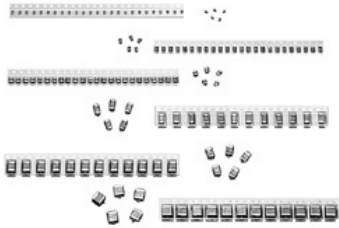


## Solid Tantalum Chip Capacitors TANTAMOUNT<sup>®</sup>, Conformal Coated


**FEATURES**

- Pad compatible with 194D and MIL-C-556365/4 (CWR06)
- 8 mm, 12 mm 16 mm Tape to EIA-481-2 and reeling per IEC 286-3. 7" [178 mm] standard 13" [330 mm] available.
- Terminations: Tin (2) standard


**RoHS\***  
COMPLIANT

**PERFORMANCE CHARACTERISTICS**
**Operating Temperature:** - 55 °C to + 85 °C  
(To + 125 °C with voltage derating)

**Note:** Refer to Doc. 40088

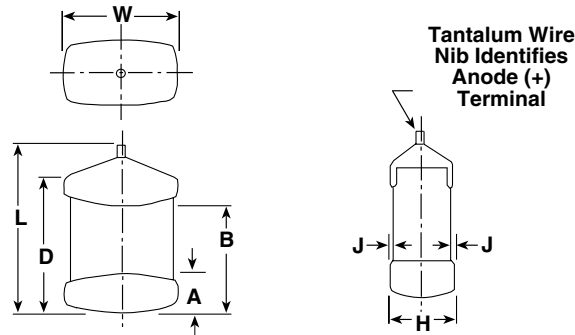
**Capacitance Range:** 0.1 µF to 270 µF

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

**Voltage Rating:** 4 WVDC to 50 WVDC

**ORDERING INFORMATION**

695D	475	X0	004	A	2	T
TYPE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT + 85 °C	CASE CODE	TERMINATION	PACKAGING
	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	<b>X0 = ± 20 %</b> <b>X9 = ± 10 %</b>	This is expressed in volts. To complete the three-digit block, zeros precede the voltage rating.	See Ratings and Case Codes Table	<b>2 = 100 % Tin</b> 4 = Gold Plated 8 = Solder Plated (60/40) Special Order	<b>T = Tape and Reel</b> <b>7" [178 mm] Reel</b> W = 13" [330 mm] Reel (1/2 reel minimum) See Tape and Reel Specifications
<b>Note:</b> Preferred Tolerance and reel sizes are in bold. We reserve the right to supply higher voltage ratings and tighter capacitance tolerance capacitors in the same case size. Voltage substitutions will be marked with the higher voltage rating.						

**DIMENSIONS** in inches [millimeters]


CASE CODE	L (MAX.)	D (REF.)	W	H	A	B	J (MAX.)
A	0.135 [3.4]	0.100 [2.54]	0.050 ± 0.015 [1.27 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.023 ± 0.010 [0.584 ± 0.25]	0.067 ± 0.015 [1.70 ± 0.38]	0.004 [0.10]
B	0.185 [4.7]	0.150 [3.81]	0.050 ± 0.015 [1.27 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.040 ± 0.015 [1.02 ± 0.38]	0.120 ± 0.015 [3.05 ± 0.38]	0.004 [0.10]
D	0.185 [4.7]	0.140 [3.56]	0.095 ± 0.015 [2.41 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.040 ± 0.015 [1.02 ± 0.38]	0.110 ± 0.020 [2.79 ± 0.51]	0.004 [0.10]
E	0.235 [6.0]	0.200 [5.08]	0.095 ± 0.015 [2.41 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.040 ± 0.015 [1.02 ± 0.38]	0.170 ± 0.020 [4.32 ± 0.51]	0.004 [0.10]
F	0.255 [6.5]	0.220 [5.59]	0.135 ± 0.015 [3.43 ± 0.38]	0.070 ± 0.015 [1.78 ± 0.38]	0.040 ± 0.015 [1.02 ± 0.38]	0.185 ± 0.020 [4.70 ± 0.51]	0.004 [0.10]
G	0.300 [7.6]	0.260 [6.60]	0.100 ± 0.015 [2.54 ± 0.38]	0.100 ± 0.015 [2.54 ± 0.38]	0.040 ± 0.015 [1.02 ± 0.38]	0.220 ± 0.020 [5.59 ± 0.51]	0.004 [0.10]
H	0.303 [7.7]	0.265 [6.73]	0.150 ± 0.015 [3.81 ± 0.38]	0.110 ± 0.015 [2.79 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.220 ± 0.020 [5.59 ± 0.51]	0.004 [0.10]

**Note:** The anode termination (D less B) will be a minimum of 0.010" (0.3 mm). T Case = 0.005 (0.13 mm) minimum.

\* Pb containing terminations are not RoHS compliant, exemptions may apply



RATINGS AND CASE CODES								
µF	4 V	6 V	10 V	15 V	20 V	25 V	35 V	50 V
0.10								A
0.15								A
0.22							A	B
0.33							A	B
0.47						A	B	D
0.68						A	B	D
1.0					A	B	D	D
1.5				A	B	D	D	E
2.2				A	B	D	E	F
3.3			A	B	D	D	F	F
4.7	A	A	B	D	D	E	F	G
6.8	B	B	D	D	E	F	F	H
10	B	D	D	D	F	F	G	H
15	D	D	D	E	F	G	H	
22	D	D	E	F	G	H		
33	E	E	F	F	G	H		
47	F	F	F	G	H			
68	F	F	G	H				
100	F	G	G	H				
120	G	G	H					
150	G	H	H					
180	H	H						
220	H	H						
270	H							

STANDARD/EXTENDED RATINGS							
CAPACITANCE (µF)	CASE CODE	PART NUMBER*	MAX. DCL AT + 25 °C (µA)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz (Ohms)	MAX. RIPPLE 100 kHz I <sub>rms</sub> (Amps)	
<b>4 WVDC AT + 85 °C, SURGE = 5.2 V . . . 2.7 WVDC AT + 125 °C, SURGE = 3.4 V</b>							
4.7	A	695D475X_004A2T	0.5	6	11	0.07	
6.8	B	695D685X_004B2T	0.5	6	9.0	0.09	
10	B	695D106X_004B2T	0.5	6	8.5	0.09	
15	D	695D156X_004D2T	0.6	6	2.2	0.20	
22	D	695D226X_004D2T	0.9	6	2	0.21	
33	E	695D336X_004E2T	1.3	6	1.5	0.25	
47	F	695D476X_004F2T	1.9	6	1.0	0.33	
68	F	695D686X_004F2T	2.7	6	0.9	0.35	
100	F	695D107X_004F2T	4.0	8	0.9	0.35	
120	G	695D127X_004G2T	4.8	8	0.7	0.41	
150	G	695D157X_004G2T	6.0	8	0.65	0.43	
180	H	695D187X_004H2T	7.2	8	0.40	0.61	
220	H	695D227X_004H2T	8.8	8	0.35	0.65	
270	H	695D277X_004H2T	10.8	8	0.35	0.65	
<b>6 WVDC AT + 85 °C, SURGE = 8 V . . . 4 WVDC AT + 125 °C, SURGE = 5 V</b>							
4.7	A	695D475X_006A2T	0.5	6	11	0.07	
6.8	B	695D685X_006B2T	0.5	6	9.0	0.07	

\* For 10 % tolerance, specify "9"; for 20 % tolerance, change to "0".



Solid Tantalum Chip Capacitors  
TANTAMOUNT® Conformal Coated

Vishay Sprague

<b>STANDARD/EXTENDED RATINGS</b>						
<b>CAPACITANCE (<math>\mu</math>F)</b>	<b>CASE CODE</b>	<b>PART NUMBER*</b>	<b>MAX. DCL AT + 25 °C (<math>\mu</math>A)</b>	<b>MAX. DF AT + 25 °C 120 Hz (%)</b>	<b>MAX. ESR AT + 25 °C 100 kHz (Ohms)</b>	<b>MAX. RIPPLE 100 kHz I<sub>rms</sub> (Amps)</b>
<b>6 WVDC AT + 85 °C, SURGE = 8 V . . . 4 WVDC AT + 125 °C, SURGE = 5 V</b>						
10	D	695D106X_006D2T	0.6	6	8.5	0.1
15	D	695D156X_006D2T	0.9	6	2.2	0.2
22	D	695D226X_006D2T	1.3	6	2.0	0.32
33	E	695D336X_006E2T	2.0	6	1.5	0.25
47	F	695D476X_006F2T	2.8	6	1.0	0.33
68	F	695D686X_006F2T	4.1	6	0.9	0.35
100	G	695D107X_006G2T	6.0	8	0.9	0.37
120	G	695D127X_006G2T	7.2	8	0.7	0.41
150	H	695D157X_006H2T	9.0	8	0.65	0.48
180	H	695D187X_006H2T	10.8	8	0.40	0.61
220	H	695D227X_006H2T	13.2	8	0.35	0.65
<b>10 WVDC AT + 85 °C, SURGE = 13 V . . . 7 WVDC AT + 125 °C, SURGE = 8 V</b>						
3.3	A	695D335X_010A2T	0.5	6	11.5	0.07
4.7	B	695D475X_010B2T	0.5	6	10.6	0.08
6.8	D	695D685X_010D2T	0.7	6	2.6	0.18
10	D	695D106X_010D2T	1.0	6	2.5	0.18
15	D	695D156X_010D2T	1.5	6	2.2	0.20
22	E	695D226X_010E2T	2.2	6	2.0	0.22
33	F	695D336X_010F2T	3.3	6	1.2	0.30
47	F	695D476X_010F2T	4.7	6	1.0	0.33
68	G	695D686X_010G2T	6.8	6	0.75	0.40
100	G	695D107X_010G2T	10	8	0.75	0.40
120	H	695D127X_010H2T	12	8	0.45	0.58
150	H	695D157X_010H2T	15	8	0.40	0.61
<b>15 WVDC AT + 85 °C, SURGE = 20 V . . . 10 WVDC AT + 125 °C, SURGE = 12 V</b>						
1.5	A	695D155X_015A2T	0.5	6	14	0.07
2.2	A	695D225X_015A2T	0.5	6	12	0.07
3.3	B	695D335X_015B2T	0.5	6	10.8	0.08
4.7	D	695D475X_015D2T	0.7	6	2.8	0.17
6.8	D	695D685X_015D2T	1	6	2.6	0.18
10	D	695D106X_015D2T	1.5	6	2.5	0.18
15	E	695D156X_015E2T	2.3	6	2.3	0.20
22	F	695D226X_015F2T	3.3	6	1.4	0.28
33	F	695D336X_015F2T	5	6	1.2	0.30
47	G	695D476X_015G2T	7.1	6	0.8	0.39
68	H	695D686X_015H2T	10.2	6	0.5	0.55
100	H	695D107X_015H2T	15	8	0.45	0.58
<b>20 WVDC AT + 85 °C, SURGE = 26 V . . . 13 WVDC AT + 125 °C, SURGE = 16 V</b>						
1.0	A	695D105X_020A2T	0.5	4	15	0.06
1.5	B	695D155X_020B2T	0.5	6	12	0.08
2.2	B	695D225X_020B2T	0.5	6	11	0.08
3.3	D	695D335X_020D2T	0.7	6	3.0	0.17

\* For 10 % tolerance, specify "9"; for 20 % tolerance, change to "0".

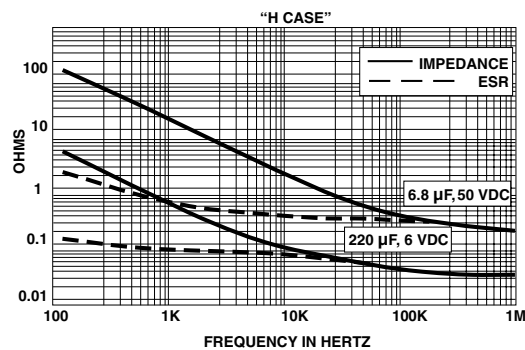
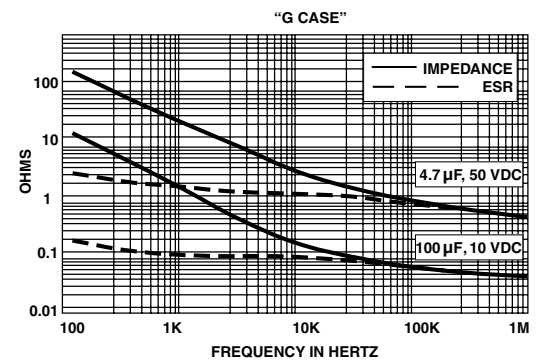
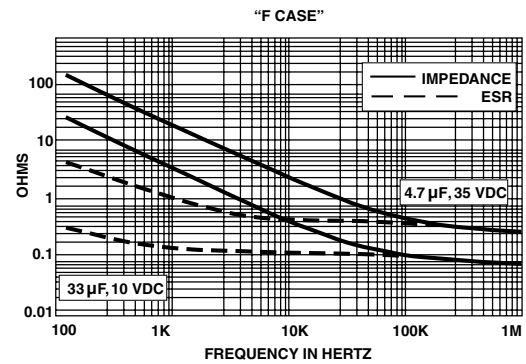
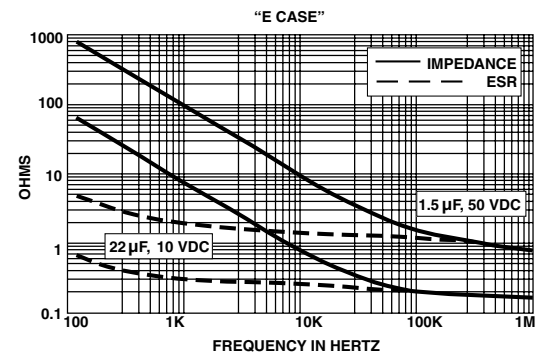
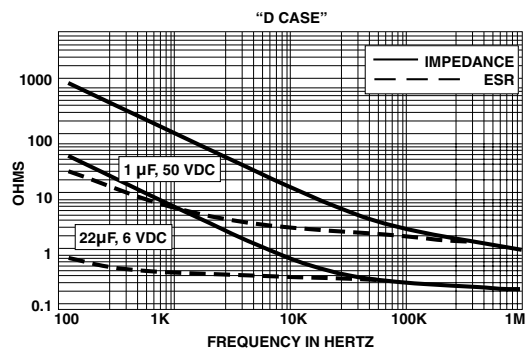
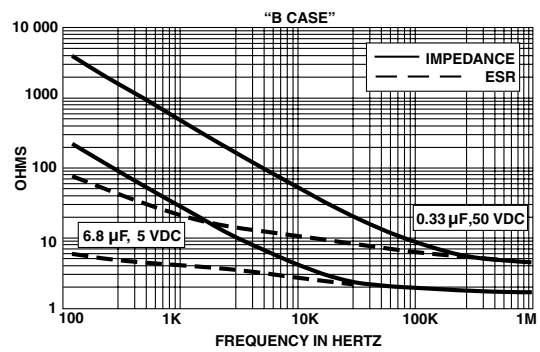
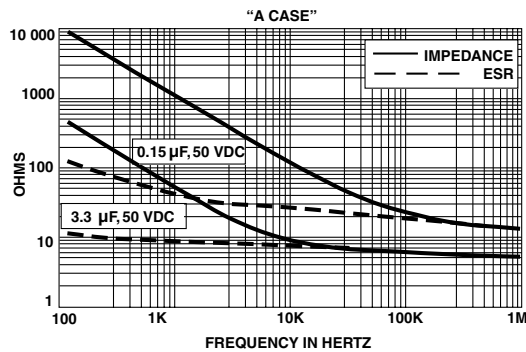


<b>STANDARD/EXTENDED RATINGS</b>						
CAPACITANCE ( $\mu$ F)	CASE CODE	PART NUMBER*	MAX. DCL AT + 25 °C ( $\mu$ A)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz (Ohms)	MAX. RIPPLE 100 kHz I <sub>rms</sub> (Amps)
<b>20 WVDC AT + 85 °C, SURGE = 26 V . . . 13 WVDC AT + 125 °C, SURGE = 16 V</b>						
4.7	D	695D475X_020D2T	0.9	6	2.8	0.17
6.8	E	695D685X_020E2T	1.4	6	2.55	0.19
10	F	695D106X_020F2T	2.0	6	1.8	0.25
15	F	695D156X_020F2T	3.0	6	1.5	0.27
22	G	695D226X_020G2T	4.4	6	0.9	0.37
33	G	695D336X_020G2T	6.6	6	0.8	0.39
47	H	695D476X_020H2T	9.4	6	0.5	0.55
<b>25 WVDC AT + 85 °C, SURGE = 32 V . . . 17 WVDC AT + 125 °C, SURGE = 20 V</b>						
0.47	A	695D474X_025A2T	0.5	4	17	0.06
0.68	A	695D684X_025A2T	0.5	4	15	0.06
1.0	B	695D105X_025B2T	0.5	4	13	0.08
1.5	D	695D155X_025D2T	0.5	6	4.2	0.14
2.2	D	695D225X_025D2T	0.6	6	3.5	0.16
3.3	D	695D335X_025D2T	0.8	6	3.0	0.17
4.7	E	695D475X_025E2T	1.2	6	2.75	0.19
6.8	F	695D685X_025F2T	1.7	6	2.0	0.23
10	F	695D106X_025F2T	2.5	6	1.8	0.25
15	G	695D156X_025G2T	3.8	6	1.0	0.35
22	H	695D226X_025H2T	5.5	6	0.7	0.46
33	H	695D336X_025H2T	8.3	6	0.8	0.50
<b>35 WVDC AT + 85 °C, SURGE = 46 V . . . 23 WVDC AT + 125 °C, SURGE = 28 V</b>						
0.22	A	695D224X_035A2T	0.5	4	20	0.05
0.33	A	695D334X_035A2T	0.5	4	18	0.06
0.47	B	695D474X_035B2T	0.5	4	15	0.07
0.68	B	695D684X_035B2T	0.5	4	14	0.07
1.0	D	695D105X_035D2T	0.5	4	8.0	0.10
1.5	D	695D155X_035D2T	0.5	6	4.2	0.14
2.2	E	695D225X_035E2T	0.8	6	4.0	0.15
3.3	F	695D335X_035F2T	1.2	6	3.2	0.19
4.7	F	695D475X_035F2T	1.6	6	2.7	0.20
6.8	F	695D685X_035F2T	2.4	6	2.0	0.23
10	G	695D106X_035G2T	3.5	6	1.3	0.30
15	H	695D156X_035H2T	5.3	6	0.8	0.43
<b>50 WVDC AT + 85 °C, SURGE = 65 V . . . 33 WVDC AT + 125 °C, SURGE = 38 V</b>						
0.10	A	695D104X_050A2T	0.5	4	32	0.04
0.15	A	695D154X_050A2T	0.5	4	30	0.04
0.22	B	695D224X_050B2T	0.5	4	18	0.06
0.33	B	695D334X_050B2T	0.5	4	16	0.07
0.47	D	695D474X_050D2T	0.5	4	9.0	0.10
0.68	D	695D684X_050D2T	0.5	4	8.5	0.10
1.0	D	695D105X_050D2T	0.5	4	8.0	0.10
1.5	E	695D155X_050E2T	0.8	6	5.5	0.13
2.2	F	695D225X_050F2T	1.1	6	3.9	0.17
3.3	F	695D335X_050F2T	1.7	6	3.2	0.19
4.7	G	695D475X_050G2T	2.4	6	2.5	0.22
6.8	H	695D685X_050H2T	3.4	6	1.2	0.35
10	H	695D106X_050H2T	5.0	6	1.0	0.39

\* Preliminary values, contact factory for availability. For 10 % tolerance, specify "9"; for 20 % tolerance, change to "0".



**TYPICAL CURVES AT + 25 °C, IMPEDANCE AND ESR VS. FREQUENCY**





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