

# Solid Electrolytic SMD Tantalum Capacitor

## 产品简介:

- CA45 系列电容器是烧结阳极，树脂模压封装的片式固体钽电解电容器。
- 体积小，重量轻，可靠性高，电性能优良。
- 适用于通讯设备，计算机，数码相机，仪器仪表等各种表面贴装电路。
- 执行标准：GB/T14122-93, Q/PWV601-2003

## Brief Introduction

- CA45 Series are designed and manufactured with the demanding requirements of SMT in mind.
- There are P, A, B, C, D, E six case codes.
- They have lower ESR Comparing with the dipped tantalum capacitors .
- The product is compatible with automatic pick and place equipment.
- Suitable for computer ,cell telephone, camera and other electronic SMT products .
- Meets the requirements of GB/T14122-93 and Q/PWV601-2003 standard.

## 主要性能:

- 温度范围: -55℃ ~ +125℃ (>85℃,施加降额电压使用)
- 电容量允许偏差范围: M=±20%, K=±10%, J=±5%
- 室温漏电流:  $I_0 \leq 0.01C_R U_R$  或者  $0.5\mu A$  (取大者)
- 外形尺寸: 见表 1

## General Characteristics:

- Operating temperature: -55℃ ~ +125℃ (>85℃,use derated voltage)
- Capacitance Tolerance: M=±20%, K=±10%, J=±5%
- DC leakage current(25℃):  $I_0 \leq 0.01C_R U_R$  or  $0.5\mu A$  (whichever is greater)
- Dimensions: see table 1.



## Drawing & Dimension 外形尺寸

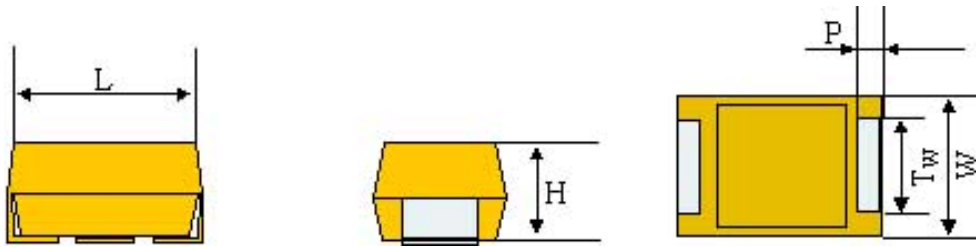


Table 1 / 表 1 Unit(mm) 单位 (毫米)

壳号 Code	简码 EIA Code	L	W	H	P	Tw
P	2012	2.0+/-0.2	1.25+/-0.2	1.2+/-0.2	0.55+/-0.3	1.1+/-0.1
A	3216	3.2+/-0.2	1.6+/-0.2	1.6+/-0.2	0.8+/-0.3	1.2+/-0.1
B	3528	3.5+/-0.2	2.8+/-0.2	1.9+/-0.2	0.8+/-0.3	2.2+/-0.1
C	6032	6.0+/-0.3	3.2+/-0.3	2.5+/-0.3	1.3+/-0.3	2.2+/-0.1
D	7343	7.3+/-0.3	4.3+/-0.3	2.8+/-0.3	1.3+/-0.3	2.4+/-0.1
E	7343	7.3+/-0.3	4.3+/-0.3	4.1+/-0.3	1.3+/-0.3	2.4+/-0.1

## Marking Specification 打印标识

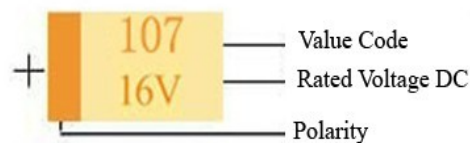
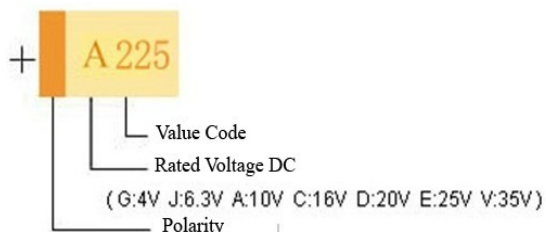
A case number 10V225

B、C、D、E case number 16V107

A 壳号打印 10V225

B、C、D、E 壳号打印 16V107

(G:4V J:6.3V A:10V C:16V D:20V E:25V V:35V H:40V T:50V)



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表 2 电性能一览表

Table 2 Electrical Feature

额定电压 $U_R$ (V) Rated Voltage		4	6.3	10	16	20	25	35	40	50
类别电压 $U_c$ (V) Derating Voltage		2.5	4	6.3	10	13	16	20	25	32
标称电容量 Capacitance $C_R$ ( $\mu$ F)	容量代 码 Code	外 壳 代 号 Case Size								
0.1	104							A	A	A
0.15	154							A	A	A
0.22	224							A	A	A
0.33	334						A	A	B/A	B/A
0.47	474					A	A	A	B/A	B/A
0.68	684				A	A	A	B/A	C/B	C/B
1	105			A	A	A	B/A	B/A	C/B	C/B
1.5	155		A	A	A	A	B/A	B/A	C/B	D/C
2.2	225	A	A	A	B/A	B/A	B/A	C/B	D/C	D/C
3.3	335	A	A	B/A	B/A	B/A	C/B	C/B	D/C	D/C
4.7	475	A	B/A	B/A	B/A	B/A	C/B	C/B	D/C	D/C
6.8	685	B/A	B/A	B/A	C/B/A	C/B	C/B	D/C	E/D	E/D
10	106	B/A	B/A	B/A	C/B/A	C/B	D/C/B	D/C	E/D	E
15	156	B/A	C/B/A	C/B/A	C/B	D/C/B	D/C	E/D	E	
22	226	C/B/A	C/B/A	C/B	D/C/B	D/C	D/C	E/D	E	
33	336	C/B	C/B/A	D/C/B	D/C	D/C	E/D	E		
47	476	D/C/B	C/B/A	D/C/B	E/D/C	E/D	E/D			
68	686	D/C/B	D/C/B	D/C	E/D/C	E/D	E			
100	107	D/C	D/C/B	E/D/C	E/D	E				
150	157	E/D/C	E/D/C	E/D	E	E				
220	227	E/D/C	E/D	E/D	E					
330	337	E/D	E/D	E						
470	477	E/D	E							
680	687	E								

## Solid Electrolytic SMD Tantalum Capacitor

**3 等效串联电阻值 ((Ω) Table 3 ESR value of capacitors (Ω)**

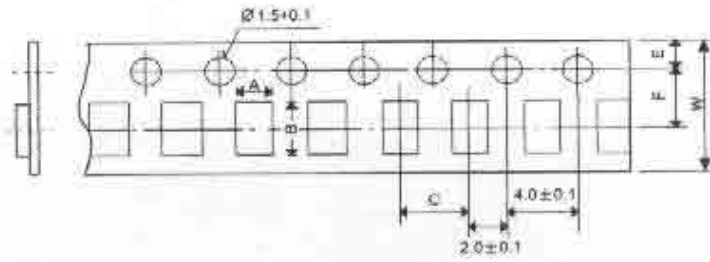
电容量 Capacitance		85℃ 额定电压 Rated voltage DC(V) to 85℃							
μF	代码 Code	4V(G)	6.3V(J)	10V(A)	16V(C)	20V(D)	25V(E)	35V(V)	50V(T)
0.1	104							24	22
0.15	154							21	17/15
0.22	224							18	14
0.33	334							15	12
0.47	474				25	25	14	10/12	8
0.68	684			30	25	12/25	10	8	7
1.0	105		14/25	13/25	11/20	9	7/8	6.5	5.5
1.5	155	30	12/25	10/25	8/12	5/6.5	5	4.5/5.2	4/4.5
2.2	225	25	9/20	7/15	5.5/6.5	3.5/5.3	4.5	3.5	2.5
3.3	335	9/20	7/12	5.5/10	4.5/5	2.5/2.8	2.8	2/2.5	2
4.7	475	7.5/10	6/7	4/5	3.5/4	1.8/2.0	2.4	1.5/2.2	1.4
6.8	685	6.5/7	4/5	3/4	2.5/3.5	1.3	1.4/2.0	1.3	1.2
10	106	4/6	3/4	2/3	2/2.8	1.1	1.2/1.8	1	0.9
15	156	3.5/4	3.3/4.0	2.2/2.8	1.8	0.9	1	0.9	0.9
22	226	3.2/3.5	2.5/3.5	1.8/2.5	1.1/1.6	0.9	0.9	0.9	
33	336	2.2/2.8	1.8/2	1.1/1.6	0.9/1.5	0.9	0.9	0.9	
47	476	1.8/2.2	1.6/2	0.9/1.2	0.9/1.4	0.9	0.9	0.9	
68	686	1.1/1.6	0.9/1.6	0.9	0.9	0.9	0.9		
100	107	0.9/1.3	0.9/1.4	0.9	0.9	0.9	0.9		
150	157	0.9	0.9	0.9	0.9				
220	227	0.9	0.9	0.9	0.9				
330	337	0.9	0.9	0.9	0.9				
470	477	0.9	0.9	0.9					
680	687	0.9	0.9	0.9					

**7 Reel Dimensions**

	Case size <sup>ρ</sup>	W <sup>ρ</sup>	Qty/reel (178mm) <sup>ρ</sup>	
	P <sup>ρ</sup>	8.4 <sup>ρ</sup>	+2 <sup>ρ</sup> 0 <sup>ρ</sup>	2500 <sup>ρ</sup>
	A、B <sup>ρ</sup>	8.4 <sup>ρ</sup>	+1.5 <sup>ρ</sup> 0 <sup>ρ</sup>	2000 <sup>ρ</sup>
	C、D <sup>ρ</sup>	12.4 <sup>ρ</sup>	+2 <sup>ρ</sup> 0 <sup>ρ</sup>	500 <sup>ρ</sup>
	E <sup>ρ</sup>	12.4 <sup>ρ</sup>	+2 <sup>ρ</sup>	400 <sup>ρ</sup>

## Solid Electrolytic SMD Tantalum Capacitor

### 8 Carrier Tape Dimension



Unit:(mm)

Case Code	W +/-0.3	F +/-0.1	E +/-0.1	P +/-0.1	P1 +/-0.1	P2 +/-0.1	D +0.1	D0(min)	T +/-0.03	A +/-0.2	B +/-0.2	K +/-0.2
P	8	3.5	1.75	4	2	4	φ1.5	φ1.0	0.2	1.6	2.4	1.4
A	8	3.5	1.75	4	2	4	φ1.5	φ1.0	0.2	1.9	3.5	1.9
B	8	3.5	1.75	4	2	4	φ1.5	φ1.0	0.3	3.3	3.8	2.1
C	12	5.5	1.75	8	2	4	φ1.5	φ1.0	0.3	3.7	6.4	3.0
D	12	5.5	1.75	8	2	4	φ1.5	φ1.0	0.3	4.8	7.7	3.3
E	12	5.5	1.75	8	2	4	φ1.5	φ1.0	0.3	4.6	7.6	3.3

### 9 How to order

(Part No. **GTCA45-105M035AT**)

GT	CA45	105	M	035	A	T
Brand Name	Type	Capacitance	Tolerance	DC voltage	Case Size	Packaging
Green Tech	Chip Tantalum Capacitor	105: 10X 10 <sup>5</sup> (pF) This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	J=+/-5% K=+/-10% M=+/-20%	Rated voltage 4V=004 6.3V=006 10V=010 16V=016 20V=020 25V=025 35V=035 50V=050	A:3.2*1.6 B:3.5*2.8 C:6.0*3.2 D:7.3*4.3 E:7.3*4.3 P:2.0*1.2	T= Tape and reel B=bulk pack

#### Notes:

- 1、Tantalum capacitors can't be measured by multimeter (Easily cause irreversible damage and lead to reject)
- 2、Capacitance, DF measure frequency: 100Hz, U=2.2<sub>0</sub>V, U<sub>L</sub>=1.0<sub>0.5</sub>V(effective value)
- 3、Measure leakage current above 85°C, please use derated voltage.
- 4、Special size and big capacitance products, please negotiate with us