

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



FEATURES

- Terminations: 100 % matte tin, standard, tin/lead available
- Molded case available in three case codes
- Compatible with “High Volume” automatic pick and place equipment
- Mounting: Surface mount
- High ripple current carrying capability
- Low ESR
- Meets EIA 535BAAC
- 100 % surge current tested
- Compliant to RoHS Directive 2002/95/EC
- Moisture sensitivity level 1


RoHS*
COMPLIANT

Note

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

PERFORMANCE/ELECTRICAL CHARACTERISTICS

www.vishay.com/doc?40088

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

Capacitance Range: 0.47 µF to 470 µF

Capacitance Tolerance: ± 10 %, ± 20 %

Voltage Rating: 4 V_{DC} to 50 V_{DC}

ORDERING INFORMATION						
TF3	E	477	M	004	E	0500
TYPE	CASE CODE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT + 85 °C	TERMINATION/PACKAGING	ESR
	See Ratings and Case Codes table	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow	K = ± 10 % M = ± 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)	C = Matte tin/7" (178 mm) reels D = Matte tin/13" (330 mm) E = Tin/lead/7" (178 mm) reels F = Tin/lead/13" (330 mm)	Maximum 100 kHz ESR in mΩ

Note

- 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	EIA SIZE	L	W	H	P	T _W	T _H (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]	0.169 ± 0.012 [4.3 ± 0.30]	0.110 ± 0.012 [2.8 ± 0.30]	0.051 ± 0.012 [1.3 ± 0.30]	0.094 ± 0.004 [2.4 ± 0.10]	0.039 [1.0]
E	7343-43	0.287 ± 0.012 [7.3 ± 0.30]	0.169 ± 0.012 [4.3 ± 0.30]	0.157 ± 0.012 [4.0 ± 0.30]	0.051 ± 0.012 [1.3 ± 0.30]	0.094 ± 0.004 [2.4 ± 0.10]	0.039 [1.0]

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						C	C	C/D
3.3						C	C	C/D
4.7					C	C	C/D	D/E
6.8				C	C	C	D	D/E
10			C	C	C	C/D	D/E	
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	D/E			
68	C	C/D	D/E	D	E			
100	C	C/D/E	D/E	E				
150	C/D	D/E	D/E	E				
220	D	D/E	E					
330	D/E	E						
470	E							

CONSTRUCTION AND MARKING

C, D, E, Cases

Marking
 Capacitor marking includes an anode (+) polarity band, capacitance in microfarads and the voltage rating. 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.



STANDARD RATINGS						
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 V_{DC} AT + 85 °C; 2.7 V_{DC} AT + 125 °C						
68	C	TF3C686(1)004(2)1600	2.7	6	1.600	0.26
68	C	TF3C686(1)004(2)1400	2.7	6	1.400	0.28
68	C	TF3C686(1)004(2)0400	2.7	6	0.400	0.52
100	C	TF3C107(1)004(2)1200	4.0	8	1.200	0.30
100	C	TF3C107(1)004(2)0800	4.0	8	0.800	0.37
100	C	TF3C107(1)004(2)0400	4.0	8	0.400	0.52
150	C	TF3C157(1)004(2)1200	6.0	8	1.200	0.30
150	C	TF3C157(1)004(2)0800	6.0	8	0.800	0.37
150	C	TF3C157(1)004(2)0400	6.0	8	0.400	0.52
150	D	TF3D157(1)004(2)0800	6.0	8	0.800	0.43
150	D	TF3D157(1)004(2)0600	6.0	8	0.600	0.50
150	D	TF3D157(1)004(2)0300	6.0	8	0.300	0.71
220	D	TF3D227(1)004(2)0700	8.8	8	0.700	0.46
220	D	TF3D227(1)004(2)0600	8.8	8	0.600	0.50
220	D	TF3D227(1)004(2)0400	8.8	8	0.400	0.61
220	D	TF3D227(1)004(2)0300	8.8	8	0.300	0.71
330	D	TF3D337(1)004(2)0700	13.2	15	0.700	0.46
330	D	TF3D337(1)004(2)0600	13.2	15	0.600	0.50
330	D	TF3D337(1)004(2)0400	13.2	15	0.400	0.61
330	D	TF3D337(1)004(2)0300	13.2	15	0.300	0.71
330	E	TF3E337(1)004(2)0700	13.2	8	0.700	0.49
330	E	TF3E337(1)004(2)0500	13.2	8	0.500	0.57
330	E ⁽¹⁾	TF3E337(1)004(2)0250	13.2	8	0.250	0.81
470	E	TF3E477(1)004(2)0500	18.8	8	0.500	0.57
470	E	TF3E477(1)004(2)0250	18.8	8	0.250	0.81
6.3 V_{DC} AT + 85 °C; 4 V_{DC} AT + 125 °C						
15	C	TF3C156(1)6R3(2)2000	0.9	6	2.000	0.23
15	C	TF3C156(1)6R3(2)1800	0.9	6	1.800	0.25
15	C	TF3C156(1)6R3(2)0600	0.9	6	0.600	0.43
22	C	TF3C226(1)6R3(2)2000	1.1	6	2.000	0.23
22	C	TF3C226(1)6R3(2)1800	1.1	6	1.800	0.25
22	C	TF3C226(1)6R3(2)0600	1.1	6	0.600	0.43
33	C	TF3C336(1)6R3(2)2000	1.6	6	2.000	0.23
33	C	TF3C336(1)6R3(2)1400	1.6	6	1.400	0.28
33	C	TF3C336(1)6R3(2)0600	1.6	6	0.600	0.43
47	C	TF3C476(1)6R3(2)1600	2.3	6	1.600	0.26
47	C	TF3C476(1)6R3(2)1300	2.3	6	1.300	0.29
47	C	TF3C476(1)6R3(2)0600	2.3	6	0.600	0.43
47	D	TF3D476(1)6R3(2)1000	2.3	6	1.000	0.39
47	D	TF3D476(1)6R3(2)0900	2.3	6	0.900	0.41
47	D	TF3D476(1)6R3(2)0450	2.3	6	0.450	0.58

Notes

- Part number definitions:
 - (1) Capacitance tolerance codes: K, M
 - (2) Terminations and packaging codes: C, D, E, F
- (1) Preliminary values, contact factory for availability



STANDARD RATINGS						
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 V_{DC} AT + 85 °C; 4 V_{DC} AT + 125 °C						
68	C	TF3C686(1)6R3(2)1200	3.3	6	1.200	0.30
68	C	TF3C686(1)6R3(2)0800	3.3	6	0.800	0.37
68	C ⁽¹⁾	TF3C686(1)6R3(2)0400	3.3	6	0.400	0.52
68	D	TF3D686(1)6R3(2)1000	3.3	6	1.000	0.39
68	D	TF3D686(1)6R3(2)0700	3.3	6	0.700	0.46
68	D	TF3D686(1)6R3(2)0350	3.3	6	0.350	0.65
100	C	TF3C107(1)6R3(2)0700	6.0	6	0.700	0.40
100	C	TF3C107(1)6R3(2)0400	6.0	6	0.400	0.52
100	C ⁽¹⁾	TF3C107(1)6R3(2)0350	6.0	6	0.350	0.56
100	D	TF3D107(1)6R3(2)0800	6.0	8	0.800	0.43
100	D	TF3D107(1)6R3(2)0700	6.0	8	0.700	0.46
100	D	TF3D107(1)6R3(2)0400	6.0	8	0.400	0.61
100	D	TF3D107(1)6R3(2)0350	6.0	8	0.350	0.65
100	E	TF3E107(1)6R3(2)0900	6.0	8	0.900	0.43
100	E	TF3E107(1)6R3(2)0700	6.0	8	0.700	0.49
100	E	TF3E107(1)6R3(2)0300	6.0	8	0.300	0.74
150	D	TF3D157(1)6R3(2)0700	9.0	8	0.700	0.46
150	D	TF3D157(1)6R3(2)0600	9.0	8	0.600	0.50
150	D	TF3D157(1)6R3(2)0300	9.0	8	0.300	0.71
150	E	TF3E157(1)6R3(2)0600	9.0	8	0.600	0.52
150	E	TF3E157(1)6R3(2)0300	9.0	8	0.300	0.74
220	D	TF3D227(1)6R3(2)0700	13.2	8	0.700	0.46
220	D	TF3D227(1)6R3(2)0600	13.2	8	0.600	0.50
220	D	TF3D227(1)6R3(2)0300	13.2	8	0.300	0.71
220	E	TF3E227(1)6R3(2)0700	13.2	8	0.700	0.49
220	E	TF3E227(1)6R3(2)0500	13.2	8	0.500	0.57
220	E	TF3E227(1)6R3(2)0300	13.2	8	0.300	0.74
220	E ⁽¹⁾	TF3E227(1)6R3(2)0250	13.2	8	0.250	0.81
330	E	TF3E337(1)6R3(2)0500	19.8	8	0.500	0.57
330	E	TF3E337(1)6R3(2)0300	19.8	8	0.300	0.74
10 V_{DC} AT + 85 °C; 7 V_{DC} AT + 125 °C						
10	C	TF3C106(1)010(2)2000	1.0	6	2.000	0.23
10	C	TF3C106(1)010(2)1800	1.0	6	1.800	0.25
10	C ⁽¹⁾	TF3C106(1)010(2)0600	1.0	6	0.600	0.43
15	C	TF3C156(1)010(2)2000	1.5	6	2.000	0.23
15	C	TF3C156(1)010(2)1800	1.5	6	1.800	0.25
15	C	TF3C156(1)010(2)0600	1.5	6	0.600	0.43
22	C	TF3C226(1)010(2)2000	2.2	6	2.000	0.23
22	C	TF3C226(1)010(2)1400	2.2	6	1.400	0.28
22	C	TF3C226(1)010(2)0500	2.2	6	0.500	0.47
33	C	TF3C336(1)010(2)1600	3.3	6	1.600	0.26

Notes

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- ⁽¹⁾ Preliminary values, contact factory for availability



STANDARD RATINGS						
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 V_{DC} AT + 85 °C; 7 V_{DC} AT + 125 °C						
33	C	TF3C336(1)010(2)1300	3.3	6	1.300	0.29
33	C	TF3C336(1)010(2)0400	3.3	6	0.400	0.52
33	D	TF3D336(1)010(2)1000	3.3	6	1.000	0.39
33	D	TF3D336(1)010(2)0900	3.3	6	0.900	0.41
33	D	TF3D336(1)010(2)0400	3.3	6	0.400	0.61
47	C	TF3C476(1)010(2)1200	4.7	6	1.200	0.30
47	C	TF3C476(1)010(2)1000	4.7	6	1.000	0.33
47	C (1)	TF3C476(1)010(2)0400	4.7	6	0.400	0.52
47	D	TF3D476(1)010(2)1000	4.7	6	1.000	0.39
47	D	TF3D476(1)010(2)0700	4.7	6	0.700	0.46
47	D	TF3D476(1)010(2)0400	4.7	6	0.400	0.61
47	D (1)	TF3D476(1)010(2)0350	4.7	6	0.350	0.65
68	D	TF3D686(1)010(2)0800	6.8	6	0.800	0.43
68	D	TF3D686(1)010(2)0700	6.8	6	0.700	0.46
68	D	TF3D686(1)010(2)0400	6.8	6	0.400	0.61
68	D	TF3D686(1)010(2)0350	6.8	6	0.350	0.65
68	E	TF3E686(1)010(2)0900	6.8	6	0.900	0.43
68	E	TF3E686(1)010(2)0700	6.8	6	0.700	0.49
68	E	TF3E686(1)010(2)0350	6.8	6	0.350	0.69
100	D	TF3D107(1)010(2)0700	10.0	8	0.700	0.46
100	D	TF3D107(1)010(2)0600	10.0	8	0.600	0.50
100	D	TF3D107(1)010(2)0400	10.0	8	0.400	0.61
100	D	TF3D107(1)010(2)0300	10.0	8	0.300	0.71
100	E	TF3E107(1)010(2)0600	10.0	8	0.600	0.52
100	E	TF3E107(1)010(2)0400	10.0	8	0.400	0.64
100	E	TF3E107(1)010(2)0300	10.0	8	0.300	0.74
150	D	TF3D157(1)010(2)0700	15.0	8	0.700	0.46
150	D	TF3D157(1)010(2)0600	15.0	8	0.600	0.50
150	D	TF3D157(1)010(2)0400	15.0	8	0.400	0.61
150	D	TF3D157(1)010(2)0300	15.0	8	0.300	0.71
150	E	TF3E157(1)010(2)0700	15.0	8	0.700	0.49
150	E	TF3E157(1)010(2)0500	15.0	8	0.500	0.57
150	E	TF3E157(1)010(2)0400	15.0	8	0.400	0.64
150	E	TF3E157(1)010(2)0250	15.0	8	0.250	0.81
220	E	TF3E227(1)010(2)0500	22.0	8	0.500	0.57
220	E	TF3E227(1)010(2)0300	22.0	8	0.300	0.74
220	E (1)	TF3E227(1)010(2)0250	22.0	8	0.250	0.81

Notes

- Part number definitions:
 - (1) Capacitance tolerance codes: K, M
 - (2) Terminations and packaging codes: C, D, E, F
- (1) Preliminary values, contact factory for availability



STANDARD RATINGS						
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)
16 V_{DC} AT + 85 °C; 10 V_{DC} AT + 125 °C						
6.8	C	TF3C685(1)016(2)2000	1.1	6	2.000	0.23
6.8	C	TF3C685(1)016(2)0600	1.1	6	0.600	0.43
10	C	TF3C106(1)016(2)2000	1.6	6	2.000	0.23
10	C	TF3C106(1)016(2)1800	1.6	6	1.800	0.25
10	C	TF3C106(1)016(2)0700	1.6	6	0.700	0.40
10	C	TF3C106(1)016(2)0600	1.6	6	0.600	0.43
15	C	TF3C156(1)016(2)2000	2.4	6	2.000	0.23
15	C	TF3C156(1)016(2)1400	2.4	6	1.400	0.28
15	C (1)	TF3C156(1)016(2)0600	2.4	6	0.600	0.43
22	C	TF3C226(1)016(2)1600	3.5	6	1.600	0.26
22	C	TF3C226(1)016(2)1300	3.5	6	1.300	0.29
22	C	TF3C226(1)016(2)1000	3.5	6	1.000	0.33
22	C	TF3C226(1)016(2)0700	3.5	6	0.700	0.40
22	D	TF3D226(1)016(2)1000	3.5	6	1.000	0.39
22	D	TF3D226(1)016(2)0900	3.5	6	0.900	0.41
22	D	TF3D226(1)016(2)0500	3.5	6	0.500	0.55
22	D	TF3D226(1)016(2)0450	3.5	6	0.450	0.58
33	C	TF3C336(1)016(2)1000	5.3	6	1.000	0.33
33	C	TF3C336(1)016(2)0500	5.3	6	0.500	0.47
33	D	TF3D336(1)016(2)1000	5.3	6	1.000	0.39
33	D	TF3D336(1)016(2)0700	5.3	6	0.700	0.46
33	D	TF3D336(1)016(2)0400	5.3	6	0.400	0.61
33	D	TF3D336(1)016(2)0350	5.3	6	0.350	0.65
47	D	TF3D476(1)016(2)0800	7.5	6	0.800	0.43
47	D	TF3D476(1)016(2)0700	7.5	6	0.700	0.46
47	D	TF3D476(1)016(2)0400	7.5	6	0.400	0.61
47	D	TF3D476(1)016(2)0350	7.5	6	0.350	0.65
47	E	TF3E476(1)016(2)0900	7.5	6	0.900	0.43
47	E	TF3E476(1)016(2)0700	7.5	6	0.700	0.49
47	E	TF3E476(1)016(2)0400	7.5	6	0.400	0.64
47	E	TF3E476(1)016(2)0350	7.5	6	0.350	0.69
68	D	TF3D686(1)016(2)0600	10.9	6	0.600	0.50
68	D	TF3D686(1)016(2)0300	10.9	6	0.300	0.71
100	E	TF3E107(1)016(2)0700	16.0	8	0.700	0.49
100	E	TF3E107(1)016(2)0600	16.0	8	0.600	0.52
100	E	TF3E107(1)016(2)0300	16.0	8	0.300	0.74
150	E	TF3E157(1)016(2)0400	16.0	8	0.400	0.64

Notes

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STANDARD RATINGS						
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 V_{DC} AT + 85 °C; 13 V_{DC} AT + 125 °C						
4.7	C	TF3C475(1)020(2)2000	0.9	6	2.000	0.23
4.7	C	TF3C475(1)020(2)1000	0.9	6	1.000	0.33
6.8	C	TF3C685(1)020(2)2000	1.1	6	2.000	0.23
6.8	C	TF3C685(1)020(2)1900	1.1	6	1.900	0.24
6.8	C	TF3C685(1)020(2)0600	1.1	6	0.600	0.43
10	C	TF3C106(1)020(2)2000	2.0	6	2.000	0.23
10	C	TF3C106(1)020(2)1600	2.0	6	1.600	0.26
10	C	TF3C106(1)020(2)0800	2.0	6	0.800	0.37
15	C	TF3C156(1)020(2)1400	3.0	6	1.400	0.28
15	C ⁽¹⁾	TF3C156(1)020(2)0500	3.0	6	0.500	0.47
15	D	TF3D156(1)020(2)1000	3.0	6	1.000	0.39
15	D	TF3D156(1)020(2)0900	3.0	6	0.900	0.41
15	D	TF3D156(1)020(2)0500	3.0	6	0.500	0.55
15	D	TF3D156(1)020(2)0450	3.0	6	0.450	0.58
22	D	TF3D226(1)020(2)1000	4.4	6	1.000	0.39
22	D	TF3D226(1)020(2)0700	4.4	6	0.700	0.46
22	D	TF3D226(1)020(2)0500	4.4	6	0.500	0.55
22	D	TF3D226(1)020(2)0350	4.4	6	0.350	0.65
33	D	TF3D336(1)020(2)0700	6.6	6	0.700	0.46
33	D	TF3D336(1)020(2)0400	6.6	6	0.400	0.61
33	D	TF3D336(1)020(2)0350	6.6	6	0.350	0.65
33	E	TF3E336(1)020(2)0900	6.6	6	0.900	0.43
33	E	TF3E336(1)020(2)0700	6.6	6	0.700	0.49
33	E	TF3E336(1)020(2)0400	6.6	6	0.400	0.64
33	E	TF3E336(1)020(2)0350	6.6	6	0.350	0.69
47	D	TF3D476(1)020(2)0600	9.4	6	0.600	0.50
47	D	TF3D476(1)020(2)0300	9.4	6	0.300	0.71
47	E	TF3E476(1)020(2)0600	9.4	6	0.600	0.52
47	E	TF3E476(1)020(2)0300	9.4	6	0.300	0.74
68	E	TF3E686(1)020(2)0600	13.6	6	0.600	0.52
68	E	TF3E686(1)020(2)0300	13.6	6	0.300	0.74
25 V_{DC} AT + 85 °C; 17 V_{DC} AT + 125 °C						
2.2	C	TF3C225(1)025(2)3500	0.9	6	3.500	0.18
2.2	C	TF3C225(1)025(2)2800	0.9	6	2.800	0.20
3.3	C	TF3C335(1)025(2)2500	0.9	6	2.500	0.21
3.3	C	TF3C335(1)025(2)2300	0.9	6	2.300	0.22
3.3	C	TF3C335(1)025(2)2100	0.9	6	2.100	0.23
3.3	C ⁽¹⁾	TF3C335(1)025(2)1200	0.9	6	1.200	0.30
4.7	C	TF3C475(1)025(2)2500	1.2	6	2.500	0.21
4.7	C	TF3C475(1)025(2)1900	1.2	6	1.900	0.24
4.7	C	TF3C475(1)025(2)1300	1.2	6	1.300	0.29

Notes

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STANDARD RATINGS						
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)
25 V_{DC} AT + 85 °C; 17 V_{DC} AT + 125 °C						
4.7	C	TF3C475(1)025(2)1000	1.2	6	1.000	0.33
6.8	C	TF3C685(1)025(2)2000	1.7	6	2.000	0.23
6.8	C	TF3C685(1)025(2)1600	1.7	6	1.600	0.26
6.8	C	TF3C685(1)025(2)0600	1.7	6	0.600	0.43
10	C	TF3C106(1)025(2)1400	2.5	6	1.400	0.28
10	C	TF3C106(1)025(2)0600	2.5	6	0.600	0.43
10	D	TF3D106(1)025(2)1200	2.5	6	1.200	0.35
10	D	TF3D106(1)025(2)1000	2.5	6	1.000	0.39
10	D	TF3D106(1)025(2)0600	2.5	6	0.600	0.50
10	D	TF3D106(1)025(2)0500	2.5	6	0.500	0.55
15	D	TF3D156(1)025(2)1000	3.8	6	1.000	0.39
15	D	TF3D156(1)025(2)0800	3.8	6	0.800	0.43
15	D	TF3D156(1)025(2)0500	3.8	6	0.500	0.55
15	D	TF3D156(1)025(2)0400	3.8	6	0.400	0.61
22	D	TF3D226(1)025(2)0800	5.5	6	0.800	0.43
22	D	TF3D226(1)025(2)0700	5.5	6	0.700	0.46
22	D	TF3D226(1)025(2)0400	5.5	6	0.400	0.61
22	D	TF3D226(1)025(2)0350	5.5	6	0.350	0.65
22	E	TF3E226(1)025(2)0900	5.5	6	0.900	0.43
22	E	TF3E226(1)025(2)0700	5.5	6	0.700	0.49
22	E	TF3E226(1)025(2)0400	5.5	6	0.400	0.64
22	E	TF3E226(1)025(2)0350	5.5	6	0.350	0.69
33	E	TF3E336(1)025(2)0600	8.3	6	0.600	0.52
33	E	TF3E336(1)025(2)0300	8.3	6	0.300	0.74
35 V_{DC} AT + 85 °C; 23 V_{DC} AT + 125 °C						
1.5	C	TF3C155(1)035(2)4500	0.5	6	4.500	0.16
1.5	C	TF3C155(1)035(2)3800	0.5	6	3.800	0.17
1.5	C	TF3C155(1)035(2)2600	0.5	6	2.600	0.21
1.5	C ⁽¹⁾	TF3C155(1)035(2)1900	0.5	6	1.900	0.24
2.2	C	TF3C225(1)035(2)3500	0.8	6	3.500	0.18
2.2	C	TF3C225(1)035(2)2900	0.8	6	2.900	0.19
3.3	C	TF3C335(1)035(2)2500	1.2	6	2.500	0.21
3.3	C	TF3C335(1)035(2)2000	1.2	6	2.000	0.23
3.3	C ⁽¹⁾	TF3C335(1)035(2)0900	1.2	6	0.900	0.35
4.7	C	TF3C475(1)035(2)1800	1.6	6	1.800	0.25
4.7	C ⁽¹⁾	TF3C475(1)035(2)0900	1.6	6	0.900	0.35
4.7	D	TF3D475(1)035(2)1500	1.6	6	1.500	0.32
4.7	D	TF3D475(1)035(2)1200	1.6	6	1.200	0.35
4.7	D	TF3D475(1)035(2)0700	1.6	6	0.700	0.46
4.7	D	TF3D475(1)035(2)0600	1.6	6	0.600	0.50
6.8	D	TF3D685(1)035(2)1300	2.4	6	1.300	0.34

Notes

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STANDARD RATINGS						
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 V_{DC} AT + 85 °C; 23 V_{DC} AT + 125 °C						
6.8	D	TF3D685(1)035(2)1000	2.4	6	1.000	0.39
6.8	D	TF3D685(1)035(2)0750	2.4	6	0.750	0.45
6.8	D	TF3D685(1)035(2)0500	2.4	6	0.500	0.55
10	D	TF3D106(1)035(2)0800	3.5	6	0.800	0.43
10	D	TF3D106(1)035(2)0500	3.5	6	0.500	0.55
10	D ⁽¹⁾	TF3D106(1)035(2)0400	3.5	6	0.400	0.61
10	E	TF3E106(1)035(2)1000	3.5	6	1.000	0.41
10	E	TF3E106(1)035(2)0800	3.5	6	0.800	0.45
10	E	TF3E106(1)035(2)0500	3.5	6	0.500	0.57
10	E ⁽¹⁾	TF3E106(1)035(2)0400	3.5	6	0.400	0.64
15	D	TF3D156(1)035(2)0800	5.3	6	0.800	0.43
15	D	TF3D156(1)035(2)0500	5.3	6	0.500	0.55
15	D ⁽¹⁾	TF3D156(1)035(2)0400	5.3	6	0.400	0.61
15	E	TF3E156(1)035(2)0900	5.3	6	0.900	0.43
15	E	TF3E156(1)035(2)0700	5.3	6	0.700	0.49
15	E	TF3E156(1)035(2)0500	5.3	6	0.500	0.57
22	E	TF3E226(1)035(2)0600	7.7	6	0.600	0.52
22	E ⁽¹⁾	TF3E226(1)035(2)0300	7.7	6	0.300	0.74
50 V_{DC} AT + 85 °C; 33 V_{DC} AT + 125 °C						
0.47	C	TF3C474(1)050(2)8000	0.5	4	8.000	0.12
0.47	C	TF3C474(1)050(2)6700	0.5	4	6.700	0.13
0.47	C ⁽¹⁾	TF3C474(1)050(2)1900	0.5	4	1.900	0.24
0.68	C	TF3C684(1)050(2)7000	0.5	4	7.000	0.13
0.68	C	TF3C684(1)050(2)5900	0.5	4	5.900	0.14
0.68	C ⁽¹⁾	TF3C684(1)050(2)1700	0.5	4	1.700	0.25
1.0	C	TF3C105(1)050(2)5500	0.5	4	5.500	0.14
1.0	C	TF3C105(1)050(2)4400	0.5	4	4.400	0.16
1.0	C	TF3C105(1)050(2)2700	0.5	4	2.700	0.20
1.0	C ⁽¹⁾	TF3C105(1)050(2)2200	0.5	4	2.200	0.22
1.5	C	TF3C155(1)050(2)5000	0.8	6	5.000	0.15
1.5	C	TF3C155(1)050(2)3200	0.8	6	3.200	0.19
1.5	C ⁽¹⁾	TF3C155(1)050(2)2000	0.8	6	2.000	0.23
1.5	C ⁽¹⁾	TF3C155(1)050(2)1600	0.8	6	1.600	0.26
2.2	C	TF3C225(1)050(2)2800	1.1	6	2.800	0.20
2.2	C ⁽¹⁾	TF3C225(1)050(2)1400	1.1	6	1.400	0.28
2.2	D	TF3D225(1)050(2)2500	1.1	6	2.500	0.24
2.2	D	TF3D225(1)050(2)2100	1.1	6	2.100	0.27
2.2	D	TF3D225(1)050(2)0900	1.1	6	0.900	0.41
3.3	C	TF3C335(1)050(2)2400	1.7	6	2.400	0.21
3.3	C	TF3C335(1)050(2)1600	1.7	6	1.600	0.26
3.3	C ⁽¹⁾	TF3C335(1)050(2)1200	1.7	6	1.200	0.30

Notes

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STANDARD RATINGS						
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)
50 V_{DC} AT + 85 °C, 33 V_{DC} AT + 125 °C						
3.3	D	TF3D335(1)050(2)2000	1.7	6	2.000	0.27
3.3	D	TF3D335(1)050(2)1600	1.7	6	1.600	0.31
4.7	D	TF3D475(1)050(2)1100	2.4	6	1.100	0.37
4.7	E	TF3E475(1)050(2)1500	1.9	4	1.500	0.33
4.7	E	TF3E475(1)050(2)1100	1.9	4	1.100	0.39
6.8	D	TF3D685(1)050(2)0900	3.4	6	0.900	0.41
6.8	D ⁽¹⁾	TF3D685(1)050(2)0450	3.4	6	0.450	0.58
6.8	E	TF3E685(1)050(2)0900	3.4	6	0.900	0.43
6.8	E ⁽¹⁾	TF3E685(1)050(2)0450	3.4	6	0.450	0.61

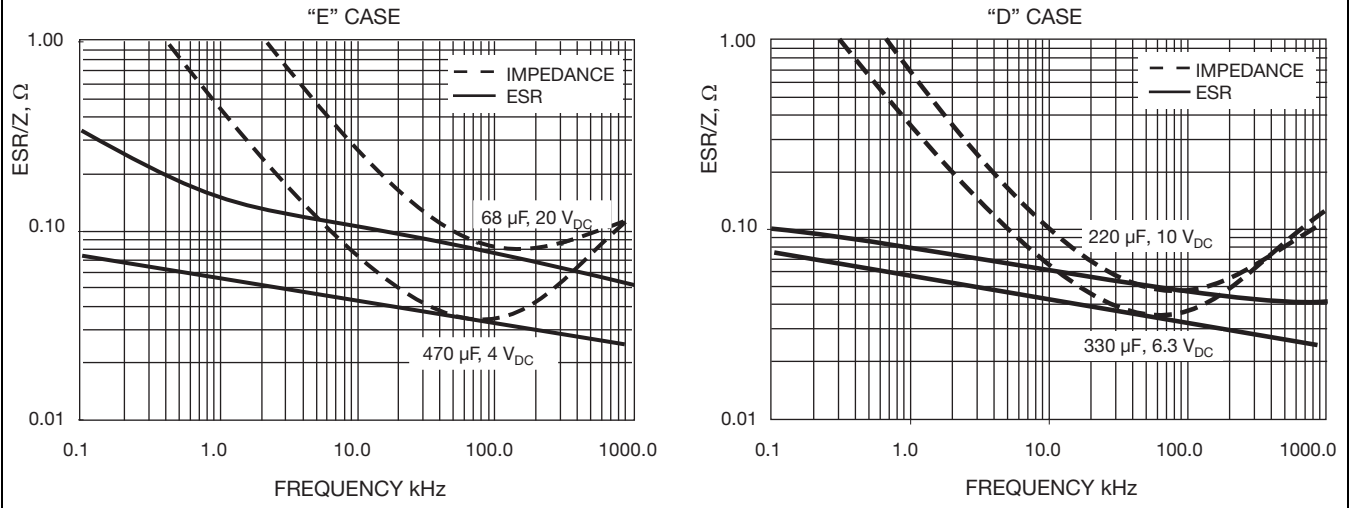
Notes

- Part number definitions:
 - (1) Capacitance tolerance codes: K, M
 - (2) Terminations and packaging codes: C, D, E, F
- ⁽¹⁾ Preliminary values, contact factory for availability

RECOMMENDED VOLTAGE DERATING GUIDELINES (for temperatures below + 85 °C)	
STANDARD CONDITIONS. FOR EXAMPLE: OUTPUT FILTERS	
Capacitor Voltage Rating	Operating Voltage
4.0	2.5
6.3	3.6
10	6.0
16	10
20	12
25	15
35	24
50	28
SEVERE CONDITIONS. FOR EXAMPLE: INPUT FILTERS	
Capacitor Voltage Rating	Operating Voltage
4.0	2.5
6.3	3.3
10	5.0
16	8.0
20	10
25	12
35	15
50	24



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



POWER DISSIPATION

CASE CODE	MAXIMUM PERMISSIBLE POWER DISSIPATION AT + 25 °C (W) IN FREE AIR
C	0.110
D	0.150
E	0.165

STANDARD PACKAGING QUANTITY

CASE CODE	UNITS PER REEL	
	7" REEL	13" REEL
C	500	3000
D	500	2500
E	400	1500

PRODUCT INFORMATION

Guide for Molded Tantalum Capacitors	www.vishay.com/doc?40074
Pad Dimensions	
Package Dimensions	
Moisture Sensitivity	www.vishay.com/doc?40135
SELECTOR GUIDES	
Solid Tantalum Selector Guide	www.vishay.com/doc?49053
Solid Tantalum Chip Capacitors	www.vishay.com/doc?40091
FAQ	
Frequently Asked Questions	www.vishay.com/doc?40110



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