

Solid Electrolyte Tantalum Chip Capacitor



AN018A—CA45 Series SMD type

- *small size, high capacitance, high reliability and excellent operation performances
- *is used for telecommunications,computers,camcorder,SMT electric circuits and so on
- *meets the requirements of EIA Standard 535BAAC.

DIMENSIONS---Millimeters

Table1 Unit:mm

| Case Size | L | W | H | S | Wi |
|-----------|---------|----------|-----------|---------|-----------|
| S | 2.0 0.2 | 1.20 0.2 | 1.20 0.2 | 0.5 0.3 | 1.2 + 0.1 |
| A | 3.2 0.2 | 1.6 0.2 | 1.6 0.2 | 0.8 0.3 | 1.2 + 0.1 |
| B | 3.5 0.2 | 2.8 0.2 | 1.9 0.2 | 0.8 0.3 | 2.2 0.1 |
| C | 6.0 0.3 | 3.2 0.3 | 2.5 0.3 | 1.3 0.3 | 2.2 0.1 |
| D | 7.3 0.3 | 4.3 0.3 | 2.8 . 0.3 | 1.3 0.3 | 2.4 0.1 |
| E | 7.3 0.3 | 4.3 0.3 | 4.0 0.3 | 1.3 0.3 | 2.4 0.1 |

Features:

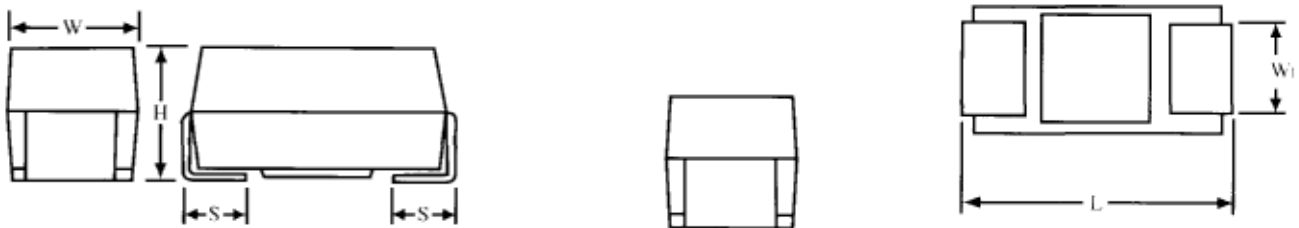
- Operating temperature Range:-55°C ~ +125°C
>85~°C with rated voltge derating.
- Capacitance tolerance: ±20%; 10% (for special order);
- DC leakage at 20C b ~ 0.01 CRUR or 0.5bA(Whicheve is greater).
- Dissipation factor at 20°C: Please See Table 3
- Dimensions, rated voltage and nominal capacitance:Plea see Table 1 & 2 and Figure 1
- Temperature characteristics:See Table 3
- ESR:See Table 4
- We can meet lead-free requirements requested by our customers who will stated specially when placing an orde

TEMPERATURE CHARACTERISTICS

Table3

| Capactanc (uF) | Cap. Change | | | DF Max. | | | | DCL Max. | |
|----------------|-------------|-------|--------|---------|-------|-------|--------|----------|--------|
| | -55°C | +85°C | +125°C | -55°C | +20°C | +85°C | +125°C | +85°C | +125°C |
| ≤1.0 | -10 | +10 | +12 | 6 | 4 | 6 | 6 | 10L | 12~ |
| 1.5-68 | | | | 10 | 6 | 10 | ~0 | | |
| 100470 | | | | 12 | 8 | 12 | 12 | | |

OUTLINE DRAWINGS: Figure 1

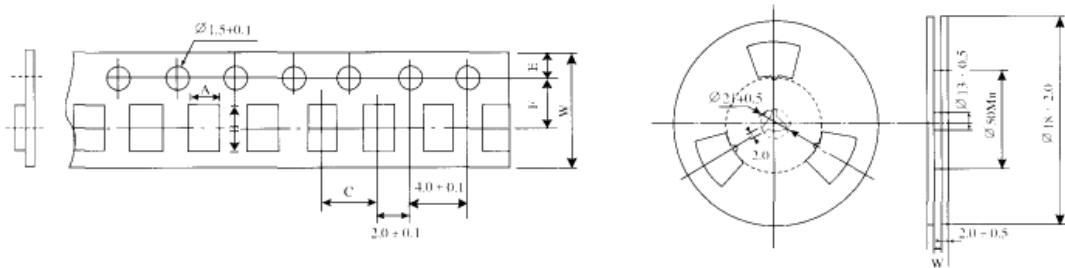


ESR (SL)

Table 4

| Voltage(V) | 4 | 6.3 | 10 | 16 | 20 | 25 | 35 | 50 |
|---|-------------|---------|---------|-----------|----------|---------|-----------|----------|
| Capacitance (Standard/Extended) (μF) | | | | | | | | |
| 0.1 | | | | | 25.0 | | 24.0 | 22.0 |
| 0.5 | | | | | 25.0 | | 21.0 | 7.0/15.1 |
| 0.22 | | | | | 25.0 | | iao | 14.0 |
| 0.33 | | | | | 25.0 | | 15.0 | 12.0 |
| 0.47 | | | | 25.0 | 25.0 | 14.0 | 10/12 | 8.0 |
| 0.68 | | | 30.0 | 25.0 | 12/25 | 10.0 | &0/10.0 | 7.0 |
| 1.0 | | 14/25 | 13/25 | 11/20 | 9.0 | 7/8 | 6.5/1 0.0 | 5.5 |
| 1.5 | 30.0 | 12/25 | 10.0/25 | 8.0/12.0 | 5/6.5 | 5.0 | 4.5/5.2 | 4.0/4.5 |
| 2.2 | 25.0 | 9/20 | 7.0/15 | 5.5/6.5 | 3.5/5.3 | 4.5 | 3.5/4.0 | 2.5 |
| 3.3 | 9/20 | 7.0/12 | 5.5/10 | 455080 | 253070 | 2.8/4.0 | 2025*3.0 | 2.0 |
| 4.7 | 7.5/10 | 6.0/7.0 | 4/5/15 | 3.5/4 | 283060 | 2.4/3.5 | 1.5/2.2 | 1.4/1.5 |
| 6.8 | 6.5/7.0 | 4/5/15 | 3/4 | 2535,5 | 1,820.35 | 1.4/2.0 | 1.3/2.0 | 0.9 |
| 10 | 4/6 | 3/4 | 2.5/3.0 | 2.0~2.8,s | 1 31.835 | 1.2/1.8 | 1.0/1.2 | 0.8 |
| 15 | 3.5/4 | 3.3/4.0 | 2.2/2.8 | 1.8/3.0 | ‘1.1/1.7 | 1.0/1.2 | 0.9 | |
| 22 | 3.2/3.5 | 2.5/3.5 | 1.8/2.4 | 1.1/1.6 | 0.9 | 0.9 | 0.9 | |
| 33 | 2.2/2.8 | 1.8/2.0 | 1,1/1.6 | 0.9/1.5 | 0.9 | 0.9/0.7 | | |
| 47 | 1.8/2.2 | 1 6/2 0 | 0.9/1.2 | 0,9/1.4 | 0.9/0.9 | 0.6 | | |
| 68 | 1.1/1.6/3.5 | 0.9/1.6 | 0.9 | 0.9 | 0.9/0.7 | | | |
| 100 | 0.9/1.3/2.5 | 0.9/1.4 | 0.9/1.3 | 0.9/0.7 | 0.5 | | | |
| 150 | 0.9 | 0.9 | 0.9 | 0.9 | | | | |
| 220 | 0.9 | 0.9/0.7 | 0.9/0.5 | 0.9 | | | | |
| 330 | 0.9 | 0.9/0.5 | 0.9 | | | | | |
| 470 | 0.9 | | | | | | | |

Tape and Reel Dimensions: Unit mm



| Case size | A±0.2 | B±0.2 | C±0.1 | E±0.1 | F±tJ.1 | W±0.3 |
|-----------|-------|-------|-------|-------|--------|-------|
| S | 1.6 | 2.4 | 4.0 | 1.75 | 3.5 | 8.0 |
| A | 1.9 | 3.5 | 4.0 | 1.75 | 3.5 | 8.0 |
| B | 3.1 | 3.8 | 4.0 | 1.75 | 3.5 | 8.0 |
| C | 3.6 | 6.4 | 8.0 | 1.75 | 5.5 | 12.0 |
| D | 4.7 | 7.7 | 8.0 | 1.75 | 5.5 | 12.0 |
| E | 4.6 | 7.6 | 8.0 | 1.75 | 5.5 | 12.0 |

| Case size | W | Qty. per reel |
|-----------|------------------|---------------|
| AB | +1.50 8.4 -0.00 | 2000 |
| CD | +2.00 12.4 -0.00 | 500 |
| E | +2.00 12.4 -0.00 | 500 |
| S | +2.00 12.4 -0.00 | 2500 |

CA45 Series Solid Electrolyte Tantalum Chip Capacitor

Note: Direct designation is used for case sizes B,C,D,E while code designation is used for case size A and S.

Rated Voltage Code

| | | | | | | | | |
|------------------|---|-----|----|----|----|----|----|----|
| (V)Rated Voltage | 4 | 6.3 | 10 | 16 | 20 | 25 | 35 | 50 |
| Voltage Code | G | J | A | C | D | E | V | H |

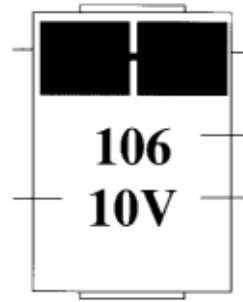
Capacitance Code

| | | | | | | |
|------------------|---|-----|-----|-----|-----|-----|
| Capacitance(uF) | 1 | 1.5 | 2.2 | 3.3 | 4.7 | 6.8 |
| Capacitance Code | A | E | J | N | S | W |

| | | | | |
|--------------|--------|--------|--------|--------|
| Multiplier | 10^4 | 10^5 | 10^6 | 10^7 |
| Second digit | 4 | 5 | 6 | 7 |

Exp.A6C: A represents nominal capacitance code, the second digit represents multiplier and the third digit represents rated voltage, that is: voltage 16V; Capacitance $1 \times 10^6 \text{pF}$, $16 \text{V} \times 1 \text{pF}$.

B, C, D, E Sizes



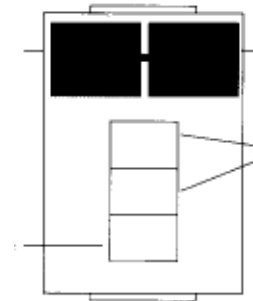
Ancol Trade Mark

Rated Voltage

Ancol Trade Mark

Rated Voltage Code

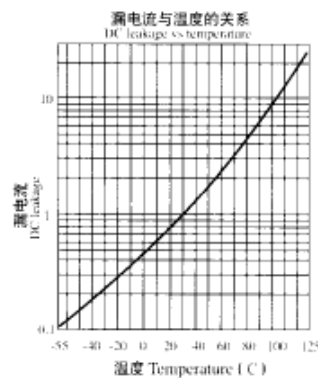
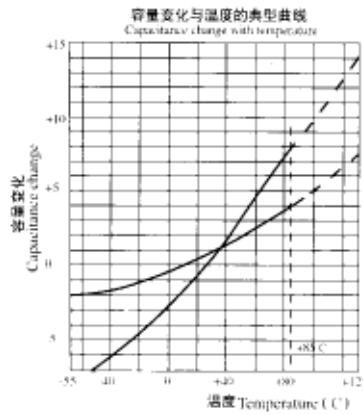
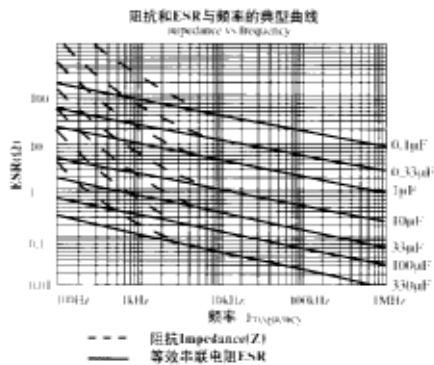
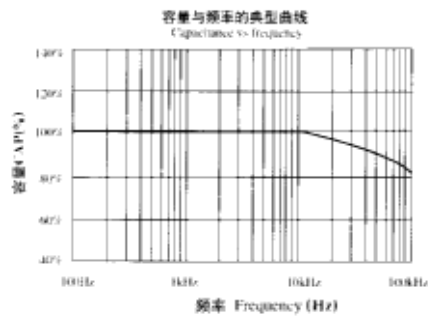
S, A Sizes



Polarity Indicator (+)

Capacitance Code

CHARACTERISTIC CURVE



How to order

Numbering System

AN CA□ □□□ □ □□□ □ □

① ② ③ ④ ⑤ ⑥ ⑦

- ① Company logo
- ② series
- ③ Capacitance Code
- ④ Tolerance
- ⑤ Rated DC Voltage
- ⑥ Case Size
- ⑦ Packaging

Note:

1 .For type recognition, series is expressed by three digits, that is : the first letters CA represent tantalum capacitors, 3rd digit represent series No. in case of no 3rd digit for specific product series, it is expressed by symbol “_”

2.Capacitance code: expressed in picofarad,1st two digits represent significant figures and 3rd digit represents multiplier (number of zeros to follow).

3. Capacitance tolerance code is listed as follows:

4. Rated DC Voltage Code is expressed in three digits.if voltage value is only two digits,1st digit is expressed in’0’.

5.Case Code is specified in specification sheets of the individual product series.

6. Packaging Code:

- B: Bulk
- T: Tape and Reel
- A: Ammo

EX: Series CA45Δc/c ± 20%,35V10μF,Tapedand Reeled,

CA451 06M035DT

Series CAΔc/c ± 20%,10V10μF,Bulk,CA-106M01 02B

Series CA301Δc/c ± 20%, 100V10μF, Bulk.CA301106M1001 B

7. For special order, other part number can be specified by users.

Allowable Tolerance Code of the Capacitance:

| Allowable Tolerance % | Tolerance Code | Allowable Tolerance % | Tolerance Code |
|-----------------------|----------------|-----------------------|----------------|
| ±0.1 | B | +100 -10 | H |
| ±0.25 | C | +100 -10 | R |
| ±0.5 | D | +50 -10 | T |
| ±1 | F | +30 -10 | Q |
| ±2 | G | +50 -20 | S |
| ±5 | J | +20 -20 | Z |
| ±10 | K | NotSpecified -20 | N/A |
| ±20 | M | | |