Specifications for Approval

NO.   Q/TANCAP.CA42.17-05-10

Product Name: CA42 DIPPED TANTALUM CAPACITORS

Customer:

Type and Specification:

Material Code of Customer :

WRITTEN	CHECKED	APPROVED
Zhang Wei	Xu Xin huai	XuSuling

Signature of Approval: Zhang Wei

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ITEM	CA42 DIPPED TANTALUM CAPACITORS

1.Scope:

This specification applies to CA42 DIPPED TANTALUM CAPACITORS produced by our factory for use in electronic equipments.

2.Standard:

Detail specification for electronic components type CA42 fixed tantalum capacitors with solid electrolyte Assessment level E GB7215-87.

3.Standand Testing Conditions:

Tests should be done at temperature 15-35℃, humidity of 45-75%RH, and pressure of 860-1060mbar .But in the case of a discrepancy ,the final decision should be made by the testing at temp of 25℃ ， humidity of 60-70%RH ,and pressure of 860-1060mbar.

4.Performance Characteristics:

Checking Item	Performance Characteristics	Testing Method
Marking Model	See page 3	Vernier Caliper 150×0.01mm
Appearance	Correct Marking 、 clear, No pinhole, No burr, No damage.	Visual examination
DC Leakage current	$I_0 \leq 0.02 C_R V_R$ or $1\mu A$ (Whichever is greater) $I_0 \leq 0.01 C_R V_R$ or $0.5\mu A$ (Whichever is greater, Special order)	DC leakage current is the current that, after a five minutes charging period , flows through a capacitor when voltage is measured at 25℃ with rated DC voltage applied to the capacitor through a 1000 ohm resistor in series with the capacitor.
Capacitance tolerance	K(±10%); M(±20%)	Testing frequency: 100Hz Testing voltage:0.3±0.02V
Dissipation factor	CAP≤1μf tgδ≤ 4%. 1.5-6.8μf tgδ≤ 6% 10-68μf tgδ≤ 8% CAP≥100μf tgδ≤ 10%	Testing frequency: 100Hz Testing voltage:0.3±0.02V

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Checking Item	Performance Characteristics	Testing method
Solderability	The dipped portion of the termination is at least 95% covered by a new solder coating.	Solder temperature:235±5℃ Immersion times:2±0.5s

Characteristics at high and low temperature	Capacitance (µF)	△C/C（%）			tgδ（%）(max)				I_0（µA）(max)	
		-55℃	+85℃	+125℃	-55℃	+25℃	+85℃	+125℃	+85℃	+125℃
	≤1.0	±10	±15	±25	6	4	6	6	$10I_0$	$12.5I_0$
	1.5-6.8				8	6	8	8		
	10-68				10	8	10	10		
	≥100				12	10	12	12		

Correct Use of Tantalum Capacitors

(1) Ripple Voltage

The ripple voltage that may be applied is limited by following criteria：
(a) The sum of DC voltage and peak value of the ripple voltage must not exceed the rated voltage.
(b) The negative peak value of the ripple voltage must not exceed the permissible reverse voltage value specified in the following section, Reverse Voltage.

2．Reverse Voltage

Because the solid tantalum capacitor is of polar type, do not apply a reverse voltage to it. If reverse voltage cannot be avoided, it must be applied for a short time and must not exceed the following values:
25℃…….10% max. of rated voltage or 1Vdc,whichever is smaller.
85℃…….5% max. of rated voltage or 0.5Vdc,whichever is smaller.
125℃…….1% max. of rated voltage or 0.1Vdc,whichever is smaller.
The capacitors should not be operated continuously in reverse mode, even within these limits.

3．Applied Voltage

(1) For general application, apply 70% or less of the rated voltage to the capacitor.
(2) When the capacitor is used in a power line or a low-impedance circuit, keep the applied voltage within 30% of the rated voltage to avoid the adverse influence of inrush current.
(3) Derated voltage at 85℃ or more.
(4) When using a tantalum capacitor at a temperature of 85℃ or higher, calculate reduced voltage UT from the following expression. Note, however, that the ambient temperature must not exceed 125℃

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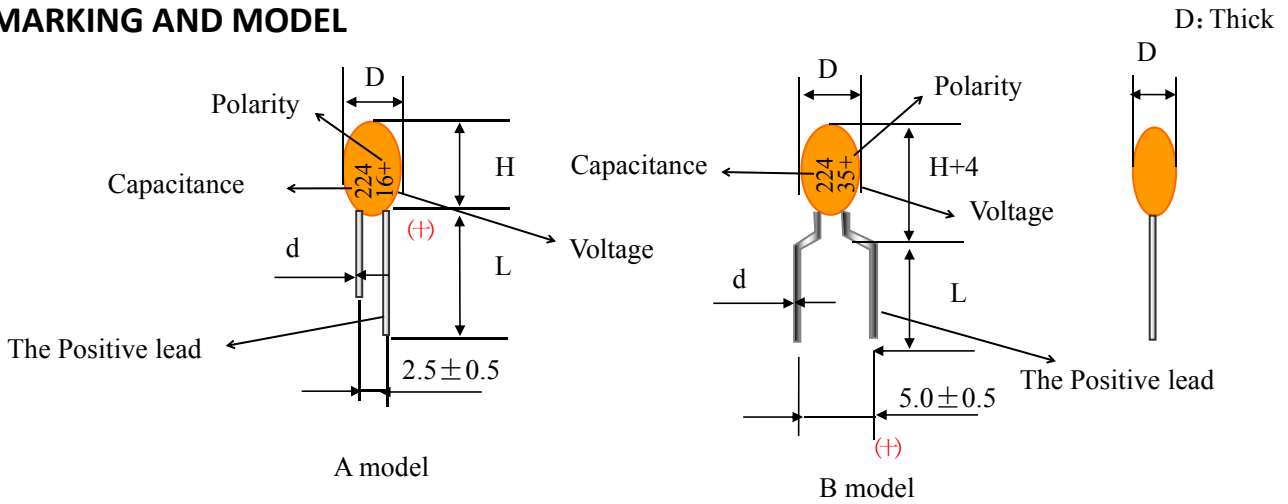$$UT=V0(UR-UC)(T-85)/40$$

Where:

UR: rated voltage (V)

UC: derated voltage at 125℃

T: ambient temperature (℃)

ITEM	CA42 DIPPED TANTALUM CAPACITORS

MARKING AND MODEL

A model

B model

D：Thick

RATING AND CASE CODE

Capacitance（μF）C_R	CODE	Rated Voltage U_R（Category Voltage U_C）						
		4 (2.5)	6.3 （4）	10 (6.3)	16 （10）	25 (16)	35 （20）	50 （32）
0.1	104						A	A
0.15	154						A	A
0.22	224						A	A
0.33	334						A	A
0.47	474						A	A
0.68	684						A	A
1.0	105				A	A	A	B
1.5	155				A	A	A	C
2.2	225			A	A	A	B	C
3.3	335		A	A	A	B	B	D
4.7	475	A	A	A	B	B	C	D
6.8	685	A	A	B	B	C	D	E
10	106	A	B	B	B	C	D	E
15	156	A	B	C	C	D	E	F
22	226	B	C	C	C	D	E	F
33	336	B	C	D	D	E	F	
47	476	C	D	D	D	E	F	
68	686	D	D	D	E	F		
100	107	D	E	E	E	F		
150	157	E	E	E	F			

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| 220 | 227 | E | E | F | | | | |
| 330 | 337 | F | F | | | | | |

☐ **How To Order**

Product description:

| CA42	106	M	035	A	B
Type	Capacitance (PF)	Tolerance	Rated Voltage	Leads Pitch	Packaging
Dipped Tantalum Capacitors	105 10×10^5 This is expressed in Pico farads. The first two digits are the significant figures. The third is the number of zeros to follow.	±5%（J） ±10%（K） ±20%（M）	4V=004 6.3V=006 10V=010 16V=016 20V=020 25V=025 35V=035 50V=050	A=2.5mm B=5.0MM	T=Tape and reel A=Ammo pack B=Bulk pack

Mimension UNIT: mm

Case Size	Dmax	Hmax	L(±1)	d(±0.05)
A	4.5	7.0	14	0.50
B	5.0	8.0	14	0.50
C	5.5	9.5	14	0.50
D	6.5	11.0	14	0.50
E	8.5	12.5	14	0.50
F	9.5	16	14	0.50

MARKING AND PACKAGING

☐ MARKING

Capacitance In pF code
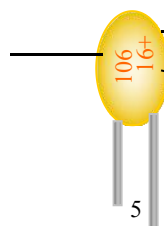
Polarity

Voltage

Polarity (longer)

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☐ Packaging tape:

B： Bulk
T： Reel
A： Ammo

☐ Dimension of tape and reel (Per specification IEC286-2)
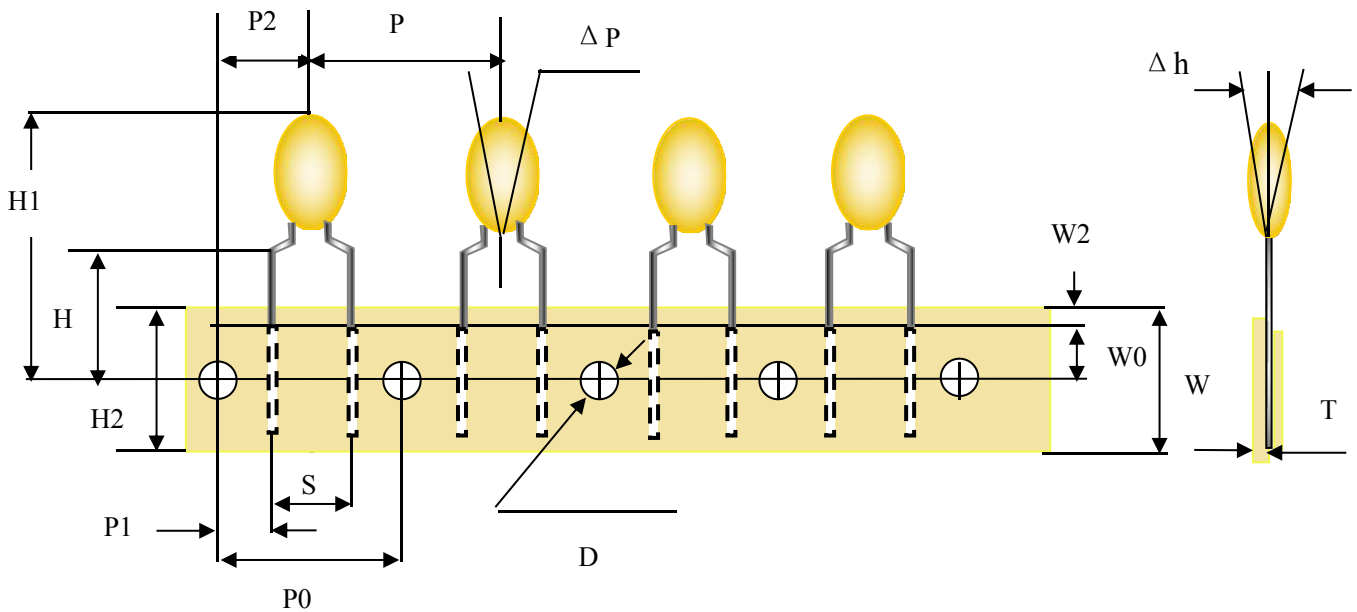
Symbol	Dimensions(mm)	Symbol	Dimensions(mm)	
P	12.7±1.0	D	4.0±0.2	
P0	12.7±0.3	T	0.5±0.2	
W	18(+1,-0.5)	Δh	0±2.0	
		H	16±0.5	
W0	5min	S	2.5±0.5	5.0±0.7
H2	9(+0.75,-0.5)	P1	5.10±0.5	3.85±0.7
W2	0(+1,0)	P2	6.35±0.4	
H1	32.5max	ΔP	±1.3max	

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