

## Solid Tantalum Chip Capacitors

### TANTAMOUNT<sup>®</sup>, Built-In-Fuse Miniature, Molded-Case

#### FEATURES

- Terminations: 100 % Matte Tin standard, Tin/Lead available
- Molded package available in three case codes
- Compatible with "High Volume" automatic pick and place
- Electrically activated internal fuse
- Meets EIA 535BAAC and IEC specification QC300801/US0001
- Fuse activation at 25 °C: 0.1 second max. with 5 A min. applied current
- 100 % surge current tested (D and E Case codes)



RoHS\*  
COMPLIANT



#### PERFORMANCE/ELECTRICAL CHARACTERISTICS

**Operating Temperature:** - 55 °C to + 125 °C

**Capacitance Range:** 0.47 µF to 470 µF

**Voltage Rating:** 4 VDC to 50 VDC

**Capacitance Tolerance:** ± 10 %, ± 20 %

**Note:** References

Molded Guide:

<http://www.vishay.com/docs/40074/molded.pdf>

Performance Characteristics:

<http://www.vishay.com/docs/40088/perfchar.pdf>

#### ORDERING INFORMATION

893D	106	X0	010	B	2WE3
TYPE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT + 85 °C	CASE CODE	TERMINATION AND PACKAGING
	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow	X9 = ± 10 % X0 = ± 20 %	This is expressed in V. To complete the three-digit block, zeros precede the voltage rating. A decimal point is indicated by an "R" (6R3 = 6.3 V)	See Ratings and Case Codes Table	2TE3: Matte Tin, 7" (178 mm) reel 2WE3: Matte Tin, 13" (330 mm) reel 8T: Tin/Lead, 7" (178 mm) reel 8W: Tin/Lead, 13" (330 mm) reel

#### Note:

We reserve the right to supply higher voltage ratings and tighter capacitance tolerance capacitors in the same size.

Voltage substitutions will be marked with the higher voltage rating.

Effective February 2008, Tin/Lead codes 2T and 2W will no longer be available. Tin/Lead replacement codes are 8T and 8W.

Available Matte Tin and Tin/Lead codes are shown in Termination and Packaging ordering information.

#### DIMENSIONS in inches [millimeters]

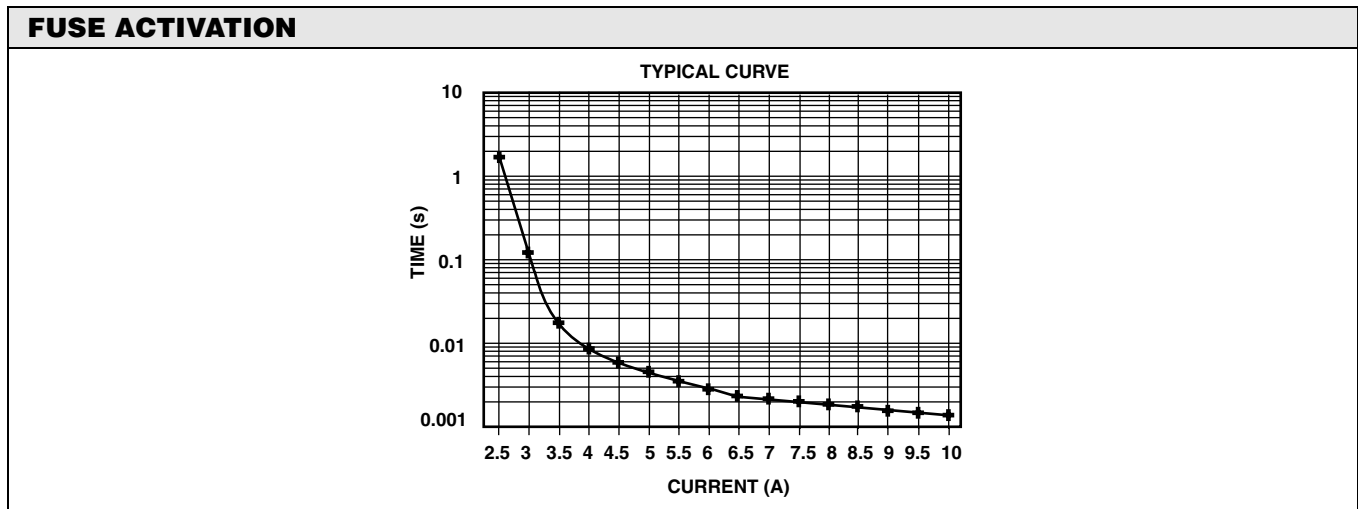
	EIA SIZE	L	W	H	P	T <sub>W</sub>	T <sub>H</sub> (MIN.)
C	6032 - 28	0.236 ± 0.012 [6.0 ± 0.30]	0.126 ± 0.012 [3.2 ± 0.30]	0.098 ± 0.012 [2.5 ± 0.30]	0.051 ± 0.012 [1.3 ± 0.30]	0.087 ± 0.004 [2.2 ± 0.10]	0.039 [1.0]
D	7343 - 31	0.287 ± 0.012 [7.3 ± 0.30]	0.170 ± 0.012 [4.3 ± 0.30]	0.110 ± 0.012 [2.8 ± 0.30]	0.051 ± 0.012 [1.3 ± 0.30]	0.095 ± 0.004 [2.4 ± 0.10]	0.039 [1.0]
E	7343 - 43	0.287 ± 0.012 [7.3 ± 0.30]	0.170 ± 0.012 [4.3 ± 0.30]	0.158 ± 0.012 [4.0 ± 0.30]	0.051 ± 0.012 [1.3 ± 0.30]	0.095 ± 0.004 [2.4 ± 0.10]	0.039 [1.0]

\* Pb containing terminations are not RoHS compliant

RATINGS AND CASE CODES								
μF	4 V	6.3 V	10 V	16 V	20 V	25 V	35 V	50 V
0.47								C
0.68								C
1.0								C
1.5							C	C
2.2						D	C	C/D
3.3						C	C	C/D
4.7					C	C	C/D	D
6.8				C	C	C	D	D/E
10			C	C	C	C/D	D	
15		C	C	C	C/D	D	D/E	
22		C	C	C/D	D	D/E	E	
33		C	C/D	C/D	D/E	E		
47		C/D	C/D	D/E	E			
68	C	C/D	D/E	D	E			
100	C	D/E	D	E				
150	D	D	D/E					
220	D	D/E	E					
330	D/E	E						
470	E							

### CONSTRUCTION AND MARKING

**Marking:** Capacitors shall be marked with an anode polarity band, capacitance (in microfarads) and the rated DC working voltage 85 °C. The capacitance voltage will be separated by the letter "F" indicating a fused capacitor. Units rated at 6.3 V shall be marked as 6 V.





RATINGS AND PART NUMBER REFERENCE						
CAPACITANCE ( $\mu$ F)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE AT + 25 °C ( $\mu$ A)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{rms}$ (A)
<b>4 VDC AT + 85 °C, 2.7 VDC AT + 125 °C</b>						
68	C	893D686(1)004C(2)	2.7	6	1.4	0.28
100	C	893D107(1)004C(2)	4.0	8	0.8	0.37
150	D	893D157(1)004D(2)	6.0	8	0.6	0.50
220	D	893D227(1)004D(2)	8.8	8	0.6	0.50
330	D	893D337(1)004D(2)	13.2	15	0.6	0.50
330	E	893D337(1)004E(2)	13.2	8	0.5	0.57
470	E	893D477(1)004E(2)	18.8	16	0.5	0.57
<b>6.3 VDC AT + 85 °C, 4 VDC AT + 125 °C</b>						
15	C	893D156(1)6R3C(2)	0.9	6	1.8	0.25
22	C	893D226(1)6R3C(2)	1.1	6	1.8	0.25
33	C	893D336(1)6R3C(2)	1.6	6	1.4	0.28
47	C	893D476(1)6R3C(2)	2.3	6	1.3	0.29
47	D	893D476(1)6R3D(2)	2.3	6	0.9	0.41
68	C	893D686(1)6R3C(2)	3.3	6	0.8	0.37
68	D	893D686(1)6R3D(2)	3.3	6	0.7	0.46
100	D	893D107(1)6R3D(2)	4.8	8	0.7	0.46
100	E	893D107(1)6R3E(2)	6.0	8	0.7	0.49
150	D	893D157(1)6R3D(2)	9.0	8	0.6	0.50
220	D	893D227(1)6R3D(2)	13.2	8	0.6	0.50
220	E	893D227(1)6R3E(2)	13.2	8	0.5	0.57
330	E	893D337(1)6R3E(2)	19.8	8	0.5	0.57
<b>10 VDC AT + 85 °C, 7 VDC AT + 125 °C</b>						
10	C	893D106(1)010C(2)	1.0	6	1.8	0.25
15	C	893D156(1)010C(2)	1.5	6	1.8	0.25
22	C	893D226(1)010C(2)	2.2	6	1.4	0.28
33	C	893D336(1)010C(2)	3.3	6	1.3	0.29
33	D	893D336(1)010D(2)	3.3	6	0.9	0.41
47	C	893D476(1)010C(2)	4.7	6	1.0	0.33
47	D	893D476(1)010D(2)	4.7	6	0.7	0.46
68	D	893D686(1)010D(2)	6.8	6	0.7	0.46
68	E	893D686(1)010E(2)	6.8	6	0.7	0.49
100	D	893D107(1)010D(2)	10	8	0.6	0.50
150	D	893D157(1)010D(2)	15.0	8	0.6	0.50
150	E	893D157(1)010D(2)	15.0	8	0.5	0.57
220	E	893D227(1)010E(2)	22	8	0.5	0.57
<b>16 VDC AT + 85 °C, 10 VDC AT + 125 °C</b>						
6.8	C	893D685(1)016C(2)	1.1	6	2.0	0.23
10	C	893D106(1)016C(2)	1.6	6	1.8	0.25
15	C	893D156(1)016C(2)	2.4	6	1.4	0.28
22	C	893D226(1)016C(2)	3.5	6	1.3	0.29
22	D	893D226(1)016D(2)	3.5	6	0.9	0.41
33	C	893D336(1)016C(2)	5.3	6	1.0	0.33
33	D	893D336(1)016D(2)	5.3	6	0.7	0.46
47	D	893D476(1)016D(2)	7.5	6	0.7	0.46
47	E	893D476(1)016E(2)	7.5	6	0.7	0.49
68	D	893D686(1)016D(2)	10.9	6	0.6	0.50
100	E	893D107(1)016E(2)	16	8	0.6	0.52

**Notes:**

- (1) Capacitance tolerance: Specify "X9" for 10 % and "X0" for 20 %  
(2) Termination and packaging: Specify 2TE3 or 2WE3 for lead (Pb)-free and 8T or 8W for Tin/Lead



Solid Tantalum Chip Capacitors  
TANTAMOUNT®, Built-In-Fuse Miniature, Molded-Case

Vishay Sprague

<b>RATINGS AND PART NUMBER REFERENCE</b>						
CAPACITANCE ( $\mu$ F)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE AT + 25 °C ( $\mu$ A)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT+ 25 °C 100 kHz ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{rms}$ (A)
<b>20 VDC AT + 85 °C, 13 VDC AT + 125 °C</b>						
4.7	C	893D475(1)020C(2)	0.9	6	2.0	0.22
6.8	C	893D685(1)020C(2)	1.4	6	1.9	0.24
10	C	893D106(1)020C(2)	2.0	6	1.6	0.26
15	C	893D156(1)020C(2)	3.0	6	1.4	0.28
15	D	893D156(1)020D(2)	3.0	6	0.9	0.41
22	D	893D226(1)020D(2)	4.4	6	0.7	0.46
33	D	893D336(1)020D(2)	6.6	6	0.7	0.46
33	E	893D336(1)020E(2)	6.6	6	0.7	0.49
47	E	893D476(1)020E(2)	9.4	6	0.6	0.52
68	E	893D686(1)020E(2)	13.6	6	0.6	0.52
<b>25 VDC AT + 85 °C, 17 VDC AT + 125 °C</b>						
2.2	C	893D225(1)025C(2)	0.9	6	2.8	0.21
3.3	C	893D335(1)025C(2)	0.8	6	2.3	0.22
4.7	C	893D475(1)025C(2)	1.2	6	1.9	0.24
6.8	C	893D685(1)025C(2)	1.7	6	1.6	0.26
10	C	893D106(1)025C(2)	2.5	6	1.4	0.28
10	D	893D106(1)025D(2)	2.5	6	1.0	0.39
15	D	893D156(1)025D(2)	3.8	6	0.8	0.43
22	D	893D226(1)025D(2)	5.5	6	0.7	0.46
22	E	893D226(1)025E(2)	5.5	6	0.7	0.49
33	E	893D336(1)025E(2)	8.3	6	0.6	0.52
<b>35 VDC AT + 85 °C, 23 VDC AT + 125 °C</b>						
1.5	C	893D155(1)035C(2)	0.5	6	3.8	0.17
2.2	C	893D225(1)035C(2)	0.8	6	2.9	0.20
3.3	C	893D335(1)035C(2)	1.2	4	2.0	0.23
4.7	C	893D475(1)035C(2)	1.6	6	1.8	0.25
4.7	D	893D475(1)035D(2)	1.6	6	1.2	0.35
6.8	D	893D685(1)035D(2)	2.4	6	1.0	0.39
10	D	893D106(1)035D(2)	3.5	6	0.8	0.43
15	D	893D156(1)035D(2)	5.3	6	0.7	0.46
15	E	893D156(1)035E(2)	5.3	6	0.7	0.49
22	E	893D226(1)035E(2)	7.7	6	0.6	0.52
<b>50 VDC AT + 85 °C, 33 VDC AT + 125 °C</b>						
0.47	C	893D474(1)050C(2)	0.5	4	6.7	0.13
0.68	C	893D684(1)050C(2)	0.5	4	5.9	0.14
1.0	C	893D105(1)050C(2)	0.5	4	4.4	0.16
1.5	C	893D155(1)050C(2)	0.8	6	3.2	0.19
2.2	C	893D225(1)050C(2)	1.1	6	2.8	0.20
2.2	D	893D225(1)050D(2)	1.1	6	2.1	0.27
3.3	C	893D335(1)050C(2)	1.7	6	2.4	0.21
3.3	D	893D335(1)050D(2)	1.7	6	1.6	0.31
4.7	D	893D475(1)050D(2)	2.4	6	1.1	0.37
6.8	D	893D685(1)050D(2)	3.4	6	0.9	0.41
6.8	E	893D685(1)050E(2)	3.4	6	0.9	0.43

**Notes:**

- (1) Capacitance tolerance: Specify "X9" for 10 % and "X0" for 20 %  
(2) Termination and packaging: Specify 2TE3 or 2WE3 for lead (Pb)-free and 8T or 8W for Tin/Lead



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