

Distributed by:

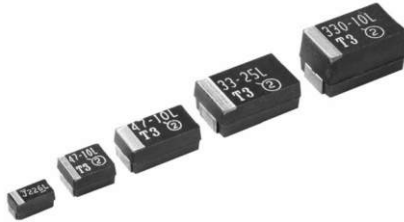
JAMECO[®]
ELECTRONICS

www.Jameco.com ♦ 1-800-831-4242

The content and copyrights of the attached
material are the property of its owner.

Jameco Part Number 1931165

Solid Tantalum Surface Mount Capacitors TANTAMOUNT® Molded Case, Standard Industrial Grade



FEATURES

- Terminations: 100 % matte tin, standard, tin/lead available
- Compliant terminations
- Molded case available in six case codes
- Compatible with "High Volume" automatic pick and place equipment
- Optical character recognition qualified
- Meets IEC Specification QC300801/US0001 and EIA535BAAC mechanical and performance requirements



RoHS*
COMPLIANT

PERFORMANCE/ELECTRICAL CHARACTERISTICS

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

Note: Refer to Doc. 40088

Capacitance Range: 0.10 µF to 1000 µF

Capacitance Tolerance: ± 5 %, ± 10 %, ± 20 %

100 % Surge Current Tested (D and E Case Codes)

Voltage Rating: 4 VDC to 50 VDC

ORDERING INFORMATION

293D TYPE	107 CAPACITANCE	X9 CAPACITANCE TOLERANCE	010 DC VOLTAGE RATING AT + 85 °C	D CASE CODE	2WE3 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.	X0 = ± 20 % X9 = ± 10 % X5 = ± 5 %	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

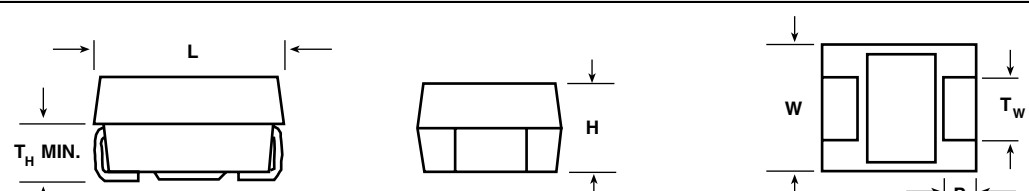
Notes:

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.

Effective July 15, 2008, part numbers with solderable termination codes "2T" and "2W" may have either matte tin or tin/lead terminations. Codes 2TE3 and 2WE3 specify only matte tin terminations. Codes 8T and 8W specify only tin/lead terminations.

DIMENSIONS in inches [millimeters]

							
CASE CODE	EIA SIZE	L	W	H	P	T _w	T _H MIN.
A	3216-18	0.126 ± 0.008 [3.2 ± 0.20]	0.063 ± 0.008 [1.6 ± 0.20]	0.063 ± 0.008 [1.6 ± 0.20]	0.031 ± 0.012 [0.80 ± 0.30]	0.047 ± 0.004 [1.2 ± 0.10]	0.028 [0.70]
B	3528-21	0.138 ± 0.008 [3.5 ± 0.20]	0.110 ± 0.008 [2.8 ± 0.20]	0.075 ± 0.008 [1.9 ± 0.20]	0.031 ± 0.012 [0.80 ± 0.30]	0.087 ± 0.004 [2.2 ± 0.10]	0.028 [0.70]
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]
V	7343-20	0.287 ± 0.012 [7.3 ± 0.30]	0.170 ± 0.012 [4.3 ± 0.30]	0.079 max. [2.0 max.]	0.051 ± 0.012 [1.3 ± 0.30]	0.095 ± 0.004 [2.4 ± 0.10]	0.039 [1.0]

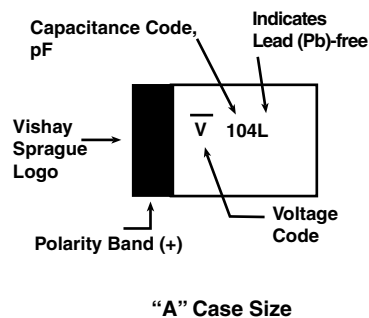
* Pb containing terminations are not RoHS compliant, exemptions may apply

RATINGS AND CASE CODES

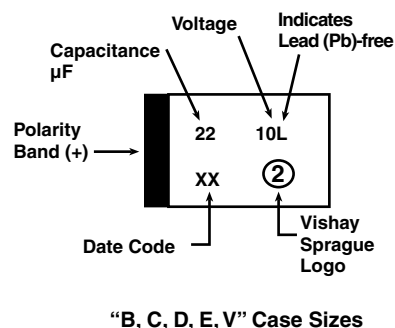
μF	4 V	6.3 V	10 V	16 V	20 V	25 V	35 V	50 V
0.10							A	A
0.15							A	A/B
0.22							A	A/B
0.33							A	A/B
0.47						A	A/B	A/B/C
0.68					A	A	A/B	B/C
1.0				A	A	A/B	A/B	B/C
1.5			A	A	A	A/B	B/C	B/C
2.2		A	A	A/B	A/B	A/B	B/C	C/D
3.3	A	A	A	A/B	A/B	A/B/C	B/C	C/D
4.7	A	A/B	A/B	A/B	A/B/C	A/B/C	B/C/D	D
6.8	A	A/B	A/B	A/B/C	A/B/C	B/C	C/D	D/E
10	A/B	A/B/C	A/B/C	A/B/C	B/C	B/C/D	C/D	D/E
15	A/B	A/B/C	A/B/C	B/C	B/C/D	B/C/D	D/E	
22	A/BC	A/B/C	A/B/C	B/C/D	B/C/D	C/D/V	D/E	
33	A/B/C	A/B/C	B/C/D	B/C/D	C/D	D/E		
47	A/B/C	A/B/C/D	B/C/D	C/D	D/E	D/E		
68	B/C/D	B/C/D	B/C/D/V	D	D/E			
100	A/B/C/D	B/C/D/V	C/D/V	D/E	E			
150	B/C/D	C/D/E	D/E	D/E				
220	B/C/D/E	C/D/E	D/E	E				
330	D/E	D/E	D/E					
470	D/E	D/E	E					
680	E	E						
1000	E							

Note:

- Preliminary values, contact factory for availability.

MARKING**"A" CASE VOLTAGE CODE**

4.0	G
6.3	J
10	A
16	C
20	D
25	E
35	V
50	T

**Marking:**

Capacitor marking includes an anode (+) polarity band, capacitance in microfarads and the voltage rating. "A" Case capacitors use a letter code for the voltage and EIA capacitance code.

The Vishay Sprague® trademark is included if space permits. Capacitors rated at 6.3 V are marked 6 V.

A manufacturing date code is marked on all capacitors.

Call the factory for further explanation.



Solid Tantalum Surface Mount Capacitors
TANTAMOUNT® Molded Case, Standard Industrial Grade

Vishay Sprague

RATINGS AND PART NUMBER REFERENCE						
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE AT + 25 °C (μ A)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz (Ω)	MAX. RIPPLE 100 kHz I_{rms} (A)
4 VDC AT + 85 °C, 2.7 VDC AT + 125 °C						
3.3	A	293D335(1)004A(2)	0.5	6	7.6	0.10
4.7	A	293D475(1)004A(2)	0.5	6	6.3	0.11
6.8	A	293D685(1)004A(2)	0.5	6	5.5	0.12
10	A	293D106(1)004A(2)	0.5	6	5.1	0.12
10	B	293D106(1)004B(2)	0.5	6	3.5	0.16
15	A	293D156(1)004A(2)	0.6	6	3.4	0.15
15	B	293D156(1)004B(2)	0.6	6	2.9	0.17
22	A	293D226(1)004A(2)	0.9	6	2.9	0.16
22	B	293D226(1)004B(2)	0.9	6	2.5	0.18
22	C	293D226(1)004C(2)	0.9	6	1.8	0.25
33	A	293D336(1)004A(2)	1.3	6	2.9	0.16
33	B	293D336(1)004B(2)	1.3	6	2.0	0.21
33	C	293D336(1)004C(2)	1.3	6	1.8	0.25
47	A	293D476(1)004A(2)	1.9	14	2.5	0.17
47	B	293D476(1)004B(2)	1.9	6	1.9	0.21
47	C	293D476(1)004C(2)	1.9	6	1.8	0.25
68	B	293D686(1)004B(2)	2.7	6	1.9	0.21
68	C	293D686(1)004C(2)	2.7	6	1.4	0.28
68	D	293D686(1)004D(2)	2.7	6	0.8	0.43
100	A	293D107(1)004A(2)	10.0	30	2.5	0.22
100	B	293D107(1)004B(2)	4.0	8	1.8	0.22
100	C	293D107(1)004C(2)	4.0	6	0.8	0.37
100	D	293D107(1)004D(2)	4.0	6	0.7	0.46
150	B	293D157(1)004B(2)	6.0	14	1.6	0.23
150	C	293D157(1)004C(2)	6.0	12	0.7	0.40
150	D	293D157(1)004D(2)	6.0	8	0.6	0.50
220	B	293D227X0004B(2)	8.8	18	1.5	0.24
220	C	293D227(1)004C(2)	8.8	8	0.7	0.40
220	D	293D227(1)004D(2)	8.8	8	0.6	0.50
220	E	293D227(1)004E(2)	8.8	8	0.5	0.57
330	D	293D337(1)004D(2)	13.2	8	0.6	0.50
330	E	293D337(1)004E(2)	13.2	8	0.5	0.57
470	D	293D477(1)004D(2)	18.8	10	0.6	0.50
470	E	293D477(1)004E(2)	18.8	10	0.5	0.57
680	E	293D687(1)004E(2)	27.2	12	0.5	0.57
1000	E	293D108X0004E(2)	40.0	20	0.5	0.57
6.3 VDC AT + 85 °C, 4 VDC AT + 125 °C						
2.2	A	293D225(1)6R3A(2)	0.5	6	7.6	0.10
3.3	A	293D335(1)6R3A(2)	0.5	6	6.3	0.11
4.7	A	293D475(1)6R3A(2)	0.5	6	5.5	0.12
6.8	A	293D685(1)6R3A(2)	0.5	6	5.0	0.12
6.8	B	293D685(1)6R3B(2)	0.5	6	3.4	0.16
10	A	293D106(1)6R3A(2)	0.6	6	3.4	0.15
10	B	293D106(1)6R3B(2)	0.6	6	2.9	0.17
15	A	293D156(1)6R3A(2)	0.9	6	2.9	0.16
15	B	293D156(1)6R3B(2)	0.9	6	2.5	0.18
15	C	293D156(1)6R3C(2)	0.9	6	1.8	0.25
22	A	293D226(1)6R3A(2)	1.3	6	2.9	0.16
22	B	293D226(1)6R3B(2)	1.3	6	2.0	0.21
22	C	293D226(1)6R3C(2)	1.3	6	1.8	0.25
33	A	293D336(1)6R3A(2)	2.0	14	2.5	0.17
33	B	293D336(1)6R3B(2)	2.0	6	1.9	0.21
33	C	293D336(1)6R3C(2)	2.0	6	1.5	0.27
47	A	293D476(1)6R3A(2)	2.8	12	1.6	0.22
47	B	293D476(1)6R3B(2)	2.8	6	1.9	0.21
47	C	293D476(1)6R3C(2)	2.8	6	1.4	0.28

Notes:

- (1) Tolerance: X0, X9, X5
- (2) Terminations and packaging: 2TE3, 2WE3, 8T, 8W

RATINGS AND PART NUMBER REFERENCE						
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE AT + 25 °C (μ A)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz (Ω)	MAX. RIPPLE 100 kHz I_{rms} (A)
6.3 VDC AT + 85 °C, 4 VDC AT + 125 °C						
47	D	293D476(1)6R3D(2)	2.8	6	0.8	0.43
68	B	293D686(1)6R3B(2)	4.1	6	1.8	0.22
68	C	293D686(1)6R3C(2)	4.1	6	0.8	0.37
68	D	293D686(1)6R3D(2)	4.1	6	0.7	0.46
100	B	293D107(1)6R3B(2)	6.0	15	1.7	0.22
100	C	293D107(1)6R3C(2)	6.0	6	0.8	0.37
100	D	293D107(1)6R3D(2)	6.0	6	0.7	0.46
100	V	293D107(1)6R3V(2)	6.0	8	0.7	0.42
150	C	293D157(1)6R3C(2)	9.0	8	0.7	0.40
150	D	293D157(1)6R3D(2)	9.0	8	0.6	0.50
150	E	293D157(1)6R3E(2)	9.0	8	0.5	0.57
220	C	293D227(1)6R3C(2)	13.9	14	0.7	0.39
220	D	293D227(1)6R3D(2)	13.2	8	0.6	0.50
220	E	293D227(1)6R3E(2)	13.2	8	0.5	0.57
330	D	293D337(1)6R3D(2)	19.8	8	0.6	0.50
330	E	293D337(1)6R3E(2)	19.8	8	0.5	0.57
470	D	293D477X06R3D(2)	28.2	14	0.5	0.55
470	E	293D477(1)6R3E(2)	28.2	10	0.5	0.57
680	E	293D687X06R3E(2)	42.8	20	0.5	0.57
10 VDC AT + 85 °C, 7 VDC AT + 125 °C						
1.5	A	293D155(1)010A(2)	0.5	6	8.0	0.10
2.2	A	293D225(1)010A(2)	0.5	6	6.3	0.11
3.3	A	293D335(1)010A(2)	0.5	6	5.5	0.12
4.7	A	293D475(1)010A(2)	0.5	6	5.0	0.12
4.7	B	293D475(1)010B(2)	0.5	6	3.4	0.16
6.8	A	293D685(1)010A(2)	0.7	6	4.2	0.13
6.8	B	293D685(1)010B(2)	0.7	6	2.9	0.17
10	A	293D106(1)010A(2)	1.0	6	3.4	0.15
10	B	293D106(1)010B(2)	1.0	6	2.5	0.18
10	C	293D106(1)010C(2)	1.0	6	1.8	0.25
15	A	293D156(1)010A(2)	1.5	6	2.9	0.16
15	B	293D156(1)010B(2)	1.5	6	2.0	0.21
15	C	293D156(1)010C(2)	1.5	6	1.8	0.25
22	A	293D226(1)010A(2)	2.2	8	2.5	0.17
22	B	293D226(1)010B(2)	2.2	6	1.9	0.21
22	C	293D226(1)010C(2)	2.2	6	1.5	0.27
33	B	293D336(1)010B(2)	3.3	6	1.9	0.21
33	C	293D336(1)010C(2)	3.3	6	1.4	0.28
33	D	293D336(1)010D(2)	3.3	6	0.8	0.43
47	B	293D476(1)010B(2)	4.7	6	1.8	0.22
47	C	293D476(1)010C(2)	4.7	6	1.1	0.32
47	D	293D476(1)010D(2)	4.7	6	0.7	0.46
68	B	293D686(1)010B(2)	6.8	14	1.8	0.22
68	C	293D686(1)010C(2)	6.8	6	1.0	0.33
68	D	293D686(1)010D(2)	6.8	6	0.7	0.46
68	V	293D686(1)010V(2)	6.8	6	0.7	0.42

Notes:

- (1) Tolerance: X0, X9, X5
- (2) Terminations and packaging: 2TE3, 2WE3, 8T, 8W

Solid Tantalum Surface Mount Capacitors
TANTAMOUNT® Molded Case, Standard Industrial Grade

Vishay Sprague

RATINGS AND PART NUMBER REFERENCE						
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE AT + 25 °C (μ A)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz (Ω)	MAX. RIPPLE 100 kHz I_{rms} (A)
10 VDC AT + 85 °C, 7 VDC AT + 125 °C						
100	C	293D107(1)010C(2)	10	8	0.9	0.35
100	D	293D107(1)010D(2)	10	8	0.6	0.50
100	V	293D107(1)010V(2)	10	8	0.7	0.42
150	D	293D157(1)010D(2)	15	8	0.6	0.50
150	E	293D157(1)010E(2)	15	8	0.5	0.57
220	D	293D227(1)010D(2)	22	8	0.6	0.50
220	E	293D227(1)010E(2)	22	8	0.5	0.57
330	D	293D337X0010D(2)	33	10	0.5	0.57
330	E	293D337(1)010E(2)	33	10	0.5	0.57
470	E	293D477X0010E(2)	47	15	0.5	0.57
16 VDC AT + 85 °C, 10 VDC AT + 125 °C						
1.0	A	293D105(1)016A(2)	0.5	4	9.3	0.09
1.5	A	293D155(1)016A(2)	0.5	6	6.7	0.11
2.2	A	293D225(1)016A(2)	0.5	6	5.9	0.11
2.2	B	293D225(1)016B(2)	0.5	6	4.6	0.14
3.3	A	293D335(1)016A(2)	0.5	6	5.0	0.12
3.3	B	293D335(1)016B(2)	0.5	6	3.5	0.16
4.7	A	293D475(1)016A(2)	0.8	6	5.0	0.12
4.7	B	293D475(1)016B(2)	0.8	6	2.9	0.17
6.8	A	293D685(1)016A(2)	1.1	6	4.2	0.13
6.8	B	293D685(1)016B(2)	1.1	6	2.5	0.18
6.8	C	293D685(1)016C(2)	1.1	6	1.9	0.24
10	A	293D106(1)016A(2)	1.6	6	3.0	0.16
10	B	293D106(1)016B(2)	1.6	6	2.0	0.21
10	C	293D106(1)016C(2)	1.6	6	1.8	0.25
15	B	293D156(1)016B(2)	2.4	6	2.0	0.21
15	C	293D156(1)016C(2)	2.4	6	1.5	0.27
22	B	293D226X0016B(2)	3.5	6	1.9	0.21
22	C	293D226(1)016C(2)	3.5	6	1.4	0.28
22	D	293D226(1)016D(2)	3.5	6	0.8	0.43
33	B	293D336(1)016B(2)	5.3	6	1.8	0.22
33	C	293D336(1)016C(2)	5.3	6	1.1	0.32
33	D	293D336(1)016D(2)	5.3	6	0.7	0.46
47	C	293D476(1)016C(2)	7.5	6	1.0	0.33
47	D	293D476(1)016D(2)	7.5	6	0.7	0.46
68	D	293D686(1)016D(2)	10.9	6	0.6	0.50
100	D	293D107(1)016D(2)	16	8	0.6	0.50
100	E	293D107(1)016E(2)	16	8	0.6	0.52
150	D	293D157(1)016D(2)	24	8	0.6	0.50
150	E	293D157(1)016E(2)	24	8	0.5	0.57
220	E	293D227(1)016E(2)	35.2	14	0.5	0.57
20 VDC AT + 85 °C, 13 VDC AT + 125 °C						
0.68	A	293D684(1)020A(2)	0.5	4	10.0	0.09
1.0	A	293D105(1)020A(2)	0.5	4	8.4	0.09
1.5	A	293D155(1)020A(2)	0.5	6	6.3	0.11
2.2	A	293D225(1)020A(2)	0.5	6	5.9	0.11
2.2	B	293D225(1)020B(2)	0.5	6	3.5	0.16
3.3	A	293D335(1)020A(2)	0.7	6	5.9	0.11
3.3	B	293D335(1)020B(2)	0.7	6	3.0	0.17
4.7	A	293D475(1)020A(2)	0.9	6	5.0	0.12
4.7	B	293D475(1)020B(2)	0.9	6	2.9	0.17
4.7	C	293D475(1)020C(2)	0.9	6	2.3	0.22

Notes:

- (1) Tolerance: X0, X9, X5
- (2) Terminations and packaging: 2TE3, 2WE3, 8T, 8W

RATINGS AND PART NUMBER REFERENCE						
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE AT + 25 °C (μ A)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz (Ω)	MAX. RIPPLE 100 kHz I_{rms} (A)
20 VDC AT + 85 °C, 13 VDC AT + 125 °C						
6.8	A	293D685(1)020A(2)	1.4	6	4.5	0.13
6.8	B	293D685(1)020B(2)	1.4	6	2.5	0.18
6.8	C	293D685(1)020C(2)	1.4	6	1.9	0.24
10	B	293D106(1)020B(2)	2.0	6	2.5	0.18
10	C	293D106(1)020C(2)	2.0	6	1.7	0.25
15	B	293D156(1)020B(2)	3.0	6	2.3	0.19
15	C	293D156(1)020C(2)	3.0	6	1.5	0.27
15	D	293D156(1)020D(2)	3.0	6	0.9	0.41
22	B	293D226(1)020B(2)	4.4	6	2.1	0.20
22	C	293D226(1)020C(2)	4.4	6	1.1	0.32
22	D	293D226(1)020D(2)	4.4	6	0.7	0.46
33	C	293D336(1)020C(2)	6.6	6	1.0	0.33
33	D	293D336(1)020D(2)	6.6	6	0.7	0.46
47	D	293D476(1)020D(2)	9.4	6	0.7	0.46
47	E	293D476(1)020E(2)	9.4	6	0.6	0.52
68	D	293D686(1)020D(2)	13.6	6	0.7	0.46
68	E	293D686(1)020E(2)	13.6	6	0.6	0.52
100	E	293D107(1)020E(2)	20.0	8	0.5	0.57
25 VDC AT + 85 °C, 17 VDC AT + 125 °C						
0.47	A	293D474(1)025A(2)	0.5	4	12.0	0.08
0.68	A	293D684(1)025A(2)	0.5	4	8.4	0.09
1.0	A	293D105(1)025A(2)	0.5	4	7.6	0.10
1.0	B	293D105(1)025B(2)	0.5	4	5.0	0.13
1.5	A	293D155(1)025A(2)	0.5	6	6.7	0.11
1.5	B	293D155(1)025B(2)	0.5	6	4.6	0.14
2.2	A	293D225(1)025A(2)	0.6	6	6.3	0.11
2.2	B	293D225(1)025B(2)	0.6	6	3.8	0.15
3.3	A	293D335(1)025A(2)	0.8	6	4.0	0.14
3.3	B	293D335(1)025B(2)	0.8	6	3.1	0.17
3.3	C	293D335(1)025C(2)	0.8	6	2.3	0.22
4.7	A	293D475(1)025A(2)	1.2	6	5.5	0.12
4.7	B	293D475(1)025B(2)	1.2	6	2.8	0.17
4.7	C	293D475(1)025C(2)	1.2	6	2.0	0.24
6.8	B	293D685(1)025B(2)	1.7	6	2.4	0.19
6.8	C	293D685(1)025C(2)	1.7	6	1.7	0.25
10	B	293D106(1)025B(2)	2.5	6	2.3	0.19
10	C	293D106(1)025C(2)	2.5	6	1.5	0.27
10	D	293D106(1)025D(2)	2.5	6	1.0	0.39
15	B	293D156(1)025B(2)	3.8	6	2.2	0.20
15	C	293D156(1)025C(2)	3.8	6	1.2	0.30
15	D	293D156(1)025D(2)	3.8	6	0.8	0.43
22	C	293D226(1)025C(2)	5.5	6	1.2	0.30
22	D	293D226(1)025D(2)	5.5	6	0.7	0.46
22	V	293D226(1)025V(2)	5.5	6	0.7	0.42
33	D	293D336(1)025D(2)	8.3	6	0.7	0.46
33	E	293D336(1)025E(2)	8.3	6	0.6	0.52
47	D	293D476(1)025D(2)	11.8	8	0.7	0.46
47	E	293D476(1)025E(2)	11.8	6	0.6	0.52

Notes:

- (1) Tolerance: X0, X9, X5
- (2) Terminations and packaging: 2TE3, 2WE3, 8T, 8W



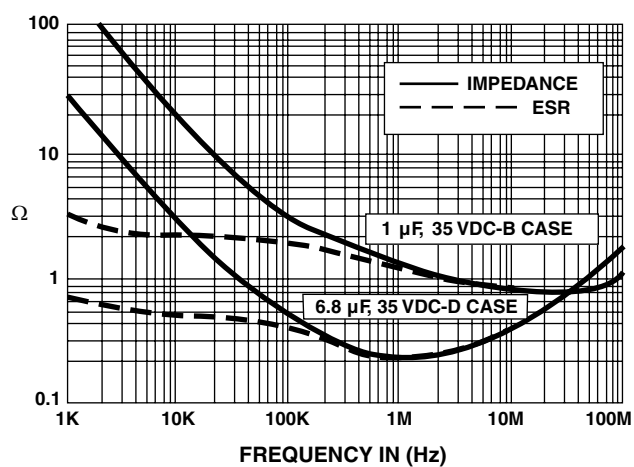
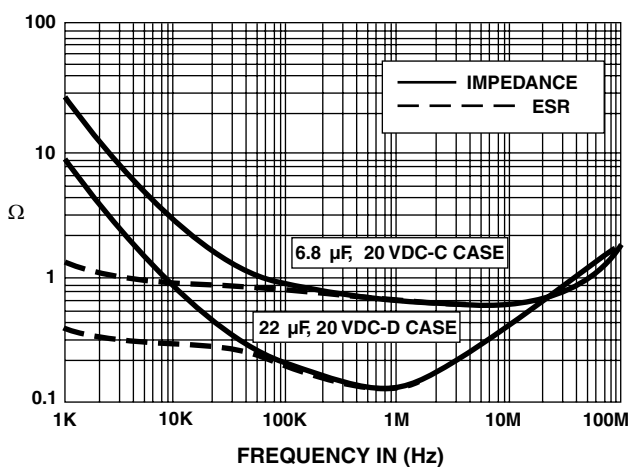
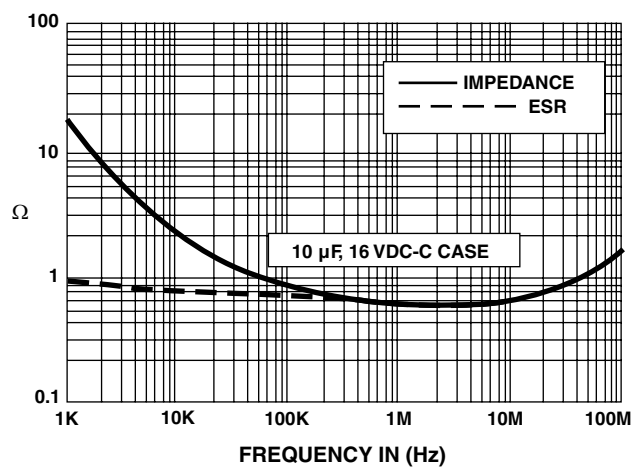
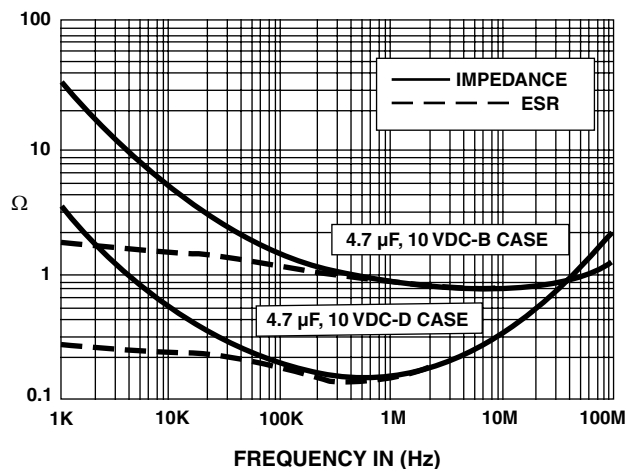
Solid Tantalum Surface Mount Capacitors
TANTAMOUNT® Molded Case, Standard Industrial Grade

Vishay Sprague

RATINGS AND PART NUMBER REFERENCE						
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE AT + 25 °C (μ A)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz (Ω)	MAX. RIPPLE 100 kHz I_{rms} (A)
35 VDC AT + 85 °C, 23 VDC AT + 125 °C						
0.10	A	293D104(1)035A(2)	0.5	4	20.0	0.06
0.15	A	293D154(1)035A(2)	0.5	4	18.0	0.07
0.22	A	293D224(1)035A(2)	0.5	4	15.0	0.07
0.33	A	293D334(1)035A(2)	0.5	4	13.0	0.08
0.47	A	293D474(1)035A(2)	0.5	4	10.0	0.09
0.47	B	293D474(1)035B(2)	0.5	4	8.0	0.10
0.68	A	293D684(1)035A(2)	0.5	4	7.6	0.10
0.68	B	293D684(1)035B(2)	0.5	4	6.5	0.11
1.0	A	293D105(1)035A(2)	0.5	4	7.5	0.10
1.0	B	293D105(1)035B(2)	0.5	4	5.0	0.13
1.5	B	293D155(1)035B(2)	0.5	6	4.2	0.14
1.5	C	293D155(1)035C(2)	0.5	6	3.8	0.17
2.2	B	293D225(1)035B(2)	0.8	6	3.8	0.15
2.2	C	293D225(1)035C(2)	0.8	6	2.9	0.20
3.3	B	293D335(1)035B(2)	1.2	6	3.5	0.16
3.3	C	293D335(1)035C(2)	1.2	6	2.1	0.23
4.7	B	293D475(1)035B(2)	1.7	6	3.1	0.17
4.7	C	293D475(1)035C(2)	1.6	6	1.9	0.24
4.7	D	293D475(1)035D(2)	1.6	6	1.3	0.34
6.8	C	293D685(1)035C(2)	2.4	6	1.8	0.25
6.8	D	293D685(1)035D(2)	2.4	6	1.1	0.37
10	C	293D106(1)035C(2)	3.5	6	1.6	0.26
10	D	293D106(1)035D(2)	3.5	6	0.8	0.43
15	D	293D156(1)035D(2)	5.3	6	0.7	0.46
15	E	293D156(1)035E(2)	5.3	6	0.7	0.49
22	D	293D226(1)035D(2)	7.7	6	0.6	0.52
22	E	293D226(1)035E(2)	7.7	6	0.6	0.52
50 VDC AT + 85 °C, 33 VDC AT + 125 °C						
0.10	A	293D104(1)050A(2)	0.5	4	19.0	0.06
0.15	A	293D154(1)050A(2)	0.5	4	17.0	0.07
0.15	B	293D154(1)050B(2)	0.5	4	14.0	0.08
0.22	A	293D224(1)050A(2)	0.5	4	15.0	0.07
0.22	B	293D224(1)050B(2)	0.5	4	12.0	0.08
0.33	A	293D334(1)050A(2)	0.5	4	14.0	0.07
0.33	B	293D334(1)050B(2)	0.5	4	10.0	0.09
0.47	A	293D474(1)050A(2)	0.5	4	12.0	0.08
0.47	B	293D474(1)050B(2)	0.5	4	8.4	0.10
0.47	C	293D474(1)050C(2)	0.5	4	6.7	0.13
0.68	B	293D684(1)050B(2)	0.5	4	7.6	0.11
0.68	C	293D684(1)050C(2)	0.5	4	5.9	0.14
1.0	B	293D105(1)050B(2)	0.5	4	6.7	0.11
1.0	C	293D105(1)050C(2)	0.5	4	4.6	0.16
1.5	B	293D155(1)050B(2)	0.8	6	6.0	0.12
1.5	C	293D155(1)050C(2)	0.8	6	3.4	0.18
2.2	C	293D225(1)050C(2)	1.1	6	2.9	0.20
2.2	D	293D225(1)050D(2)	1.1	6	2.1	0.27
3.3	C	293D335(1)050C(2)	1.7	6	2.5	0.21
3.3	D	293D335(1)050D(2)	1.7	6	1.7	0.30
4.7	C	293D457(1)050C(2)	2.4	6	1.5	0.27
4.7	D	293D475(1)050D(2)	2.4	6	1.2	0.37
6.8	D	293D685(1)050D(2)	3.4	6	0.9	0.41
6.8	E	293D685(1)050E(2)	3.4	6	0.9	0.43
10	D	293D106(1)050D(2)	5.0	6	0.8	0.43
10	E	293D106(1)050E(2)	5.0	6	0.8	0.45

Notes:

- (1) Tolerance: X0, X9, X5
- (2) Terminations and packaging: 2TE3, 2WE3, 8T, 8W

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




Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.