



Dipped Tantalum Capacitor



Chip Tantalum Capacitor

三泰 科技有限公司
Suntan Technology Company Limited

(Suntan Capacitors Company 三泰電容器公司)

TANTALUM CAPACITOR - DIPPED

RESIN COATED, INFLAMMABLE AND MOISTURE RESISTANT EPOXY POWDER

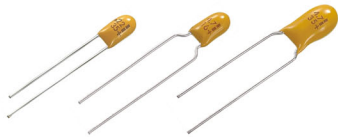
FEATURES

- TS19 Series are epoxy-coated solid electrolyte tantalum capacitors are encapsulated with flame-retardant yellow epoxy powder, marked with laser.
- TS19 meets and exceeds the requirements of IEC Specification 384-15-3, IECQ Specification QC300201/US0003 and Technical Specification SJJT10856-96.
- Highly used in military and civil applications, such as TV sets, camcorders, computers, program-controlled electronic telephone switching systems, telephones, instruments and meters.
- RoHS Compliance & Lead Free Terminations.

TS19

SPECIFICATIONS

Rated Voltage	D.C. 4V ~ 50V
Operating Temperature Range	-55°C to +125°C (>85°C with rated voltage derating.)
Capacitance Range	0.047µF to 680µF
Capacitance Tolerance	±20%(M), ±10%(K), ±5%(J) (For special order)
DC Leakage Current	$I_o \leq 0.02C \times V_s$ or 1 µA (25°C) (Whichever is greater)
Case Sizes and Dimensions	Please see Table 2
Dissipation Factor at 25°C	Please see Table 1
Temperature Characteristics	Please see Table 1



Temperature Characteristics

Table 1

Capacitance (µF)	Capacitance Change (%)			DF Max.(%)			DCL Max. (µA)			
	-55°C	+85°C	+125°C	-55°C	+25°C	+85°C	+125°C	+25°C	+85°C	+125°C
≤1.0	±10	±15	±25	6	4	6	6	I _o ≤ 0.02 C×V _s or 1µA whichever is greater	+10 I _o	+12.5 I _o
1.5 ~ 68				8	6	8	8			
10 ~ 68				10	8	10	10			
100 ~ 680				12	10	12	12			

Dimensions - Millimeters

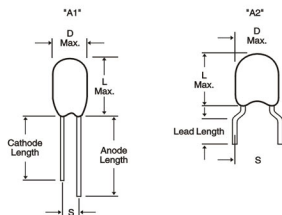
Table 2

Case Size	D (max)	L (max)	S (±1mm)	d (±0.05mm)
A	4.5	7.0	2.54	0.5
B	5.0	8.0	2.54	0.5
C	5.5	9.5	2.54	0.5
D	6.5	11.0	2.54	0.5
E	8.5	13.0	5.08	0.5
F	9.5	16.5	5.08	0.5

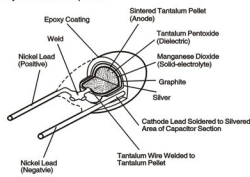
Rated Voltage, Nominal Capacitance and Case Sizes

Table 3

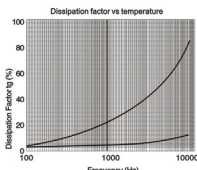
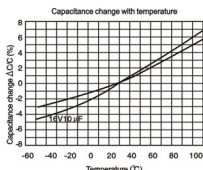
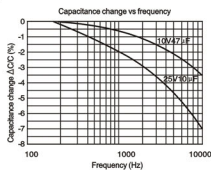
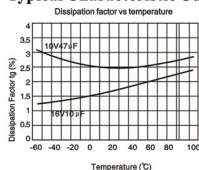
U _R	V	4	6.3	10	16	20	25	35	50
Durated Voltage ≤ +125°C(V)	2.7	4	7	10	15	17	23	33	33
Surge Voltage ≤ +85°C(V)	5	8	13	20	26	32	46	65	65
Capacitance (µF)	Case Size								
0.047								A	A
0.068								A	A
0.1								A	A
0.15								A	A
0.22								A	A
0.33								A	A
0.47								A	A
0.68								A	A
1.0					A	A	A	A	B
1.5					A	A	A	A	C
2.2				A	A	A	A	A	B
3.3			A	A	A	B	B	B	D
4.7	A	A	A	B	B	B	C	D	D
6.8	A	A	B	B	C	C	D	E	F
10	A	B	B	C	C	C	D	E	E
15	A	B	C	C	D	D	E	F	F
22	B	C	C	C	D	D	E	F	F
33	B	C	D	D	E	E	F	F	F
47	C	D	D	D	E	E	F	F	F
68	D	D	D	D	E	F	F	F	F
100	D	E	E	E	F	F	F	F	F
150	E	E	E	F	F	F	F	F	F
220	E	E	F	F	F	F	F	F	F
330	F	F	F	F	F	F	F	F	F
470	F	F	F	F	F	F	F	F	F
680	F	F	F	F	F	F	F	F	F



Sintered Cylindrical Epoxy-coated Solid Electrolyte Tantalum Capacitor



Typical Characteristic Curve



CHIP TANTALUM CAPACITOR - SMD

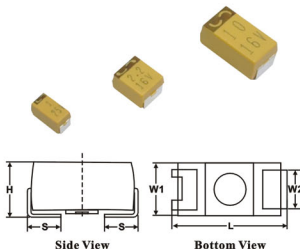
SOLID ELECTROLYTE, HIGH VOLUMETRIC EFFICIENCY, STABLE ELECTRIC PERFORMANCES

TS20

FEATURES

- Molded case available in six case codes.
- Compatible with all popular "High Volume" automatic pick and equipment.
- Optical character recognition qualified.
- RoHS Compliance & Lead Free Terminations.

SPECIFICATIONS	
Rated Voltage	D.C. 4V ~ 50V
Operating Temperature Range	-55°C to +125°C (>85°C with rated voltage derating.)
Capacitance Range	0.1µF to 470µF
Capacitance Tolerance	±20%(M), ±10%(K), ±5%(J) (For special order)
DC Leakage Current	$I_0 \leq 0.01C_0V_0$ or 0.5µA (Whichever is greater)
Load Life	85°C, After applying rated voltage for 2000 hours at 85°C, Capacitance change: within ±10% of the initial value Dissipation factor: Not more than 150% of the specified value
Case Sizes and Dimensions	Please see Table 2
Dissipation Factor at 25°C	Please see Table 1
Temperature Characteristics	Please see Table 1



Temperature Characteristics

Table 1

Capacitance (µF)	Capacitance Change (%)			DF Max. (%)				DCL Max. (µA)	
	-55°C	+85°C	+125°C	-55°C	+25°C	+85°C	+125°C	+85°C	+125°C
≤1.0	±10	±10	±12	6	4	6	6	+10 to	+12 to
1.5~68				10	6	10	10		
100~470				12	8	12	12		

Dimensions - Millimeters

Table 2

Case Size	L±0.3	W1±0.3	H±0.3	S±0.3	W2±0.2
P 2012	2.0	1.2	1.2	0.5	1.2
A 3216	3.2	1.6	1.6	0.8	1.2
B 3528	3.5	2.8	1.9	0.8	2.2
C 6032	6.0	3.2	2.5	1.3	2.2
D 7343	7.3	4.3	2.8	1.3	2.4
E 7343	7.3	4.3	4.0	1.3	2.4

Rated Voltage, Nominal Capacitance and Case Sizes

Table 3

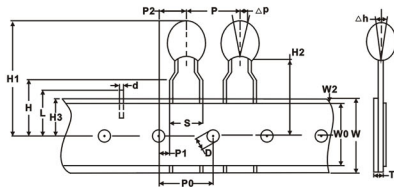
Ur	V	4	6.3	10	16	20	25	35	50
Voltage Derating (V)		2.5	4	6.3	10	13	16	23	33
Surge Voltage ≤ +85°C (V)		5	8	13	20	26	32	46	65
Surge Voltage ≤ +125°C (V)		3.4	5.0	9	12	16	20	26	38
Capacitance (µF)	Case Size (standard / miniature / Super miniature)								
0.1								A	A/B
0.15								A	A/B
0.22								A	A/B
0.33							A	A	A/B
0.47					P	P	A	A/B	A/C
0.68				P	A/P	A/P	A	A/B	A/C
1.0	A	A	A/P	A/P	A	A	A	A/B	C
1.5	A/P	A	A/P	A	A/B	A/B	A/B	A/B/C	D
2.2	A/P	A	A/P	A/B	A/B	A/B	A/B	B/C	C/D
3.3	A/P	A	A/P	A/B	A/B	A/B/C	A/B/C	C/D	D
4.7	A/P	A	A/B/P	A/B	A/B/C	B/C	C/D	C/D	D
6.8	A/P	A	A/B	A/B	B/C	B/C	C/D	C/D	D
10	A/P	A/B	A/B	A/B/C	B/C/D	B/C/D	C/D	C/D	D
15	A/B	A	A/B/C	B/C	C	C/D	D/E		
22	A/B	A/B/C	A/B/C	B/C/D	C/D	D			
33	B/C	A/B	B/C/D	C/D	C/D	D/E			
47	B/C	B/C	B/C/D	C/D	D/E	D/E			
68	B/C	B/C/D	C/D	D	D/E				
100	B/C	B/C	C/D	D/E					
150	C/D/E	C/D	D/E	E					
220	C/D/E	C/D	D						
330	E	D							

Marking code for case size P

TANTALUM CAPACITOR - SMD & DIPPED

PACKING INFORMATION & TYPICAL CHARACTERISTICS INFORMATION

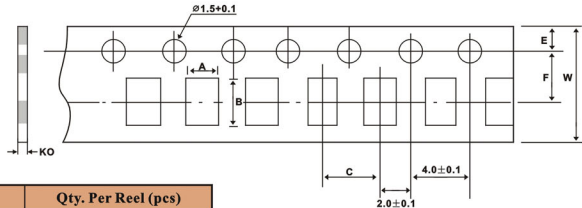
TS19



Designation	Symbol	Dimensions(mm)
Pitch of component	P	12.7±1.0
Feed hole pitch	P ₀	12.7±0.3
Tape width	W	18+1/-0.5
Hold down tape width	W ₀	12±0.5
Hole position	H ₃	9+0.75/-0.5
Hold down tape position	W ₂	3max.
Overall component height	H ₁	32.5max
Component alignment	ΔP	±1.3max
Feed hole diameter	D	4.0±0.3
Tape thickness	T	0.5±0.2
Component alignment	Δh	±2max
Length of snipped leads	L	11max
Lead clinch height	H	16±0.5
Lead wire spacing	S	2.5±0.5 5±0.5
Feed hole center to wire center	P ₁	5.10±0.5 3.85±0.7
Hole center to component center	P ₂	6.35±0.4
Component height	H ₂	18-22
Lead diameter	d	0.5±0.05

TS20

Tape and Reel Dimensions Unit : mm



Case Size	W(mm)	Qty. Per Reel (pcs)
A, B	8.4+1.50/-0.00	2000
C, D, E	12.4+2.00/-0.00	500
P	12.4+2.00/-0.00	3000

Case Size	A±0.2	B±0.2	C±0.1	E±0.1	F±0.1	W±0.3
P	1.4	2.2	4.0	1.75	3.5	8.0
A	1.9	3.5	4.0	1.75	3.5	8.0
B	3.3	3.9	4.0	1.75	3.5	8.0
C	3.7	6.4	8.0	1.75	5.5	12.0
D	4.8	7.7	8.0	1.75	5.5	12.0
E	4.8	7.7	8.0	1.75	5.5	12.0

