125	1.7	2.5	20	3	158	142	63
CA45T107#0002000B	2.5	100	B	85	125	1.7	2.5	8	2	206	186	82
CA45T157#0002000B	2.5	150	B	85	125	1.7	3.8	10	1.8	217	196	87
CA45T227#0002000B	2.5	220	B	85	125	1.7	5.5	16	1.6	230	207	92
CA45T227#0002000D	2.5	220	D	85	125	1.7	5.5	8	0.8	433	390	173
CA45T337#0002000D	2.5	330	D	85	125	1.7	8.3	8	0.3	707	636	283
CA45T477#0002000C	2.5	470	C	85	125	1.7	12	12	0.5	469	422	188
CA45T477#0002000D	2.5	470	D	85	125	1.7	12	8	0.4	612	551	245
CA45T687#0002000C	2.5	680	C	85	125	1.7	17	18	0.6	428	385	171
CA45T687#0002000D	2.5	680	D	85	125	1.7	17	16	0.5	548	493	219
CA45T687#0002000E	2.5	680	E	85	125	1.7	17	10	0.5	574	517	230
CA45T108#0002000D	2.5	1000	D	85	125	1.7	25	18	0.5	548	493	219
CA45T108#0002000E	2.5	1000	E	85	125	1.7	25	14	0.4	642	578	257
CA45T158#0002000D	2.5	1500	D	85	125	1.7	38	20	0.4	612	551	245
CA45T158#0002000E	2.5	1500	E	85	125	1.7	38	14	0.3	742	667	297
CA45T158#0002000V	2.5	1500	V	85	125	1.7	38	14	0.2	1118	1006	447
CA45T228#0002000V	2.5	2200	V	85	125	1.7	55	20	0.4	791	712	316
CA45T225#0004000A	4	2.2	A	85	125	2.7	0.5	6	3	158	142	63
CA45T335#0004000A	4	3.3	A	85	125	2.7	0.5	6	3	158	142	63
CA45T475#0004000A	4	4.7	A	85	125	2.7	0.5	6	3	158	142	63
CA45T475#0004000B	4	4.7	B	85	125	2.7	0.5	6	2	206	186	82
CA45T685#0004000A	4	6.8	A	85	125	2.7	0.5	6	2.5	173	156	69
CA45T685#0004000B	4	6.8	B	85	125	2.7	0.5	6	2	206	186	82
CA45T106#0004000A	4	10	A	85	125	2.7	0.5	6	3	158	142	63
CA45T106#0004000B	4	10	B	85	125	2.7	0.5	6	2.5	184	166	74
CA45T156#0004000A	4	15	A	85	125	2.7	0.6	6	3	158	142	63
CA45T156#0004000B	4	15	B	85	125	2.7	0.6	6	2.5	184	166	74
CA45T156#0004000C	4	15	C	85	125	2.7	0.6	6	1.5	271	244	108
CA45T226#0004000A	4	22	A	85	125	2.7	0.9	6	3	158	142	63
CA45T226#0004000B	4	22	B	85	125	2.7	0.9	6	2.5	184	166	74
CA45T226#0004000C	4	22	C	85	125	2.7	0.9	6	1.5	271	244	108
CA45T336#0004000A	4	33	A	85	125	2.7	1.3	8	3	158	142	63
CA45T336#0004000B	4	33	B	85	125	2.7	1.3	6	2.5	184	166	74
CA45T336#0004000C	4	33	C	85	125	2.7	1.3	6	1.5	271	244	108
CA45T476#0004000A	4	47	A	85	125	2.7	1.9	8	3	158	142	63
CA45T476#0004000B	4	47	B	85	125	2.7	1.9	6	2.5	184	166	74
CA45T476#0004000C	4	47	C	85	125	2.7	1.9	6	1.5	271	244	108
CA45T686#0004000A	4	68	A	85	125	2.7	2.7	14	2.5	173	156	69
CA45T686#0004000B	4	68	B	85	125	2.7	2.7	6	1.8	217	196	87
CA45T686#0004000C	4	68	C	85	125	2.7	2.7	6	1.5	271	244	108
CA45T107#0004000A	4	100	A	85	125	2.7	4	18	3	158	142	63
CA45T107#0004000B	4	100	B	85	125	2.7	4	14	2	206	186	82
CA45T107#0004000C	4	100	C	85	125	2.7	4	8	1.5	271	244	108
CA45T157#0004000B	4	150	B	85	125	2.7	6	16	1.8	217	196	87
CA45T157#0004000C	4	150	C	85	125	2.7	6	8	1.2	303	272	121
CA45T157#0004000D	4	150	D	85	125	2.7	6	8	0.8	433	390	173
CA45T227#0004000B	4	220	B	85	125	2.7	8.8	18	1.6	230	207	92
CA45T227#0004000C	4	220	C	85	125	2.7	8.8	10	1.2	303	272	121
CA45T227#0004000D	4	220	D	85	125	2.7	8.8	8	0.8	433	390	173
CA45T337#0004000C	4	330	C	85	125	2.7	13	10	1.2	303	272	121
CA45T337#0004000D	4	330	D	85	125	2.7	13	8	0.9	408	367	163

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◆ **Table 3 Electrical Characteristics**

Part Number	Rated Voltage	Nominal Capacitance	Case Code	Rated Temperature	Category Temperature	Category Voltage	Max DCL at +25°C	Max DF at +25°C 100Hz	Max ESR +25°C Ω 100KHz	Ripple Current (mA) 100KHz Max		
										25C	85C	125C
CA45T337#0004000E	4	330	E	85	125	2.7	13	12	0.8	454	409	182
CA45T477#0004000C	4	470	C	85	125	2.7	19	14	0.5	469	422	188
CA45T477#0004000D	4	470	D	85	125	2.7	19	10	0.4	612	551	245
CA45T477#0004000E	4	470	E	85	125	2.7	19	10	0.4	642	578	257
CA45T687#0004000D	4	680	D	85	125	2.7	27	12	0.5	548	493	219
CA45T687#0004000E	4	680	E	85	125	2.7	27	14	0.5	574	517	230
CA45T108#0004000D	4	1000	D	85	125	2.7	40	20	0.5	548	493	219
CA45T108#0004000E	4	1000	E	85	125	2.7	40	14	0.4	642	578	257
CA45T108#0004000V	4	1000	V	85	125	2.7	40	12	0.3	913	822	365
CA45T158#0004000E	4	1500	E	85	125	2.7	60	14	0.3	742	667	297
CA45T155#0006000A	6.3	1.5	A	85	125	4	0.5	6	3	158	142	63
CA45T225#0006000A	6.3	2.2	A	85	125	4	0.5	6	3	158	142	63
CA45T335#0006000A	6.3	3.3	A	85	125	4	0.5	6	3	158	142	63
CA45T335#0006000B	6.3	3.3	B	85	125	4	0.5	6	2.5	184	166	74
CA45T475#0006000A	6.3	4.7	A	85	125	4	0.5	6	3	158	142	63
CA45T475#0006000B	6.3	4.7	B	85	125	4	0.5	6	2	206	186	82
CA45T685#0006000A	6.3	6.8	A	85	125	4	0.5	6	2.5	173	156	69
CA45T685#0006000B	6.3	6.8	B	85	125	4	0.5	6	2	206	186	82
CA45T106#0006000A	6.3	10	A	85	125	4	0.6	6	3	158	142	63
CA45T106#0006000B	6.3	10	B	85	125	4	0.6	6	2.5	184	166	74
CA45T106#0006000C	6.3	10	C	85	125	4	0.6	6	1.5	271	244	108
CA45T156#0006000A	6.3	15	A	85	125	4	0.9	6	3	158	142	63
CA45T156#0006000B	6.3	15	B	85	125	4	0.9	6	2.5	184	166	74
CA45T156#0006000C	6.3	15	C	85	125	4	0.9	6	1.5	271	244	108
CA45T226#0006000P	6.3	22	P	85	125	4	1.4	9	5	100	90	40
CA45T226#0006000A	6.3	22	A	85	125	4	1.4	8	3	158	142	63
CA45T226#0006000B	6.3	22	B	85	125	4	1.4	6	2.5	184	166	74
CA45T226#0006000C	6.3	22	C	85	125	4	1.4	6	1.5	271	244	108
CA45T336#0006000A	6.3	33	A	85	125	4	2.1	8	3	158	142	63
CA45T336#0006000B	6.3	33	B	85	125	4	2.1	6	2.5	184	166	74
CA45T336#0006000C	6.3	33	C	85	125	4	2.1	6	1.5	271	244	108
CA45T476#0006000A	6.3	47	A	85	125	4	3	10	3	158	142	63
CA45T476#0006000B	6.3	47	B	85	125	4	3	8	2.5	184	166	74
CA45T476#0006000C	6.3	47	C	85	125	4	3	6	1.5	271	244	108
CA45T686#0006000A	6.3	68	A	85	125	4	4.3	14	3	158	142	63
CA45T686#0006000B	6.3	68	B	85	125	4	4.3	10	1.5	238	214	95
CA45T686#0006000C	6.3	68	C	85	125	4	4.3	8	1	332	298	133
CA45T107#0006000A	6.3	100	A	85	125	4	10	26	3	158	142	63
CA45T107#0006000B	6.3	100	B	85	125	4	6.3	14	2	206	186	82
CA45T107#0006000C	6.3	100	C	85	125	4	6.3	8	1.5	271	244	108
CA45T157#0006000B	6.3	150	B	85	125	4	9.5	18	1.8	217	196	87
CA45T157#0006000C	6.3	150	C	85	125	4	9.5	10	1.2	303	272	121
CA45T157#0006000D	6.3	150	D	85	125	4	9.5	8	0.8	433	390	173
CA45T227#0006000B	6.3	220	B	85	125	4	14	18	1.6	230	207	92
CA45T227#0006000C	6.3	220	C	85	125	4	14	14	1.2	303	272	121
CA45T227#0006000D	6.3	220	D	85	125	4	14	8	0.8	433	390	173
CA45T337#0006000C	6.3	330	C	85	125	4	21	14	1.2	303	272	121
CA45T337#0006000D	6.3	330	D	85	125	4	21	8	0.9	408	367	163
CA45T337#0006000E	6.3	330	E	85	125	4	21	8	0.8	454	409	182
CA45T477#0006000D	6.3	470	D	85	125	4	30	14	0.4	612	551	245
CA45T477#0006000E	6.3	470	E	85	125	4	30	10	0.4	642	578	257
CA45T477#0006000V	6.3	470	V	85	125	4	30	10	0.4	791	712	316
CA45T687#0006000E	6.3	680	E	85	125	4	43	10	0.5	574	517	230
CA45T687#0006000V	6.3	680	V	85	125	4	43	10	0.4	791	712	316

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◆ Table 3 Electrical Characteristics

Part Number	Rated Voltage	Nominal Capacitance	Case Code	Rated Temperature	Category Temperature	Category Voltage	Max DCL at +25°C	Max DF at +25°C 100Hz	Max ESR +25°C Ω 100KHz	Ripple Current (mA) 100KHz Max		
										25C	85C	125C
	V	uF	C	C	C	V	Ua	%	Ω			
CA45T108#0006000E	6.3	1000	E	85	125	4	63	14	0.4	642	578	257
CA45T108#0006000V	6.3	1000	V	85	125	4	63	14	0.3	913	822	365
CA45T105#0010000A	10	1	A	85	125	6.3	0.5	4	3	158	142	63
CA45T105#0010000B	10	1	B	85	125	6.3	0.5	4	2.5	184	166	74
CA45T155#0010000A	10	1.5	A	85	125	6.3	0.5	6	3	158	142	63
CA45T225#0010000A	10	2.2	A	85	125	6.3	0.5	6	3	158	142	63
CA45T225#0010000B	10	2.2	B	85	125	6.3	0.5	6	2.5	184	166	74
CA45T335#0010000A	10	3.3	A	85	125	6.3	0.5	6	3	158	142	63
CA45T335#0010000B	10	3.3	B	85	125	6.3	0.5	6	2.5	184	166	74
CA45T475#0010000A	10	4.7	A	85	125	6.3	0.5	6	3	158	142	63
CA45T475#0010000B	10	4.7	B	85	125	6.3	0.5	6	2	206	186	82
CA45T685#0010000A	10	6.8	A	85	125	6.3	0.7	6	2.5	173	156	69
CA45T685#0010000B	10	6.8	B	85	125	6.3	0.7	6	2	206	186	82
CA45T685#0010000C	10	6.8	C	85	125	6.3	0.7	6	1.5	271	244	108
CA45T106#0010000A	10	10	A	85	125	6.3	1	6	3	158	142	63
CA45T106#0010000B	10	10	B	85	125	6.3	1	6	2.5	184	166	74
CA45T106#0010000C	10	10	C	85	125	6.3	1	6	1.5	271	244	108
CA45T156#0010000A	10	15	A	85	125	6.3	1.5	6	3	158	142	63
CA45T156#0010000B	10	15	B	85	125	6.3	1.5	6	2.5	184	166	74
CA45T156#0010000C	10	15	C	85	125	6.3	1.5	6	1.5	271	244	108
CA45T226#0010000A	10	22	A	85	125	6.3	2.2	8	3	158	142	63
CA45T226#0010000B	10	22	B	85	125	6.3	2.2	6	2.5	184	166	74
CA45T226#0010000C	10	22	C	85	125	6.3	2.2	6	1.5	271	244	108
CA45T336#0010000A	10	33	A	85	125	6.3	3.3	14	3	158	142	63
CA45T336#0010000B	10	33	B	85	125	6.3	3.3	6	2.5	184	166	74
CA45T336#0010000C	10	33	C	85	125	6.3	3.3	6	1.5	271	244	108
CA45T476#0010000A	10	47	A	85	125	6.3	10	26	3	158	142	63
CA45T476#0010000B	10	47	B	85	125	6.3	4.7	8	2	206	186	82
CA45T476#0010000C	10	47	C	85	125	6.3	4.7	6	1	332	298	133
CA45T686#0010000A	10	68	A	85	125	6.3	6.8	26	2.5	173	156	69
CA45T686#0010000B	10	68	B	85	125	6.3	6.8	10	1.4	246	222	99
CA45T686#0010000C	10	68	C	85	125	6.3	6.8	6	1.5	271	244	108
CA45T686#0010000D	10	68	D	85	125	6.3	6.8	6	0.8	433	390	173
CA45T107#0010000A	10	100	A	85	125	6.3	10	26	3	158	142	63
CA45T107#0010000B	10	100	B	85	125	6.3	10	18	2	206	186	82
CA45T107#0010000C	10	100	C	85	125	6.3	10	8	1.5	271	244	108
CA45T107#0010000D	10	100	D	85	125	6.3	10	8	1	387	349	155
CA45T157#0010000C	10	150	C	85	125	6.3	15	10	1.2	303	272	121
CA45T157#0010000D	10	150	D	85	125	6.3	15	8	0.8	433	390	173
CA45T157#0010000E	10	150	E	85	125	6.3	15	8	0.6	524	472	210
CA45T227#0010000B	10	220	B	85	125	6.3	15	18	1.6	230	207	92
CA45T227#0010000C	10	220	C	85	125	6.7	22	14	1.2	303	272	121
CA45T227#0010000D	10	220	D	85	125	6.3	22	8	0.6	418	376	167
CA45T227#0010000E	10	220	E	85	125	6.3	22	8	0.6	524	472	210
CA45T337#0010000D	10	330	D	85	125	6.3	33	14	0.9	408	367	163
CA45T337#0010000E	10	330	E	85	125	6.3	33	8	0.8	454	409	182
CA45T337#0010000V	10	330	V	85	125	6.3	33	10	0.8	559	503	224
CA45T477#0010000E	10	470	E	85	125	6.3	47	14	0.4	642	578	257
CA45T477#0010000V	10	470	V	85	125	6.3	47	14	0.4	791	712	316
CA45T687#0010000E	10	680	E	85	125	6.3	68	14	0.5	574	517	230
CA45T105#0016000A	16	1	A	85	125	10	0.5	4	6	112	101	45
CA45T105#0016000B	16	1	B	85	125	10	0.5	4	2.5	184	166	74
CA45T155#0016000A	16	1.5	A	85	125	10	0.5	6	5	122	110	49

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◆ **Table 3 Electrical Characteristics**

Part Number	Rated Voltage	Nominal Capacitance	Case Code	Rated Temperature	Category Temperature	Category Voltage	Max DCL at +25°C	Max DF at +25°C 100Hz	Max ESR +25°C Ω 100KHz	Ripple Current (mA) 100KHz Max		
										25C	85C	125C
CA45T155#0016000B	16	1.5	B	85	125	10	0.5	6	2.5	184	166	74
CA45T225#0016000A	16	2.2	A	85	125	10	0.5	6	5	122	110	49
CA45T225#0016000B	16	2.2	B	85	125	10	0.5	6	2.5	184	166	74
CA45T335#0016000A	16	3.3	A	85	125	10	0.5	6	5	122	110	49
CA45T335#0016000B	16	3.3	B	85	125	10	0.5	6	2.5	184	166	74
CA45T475#0016000A	16	4.7	A	85	125	10	0.8	6	5	122	110	49
CA45T475#0016000B	16	4.7	B	85	125	10	0.8	6	3	168	151	67
CA45T475#0016000C	16	4.7	C	85	125	10	0.8	6	1.8	247	222	99
CA45T685#0016000A	16	6.8	A	85	125	10	1.1	6	4	137	123	55
CA45T685#0016000B	16	6.8	B	85	125	10	1.1	6	2	206	186	82
CA45T685#0016000C	16	6.8	C	85	125	10	1.1	6	1.5	271	244	108
CA45T106#0016000A	16	10	A	85	125	10	1.6	6	3	158	142	63
CA45T106#0016000B	16	10	B	85	125	10	1.6	6	2.5	184	166	74
CA45T106#0016000C	16	10	C	85	125	10	1.6	6	1.5	271	244	108
CA45T156#0016000A	16	15	A	85	125	10	2.4	6	3	158	142	63
CA45T156#0016000B	16	15	B	85	125	10	2.4	6	2.5	184	166	74
CA45T156#0016000C	16	15	C	85	125	10	2.4	6	1.5	271	244	108
CA45T226#0016000A	16	22	A	85	125	10	3.5	15	3	158	142	63
CA45T226#0016000B	16	22	B	85	125	10	3.5	6	2.5	184	166	74
CA45T226#0016000C	16	22	C	85	125	10	3.5	6	1.5	271	244	108
CA45T336#0016000B	16	33	B	85	125	10	5.3	8	2.5	184	166	74
CA45T336#0016000C	16	33	C	85	125	10	5.3	6	1.5	271	244	108
CA45T336#0016000D	16	33	D	85	125	10	5.3	6	1	387	349	155
CA45T476#0016000B	16	47	B	85	125	10	7.5	10	2.5	184	166	74
CA45T476#0016000C	16	47	C	85	125	10	7.5	6	1.5	271	244	108
CA45T476#0016000D	16	47	D	85	125	10	7.5	6	0.8	433	390	173
CA45T476#0016000E	16	47	E	85	125	10	7.5	6	0.6	524	472	210
CA45T686#0016000B	16	68	B	85	125	10	11	12	1.5	238	214	95
CA45T686#0016000C	16	68	C	85	125	10	11	6	1.5	271	244	108
CA45T686#0016000D	16	68	D	85	125	10	11	6	0.8	433	390	173
CA45T686#0016000E	16	68	E	85	125	10	11	6	0.7	486	437	194
CA45T107#0016000C	16	100	C	85	125	10	16	12	1.5	271	244	108
CA45T107#0016000D	16	100	D	85	125	10	16	8	1	387	349	155
CA45T107#0016000E	16	100	E	85	125	10	16	6	0.7	486	437	194
CA45T157#0016000D	16	150	D	85	125	10	24	8	0.8	433	390	173
CA45T157#0016000E	16	150	E	85	125	10	24	8	0.6	524	472	210
CA45T157#0016000V	16	150	V	85	125	10	24	8	0.4	791	712	316
CA45T227#0016000D	16	220	D	85	125	10	35	14	0.8	433	390	173
CA45T227#0016000E	16	220	E	85	125	10	35	10	0.6	524	472	210
CA45T227#0016000V	16	220	V	85	125	10	35	8	0.5	707	636	283
CA45T337#0016000E	16	330	E	85	125	10	53	14	0.8	454	409	182
CA45T337#0016000V	16	330	V	85	125	10	53	12	0.8	559	503	224
CA45T477#0016000E	16	470	E	85	125	10	75	16	0.4	642	578	257
CA45T474#0020000A	20	0.47	A	85	125	15	0.5	4	10	87	78	35
CA45T684#0020000A	20	0.68	A	85	125	15	0.5	4	6	112	101	45
CA45T105#0020000A	20	1	A	85	125	15	0.5	4	6	112	101	45
CA45T105#0020000B	20	1	B	85	125	15	0.5	4	2.5	184	166	74
CA45T155#0020000A	20	1.5	A	85	125	15	0.5	6	5	122	110	49
CA45T155#0020000B	20	1.5	B	85	125	15	0.5	6	2.5	184	166	74
CA45T225#0020000A	20	2.2	A	85	125	15	0.5	6	4	137	123	55
CA45T225#0020000B	20	2.2	B	85	125	15	0.5	6	2.5	184	166	74
CA45T335#0020000A	20	3.3	A	85	125	15	0.7	6	4.5	129	116	52

CA45 Chip Tantalum Capacitors (SMD Tantalum Capacitors)

◆ Table 3 Electrical Characteristics

Part Number	Rated Voltage	Nominal Capacitance	Case Code	Rated Temperature	Category Temperature	Category Voltage	Max DCL at +25°C	Max DF at +25°C 100Hz	Max ESR +25°C Ω 100KHz	Ripple Current (mA) 100KHz Max		
	V	μF	C	C	C	V	Ua	%	Ω	25C	85C	125C
CA45T335#0020000B	20	3.3	B	85	125	15	0.7	6	2.5	184	166	74
CA45T335#0020000C	20	3.3	C	85	125	15	0.7	6	2	235	211	94
CA45T475#0020000A	20	4.7	A	85	125	15	0.9	6	3	158	142	63
CA45T475#0020000B	20	4.7	B	85	125	15	0.9	6	2	206	186	82
CA45T475#0020000C	20	4.7	C	85	125	15	0.9	6	1.8	247	222	99
CA45T685#0020000A	20	6.8	A	85	125	15	1.4	6	2.5	173	156	69
CA45T685#0020000B	20	6.8	B	85	125	15	1.4	6	2	206	186	82
CA45T685#0020000C	20	6.8	C	85	125	15	1.4	6	1.5	271	244	108
CA45T106#0020000A	20	10	A	85	125	15	2	8	3	158	142	63
CA45T106#0020000B	20	10	B	85	125	15	2	6	2.5	184	166	74
CA45T106#0020000C	20	10	C	85	125	15	2	6	1.5	271	244	108
CA45T156#0020000B	20	15	B	85	125	15	3	6	2.5	184	166	74
CA45T156#0020000C	20	15	C	85	125	15	3	6	1.5	271	244	108
CA45T156#0020000D	20	15	D	85	125	15	3	6	1	387	349	155
CA45T226#0020000B	20	22	B	85	125	15	4.4	7	2.5	184	166	74
CA45T226#0020000C	20	22	C	85	125	15	4.4	6	1.5	271	244	108
CA45T226#0020000D	20	22	D	85	125	15	4.4	6	0.8	433	390	173
CA45T336#0020000C	20	33	C	85	125	15	6.6	6	1.5	271	244	108
CA45T336#0020000D	20	33	D	85	125	15	6.6	6	1	387	349	155
CA45T476#0020000C	20	47	C	85	125	15	9.4	8	1.5	271	244	108
CA45T476#0020000D	20	47	D	85	125	15	9.4	6	0.8	433	390	173
CA45T476#0020000E	20	47	E	85	125	15	9.4	6	0.6	524	472	210
CA45T686#0020000C	20	68	C	85	125	15	14	8	1.5	271	244	108
CA45T686#0020000D	20	68	D	85	125	15	14	6	0.8	433	390	173
CA45T686#0020000E	20	68	E	85	125	15	14	6	0.7	486	437	194
CA45T107#0020000D	20	100	D	85	125	15	20	6	1	387	349	155
CA45T107#0020000E	20	100	E	85	125	15	20	6	0.7	486	437	194
CA45T107#0020000V	20	100	V	85	125	15	20	8	0.5	707	636	283
CA45T157#0020000D	20	150	D	85	125	15	30	10	0.8	433	390	173
CA45T157#0020000E	20	150	E	85	125	15	30	8	0.6	524	472	210
CA45T157#0020000V	20	150	V	85	125	15	30	8	0.4	791	712	316
CA45T227#0020000E	20	220	E	85	125	15	44	12	0.6	524	472	210
CA45T227#0020000V	20	220	V	85	125	15	44	12	0.5	707	636	283
CA45T337#0020000E	20	330	E	85	125	15	66	12	0.8	454	409	182
CA45T337#0020000V	20	330	V	85	125	15	66	12	0.8	559	503	224
CA45T334#0025000A	25	0.33	A	85	125	17	0.5	4	10	87	78	35
CA45T474#0025000A	25	0.47	A	85	125	17	0.5	4	10	87	78	35
CA45T684#0025000A	25	0.68	A	85	125	17	0.5	4	6	112	101	45
CA45T684#0025000B	25	0.68	B	85	125	17	0.5	4	4	146	131	58
CA45T105#0025000A	25	1	A	85	125	17	0.5	4	6	112	101	45
CA45T105#0025000B	25	1	B	85	125	17	0.5	4	2.5	184	166	74
CA45T155#0025000A	25	1.5	A	85	125	17	0.5	6	5	122	110	49
CA45T155#0025000B	25	1.5	B	85	125	17	0.5	6	2.5	184	166	74
CA45T225#0025000A	25	2.2	A	85	125	17	0.6	6	4	137	123	55
CA45T225#0025000B	25	2.2	B	85	125	17	0.6	6	2.5	184	166	74
CA45T225#0025000C	25	2.2	C	85	125	17	0.6	6	1.5	271	244	108
CA45T335#0025000A	25	3.3	A	85	125	17	0.8	6	3	158	142	63
CA45T335#0025000B	25	3.3	B	85	125	17	0.8	6	2.5	184	166	74
CA45T335#0025000C	25	3.3	C	85	125	17	0.8	6	2	235	211	94
CA45T475#0025000A	25	4.7	A	85	125	17	1.2	6	3	158	142	63
CA45T475#0025000B	25	4.7	B	85	125	17	1.2	6	2	206	186	82
CA45T475#0025000C	25	4.7	C	85	125	17	1.2	6	1.8	247	222	99

CA45 Chip Tantalum Capacitors (SMD Tantalum Capacitors)

◆ Table 3 Electrical Characteristics

Part Number	Rated Voltage	Nominal Capacitance	Case Code	Rated Temperature	Category Temperature	Category Voltage	Max DCL at +25°C	Max DF at +25°C 100Hz	Max ESR +25°C Ω 100KHz	Ripple Current (mA) 100KHz Max		
										25C	85C	125C
CA45T685#0025000B	25	6.8	B	85	125	17	1.7	6	2	206	186	82
CA45T685#0025000C	25	6.8	C	85	125	17	1.7	6	1.5	271	244	108
CA45T685#0025000D	25	6.8	D	85	125	17	1.7	6	1.2	354	318	141
CA45T106#0025000B	25	10	B	85	125	17	2.5	6	2.5	184	166	74
CA45T106#0025000C	25	10	C	85	125	17	2.5	6	1.5	271	244	108
CA45T106#0025000D	25	10	D	85	125	17	2.5	6	1	387	349	155
CA45T156#0025000B	25	15	B	85	125	17	3.8	8	2.5	184	166	74
CA45T156#0025000C	25	15	C	85	125	17	3.8	6	1.5	271	244	108
CA45T156#0025000D	25	15	D	85	125	17	3.8	6	1	387	349	155
CA45T226#0025000C	25	22	C	85	125	17	5.5	6	1.5	271	244	108
CA45T226#0025000D	25	22	D	85	125	17	5.5	6	0.8	433	390	173
CA45T336#0025000D	25	33	D	85	125	17	8.3	6	1	387	349	155
CA45T336#0025000E	25	33	E	85	125	17	8.3	6	0.8	454	409	182
CA45T476#0025000D	25	47	D	85	125	17	12	6	0.8	433	390	173
CA45T476#0025000E	25	47	E	85	125	17	12	6	0.6	524	472	210
CA45T686#0025000D	25	68	D	85	125	17	17	8	0.8	433	390	173
CA45T686#0025000E	25	68	E	85	125	17	17	6	0.7	486	437	194
CA45T686#0025000V	25	68	V	85	125	17	17	6	0.5	707	636	283
CA45T107#0025000E	25	100	E	85	125	17	25	10	0.7	486	437	194
CA45T107#0025000V	25	100	V	85	125	17	25	8	0.5	707	636	283
CA45T157#0025000E	25	150	E	85	125	17	38	10	0.6	524	472	210
CA45T157#0025000V	25	150	V	85	125	17	38	10	0.4	791	712	316
CA45T154#0035000A	35	0.15	A	85	125	23	0.5	4	15	71	64	28
CA45T224#0035000A	35	0.22	A	85	125	23	0.5	4	15	71	64	28
CA45T334#0035000A	35	0.33	A	85	125	23	0.5	4	10	87	78	35
CA45T474#0035000A	35	0.47	A	85	125	23	0.5	4	10	87	78	35
CA45T474#0035000B	35	0.47	B	85	125	23	0.5	4	6	119	107	48
CA45T684#0035000A	35	0.68	A	85	125	23	0.5	4	6	112	101	45
CA45T684#0035000B	35	0.68	B	85	125	23	0.5	4	4	146	131	58
CA45T105#0035000A	35	1	A	85	125	23	0.5	4	6	112	101	45
CA45T105#0035000B	35	1	B	85	125	23	0.5	4	2.5	184	166	74
CA45T155#0035000A	35	1.5	A	85	125	23	0.5	6	6	112	101	45
CA45T155#0035000B	35	1.5	B	85	125	23	0.5	6	2.5	184	166	74
CA45T155#0035000C	35	1.5	C	85	125	23	0.5	6	1.5	271	244	108
CA45T225#0035000A	35	2.2	A	85	125	23	0.8	6	5	122	110	49
CA45T225#0035000B	35	2.2	B	85	125	23	0.8	6	2.5	184	166	74
CA45T225#0035000C	35	2.2	C	85	125	23	0.8	6	1.5	271	244	108
CA45T335#0035000B	35	3.3	B	85	125	23	1.2	6	2.5	184	166	74
CA45T335#0035000C	35	3.3	C	85	125	23	1.2	6	2	235	211	94
CA45T475#0035000B	35	4.7	B	85	125	23	1.6	6	2	206	186	82
CA45T475#0035000C	35	4.7	C	85	125	23	1.6	6	1.8	247	222	99
CA45T475#0035000D	35	4.7	D	85	125	23	1.6	6	1.2	354	318	141
CA45T685#0035000B	35	6.8	B	85	125	23	2.4	6	1.8	217	196	87
CA45T685#0035000C	35	6.8	C	85	125	23	2.4	6	1.5	271	244	108
CA45T685#0035000D	35	6.8	D	85	125	23	2.4	6	1.2	354	318	141
CA45T106#0035000C	35	10	C	85	125	23	3.5	6	1.5	271	244	108
CA45T106#0035000D	35	10	D	85	125	23	3.5	6	1	387	349	155
CA45T106#0035000E	35	10	E	85	125	23	3.5	6	0.8	454	409	182
CA45T156#0035000C	35	15	C	85	125	23	5.3	6	1.5	271	244	108
CA45T156#0035000D	35	15	D	85	125	23	5.3	6	1	387	349	155
CA45T156#0035000E	35	15	E	85	125	23	5.3	6	0.8	454	409	182
CA45T226#0035000C	35	22	C	85	125	23	7.7	6	1.5	271	244	108

CA45 Chip Tantalum Capacitors (SMD Tantalum Capacitors)

◆ Table 3 Electrical Characteristics

Part Number	Rated Voltage	Nominal Capacitance	Case Code	Rated Temperature	Category Temperature	Category Voltage	Max DCL at +25°C	Max DF at +25°C 100Hz	Max ESR +25°CΩ 100KHz	Ripple Current (mA) 100KHz Max		
										25C	85C	125C
CA45T226#0035000D	35	22	D	85	125	23	7.7	6	0.8	433	390	173
CA45T226#0035000E	35	22	E	85	125	23	7.7	6	0.5	574	517	230
CA45T336#0035000D	35	33	D	85	125	23	12	6	1	387	349	155
CA45T336#0035000E	35	33	E	85	125	23	12	6	0.8	454	409	182
CA45T336#0035000V	35	33	V	85	125	23	12	6	0.5	707	636	283
CA45T476#0035000D	35	47	D	85	125	23	17	10	0.8	433	390	173
CA45T476#0035000E	35	47	E	85	125	23	17	10	0.6	524	472	210
CA45T476#0035000V	35	47	V	85	125	23	17	8	0.4	791	712	316
CA45T686#0035000E	35	68	E	85	125	23	24	8	0.7	486	437	194
CA45T686#0035000V	35	68	V	85	125	23	24	6	0.5	707	636	283
CA45T154#0050000A	50	0.15	A	85	125	33	0.5	4	15	71	64	28
CA45T154#0050000B	50	0.15	B	85	125	33	0.5	4	14	78	70	31
CA45T224#0050000A	50	0.22	A	85	125	33	0.5	4	15	71	64	28
CA45T224#0050000B	50	0.22	B	85	125	33	0.5	4	14	78	70	31
CA45T334#0050000A	50	0.33	A	85	125	33	0.5	4	10	87	78	35
CA45T334#0050000B	50	0.33	B	85	125	33	0.5	4	8	103	93	41
CA45T474#0050000B	50	0.47	B	85	125	33	0.5	4	6	119	107	48
CA45T474#0050000C	50	0.47	C	85	125	33	0.5	4	3	191	172	77
CA45T684#0050000A	50	0.68	A	85	125	33	0.5	4	6	112	101	45
CA45T684#0050000B	50	0.68	B	85	125	33	0.5	4	4	146	131	58
CA45T684#0050000C	50	0.68	C	85	125	33	0.5	4	3	191	172	77
CA45T105#0050000A	50	1	A	85	125	33	0.5	4	6	112	101	45
CA45T105#0050000B	50	1	B	85	125	33	0.5	6	2.5	184	166	74
CA45T105#0050000C	50	1	C	85	125	33	0.5	4	2	235	211	94
CA45T155#0050000B	50	1.5	B	85	125	33	0.8	8	2.5	184	166	74
CA45T155#0050000C	50	1.5	C	85	125	33	0.8	6	1.5	271	244	108
CA45T155#0050000D	50	1.5	D	85	125	33	0.8	6	1.2	354	318	141
CA45T225#0050000B	50	2.2	B	85	125	33	1.1	8	2.5	184	166	74
CA45T225#0050000C	50	2.2	C	85	125	33	1.1	6	2.5	210	189	84
CA45T225#0050000D	50	2.2	D	85	125	33	1.1	6	2.5	245	220	98
CA45T335#0050000C	50	3.3	C	85	125	33	1.7	6	2	235	211	94
CA45T335#0050000D	50	3.3	D	85	125	33	1.7	6	1.5	316	285	126
CA45T475#0050000C	50	4.7	C	85	125	33	2.4	6	1.8	247	222	99
CA45T475#0050000D	50	4.7	D	85	125	33	2.4	6	1.2	354	318	141
CA45T685#0050000C	50	6.8	C	85	125	33	3.4	6	1.5	271	244	108
CA45T685#0050000D	50	6.8	D	85	125	33	3.4	6	1.2	354	318	141
CA45T685#0050000E	50	6.8	E	85	125	33	3.4	6	1	406	366	162
CA45T106#0050000D	50	10	D	85	125	33	5	6	1	387	349	155
CA45T106#0050000E	50	10	E	85	125	33	5	6	0.8	454	409	182
CA45T106#0050000V	50	10	V	85	125	33	5	6	0.7	598	538	239
CA45T156#0050000D	50	15	D	85	125	33	7.5	6	1	387	349	155
CA45T156#0050000E	50	15	E	85	125	33	7.5	6	0.8	454	409	182
CA45T156#0050000V	50	15	V	85	125	33	7.5	6	0.7	598	538	239
CA45T226#0050000E	50	22	E	85	125	33	11	8	0.5	574	517	230
CA45T226#0050000V	50	22	V	85	125	33	11	8	0.4	791	712	316

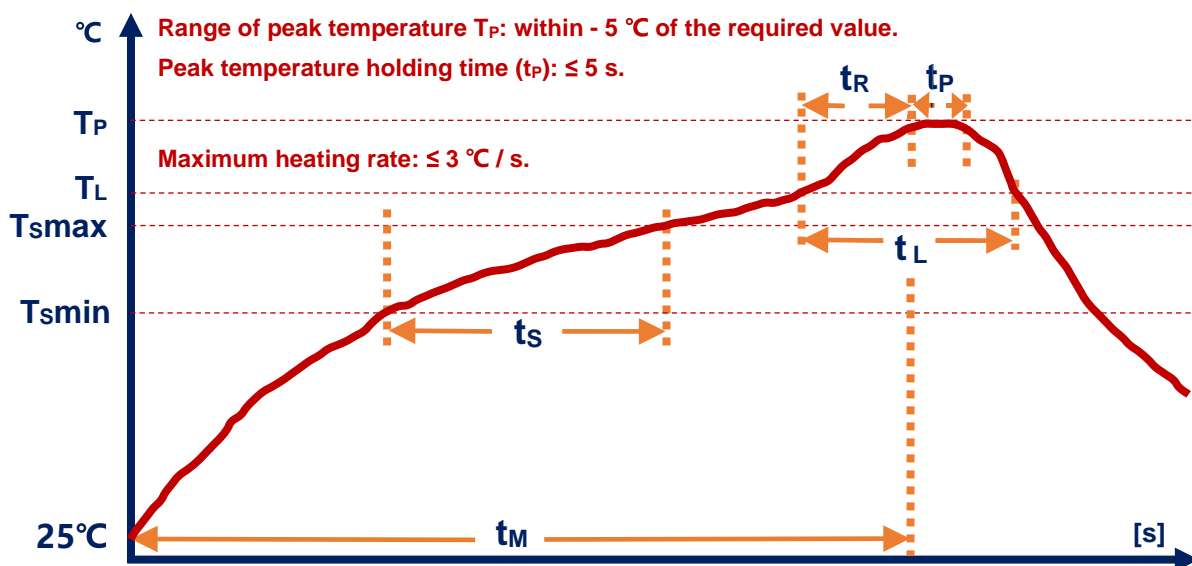
Important Note

1. Please do not use multimeter to test tantalum capacitors.
2. Capacitance and DF measured at :100Hz , $U_{-} = 2.2^{\circ} V$, $U_{\sim} = 1.0^{\circ} V$, Frequency = 100Hz. Test only applied to series equivalent circuit.
3. Please refer to derating voltage or category voltage if temperature $> 85^{\circ} C$
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.

1. Precautions for tantalum capacitor reflow soldering

The recommended reflow oven temperature setting for lead-free soldering is shown in the table below.

Equipment type	8 temperature zone		10 temperature zone	
	Upper	Lower	Upper	Lower
1 zone	120°C	120°C	100°C	100°C
2 zone	150°C	150°C	120°C	120°C
3 zone	160°C	160°C	150°C	150°C
4 zone	170°C	170°C	155°C	155°C
5 zone	200°C	200°C	160°C	160°C
6 zone	230°C	230°C	170°C	170°C
7 zone	250°C	250°C	200°C	200°C
8 zone	180°C	180°C	230°C	230°C
9 zone	/	/	250°C	250°C
10 zone	/	/	180°C	180°C



Solder type		Tin lead solder	Lead free solder
T_S Min	Minimum preheating temperature	100°C	150°C
T_S Max	Maximum preheating temperature	150°C	200°C
t_s	Preheating time	60~120s	60~120s
T_L ~ T_P	Heating rate	≤3°C/s	≤3°C/s
T_L	Melting point of solder paste	183°C	217°C
t_L	Melting time of solder paste	60~150s	60~150s
T_P	Peak temperature	220°C*/235°C**	245°C*/250°C**
t_p	Holding time of peak temperature (5°C~0°C)	≤10s	≤3s* or 5s**
T_P ~ T_L	Cooling rate	≤6°C/s	≤6°C/s
t_m	Time from 25 ° C to peak temperature	≤6 min	≤8 min

Note: All temperatures are based on product size and measure the ambient temperature at 1cm height above the PCB board.

*** corresponds to a, B, C shells and ** ** corresponds to other shell numbers.