

## Solid Tantalum Surface Mount Chip Capacitors TANTAMOUNT<sup>®</sup>, Molded Case, Low ESR



### PERFORMANCE CHARACTERISTICS

[www.vishay.com/doc?40088](http://www.vishay.com/doc?40088)

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

**Capacitance Range:** 0.47 μF to 1000 μF

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

**Voltage Rating:** 4 V<sub>DC</sub> to 63 V<sub>DC</sub>

### FEATURES

- Low ESR
- 100 % surge current tested (C, D, and E case sizes)
- Molded case available in seven case codes
- High ripple current carrying capability
- Terminations: 100 % matte tin, standard tin/lead available
- Compatible with “High Volume” automatic pick and place equipment
- Compliant terminations
- Meets IEC specification QC300801/US0001 and EIA535BAAC mechanical and performance requirements
- Moisture sensitivity level 1
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS\***  
COMPLIANT

### Note

\* Lead (Pb)-containing terminations are not RoHS-compliant. Exemptions may apply.

### APPLICATIONS

- Industrial
- Telecom infrastructure
- Consumer
- Computer
- General purpose

ORDERING INFORMATION						
TR3	D	107	K	010	C	0100
TYPE	CASE CODE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT + 85 °C	TERMINATION AND 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) reels E = Tin/lead/7" (178 mm) reels F = Tin/lead/13" (330 mm) reels	Maximum 100 kHz ESR in mΩ. See note below.

### 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. Low ESR solid tantalum chip capacitors allow delta ESR of 1.25 times the datasheet limit after mounting.
- Dry pack is available per request, contact regional marketing.

DIMENSIONS in inches [millimeters]							
CASE CODE	EIA SIZE	L	W	H	P	T <sub>W</sub>	T <sub>H</sub> (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]	0.094 ± 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]
V	7343-20	0.287 ± 0.012 [7.3 ± 0.30]	0.169 ± 0.012 [4.3 ± 0.30]	0.079 max. [2.0 max.]	0.051 ± 0.012 [1.3 ± 0.30]	0.094 ± 0.004 [2.4 ± 0.10]	0.039 [1.0]
W	7361-38	0.287 ± 0.012 [7.3 ± 0.30]	0.236 ± 0.012 [6.0 ± 0.30]	0.138 ± 0.012 [3.5 ± 0.30]	0.047 ± 0.008 [1.2 ± 0.20]	0.122 ± 0.004 [3.1 ± 0.10]	0.069 [1.75]

RATINGS AND CASE CODES									
μF	4 V	6.3 V	10 V	16 V	20 V	25 V	35 V	50 V	63 V
0.47							A		
0.68							A		
1.0					A	A	A/B	B/C	
1.5						A	B/C	B/C	
2.2			A	A	A	A/B	B/C	B/C/D	
3.3				A	A/B	A/B	B/C	C/D	
4.7			A	A/B	A/B	A/B/C	B/C/D	C/D/E	D
6.8			A	A/B	A/B	B/C	C/D/E	D/E	
10		A	A/B	A/B/C	B/C	B/C/D	C/D/E	D/E	E
15	A	A	A/B	B/C	B/C	B/C/D	D/E	E	
22	A	A/B	A/B/C	B/C/D	B/C/D	C/D/E/V	D/E		
33	A/B	A/B	B/C	B/C/D	C/D	D/E			
47	A/B	A/B/C	B/C/D	C/D	D/E	D/E			
68	B/C	B/C/D	B/C/D/E/V	D	D/E	E/W			
100	A/B/C	B/C/D/V	B/C/D/E/V	D/E/V <sup>(1)</sup>	D/E/W	W			
150	B/C/D	C/D/E	C/D/E	D/E	W				
220	B/C/D	C/D/E/V	D/E/V	E					
330	D	D/E/W	D/E/W						
470	D/E	D/E/W	E/W						
680	D/E	E							
1000	E	E							

**Note**
<sup>(1)</sup> Rating under development.

MARKING		
<p>Indicates Low ESR</p> <p>Capacitance Code, pF</p> <p>V 104R</p> <p>Polarity Band (+)</p> <p>Voltage Code</p> <p><b>A Case</b></p>	<b>"A" CASE VOLTAGE CODE</b>	
	<b>VOLTS</b>	<b>CODE</b>
	4.0	G
	6.3	J
	10	A
	16	C
	20	D
	25	E
35	V	
50	T	
<p>Indicates Low ESR</p> <p>Capacitance <math>\mu</math>F</p> <p>Voltage</p> <p>Polarity Band (+)</p> <p>22 R10</p> <p>XX</p> <p>Ⓜ</p> <p>Date Code</p> <p>Vishay Sprague Logo</p> <p><b>B, C, D, E, V Cases</b></p>		
	<b>Marking</b> 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.	

STANDARD RATINGS						
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz I <sub>RMS</sub> (A)
<b>4 V<sub>DC</sub> AT + 85 °C; 2.7 V<sub>DC</sub> AT + 125 °C</b>						
15	A	TR3A156(1)004(2)1500	0.6	6	1.500	0.22
22	A	TR3A226(1)004(2)1500	0.9	6	1.500	0.22
33	A	TR3A336(1)004(2)1500	1.3	6	1.500	0.22
33	B	TR3B336(1)004(2)0500	1.3	6	0.500	0.41
47	A	TR3A476(1)004(2)0800	1.9	14	0.800	0.31
47	A	TR3A476(1)004(2)0500	1.9	14	0.500	0.39
47	B	TR3B476(1)004(2)0500	1.9	6	0.500	0.41
68	B	TR3B686(1)004(2)0500	2.7	6	0.500	0.41
68	C	TR3C686(1)004(2)0275	2.7	6	0.275	0.63
100	A	TR3A107M004(2)1000	10.0	30	1.000	0.27
100	B	TR3B107(1)004(2)0450	4.0	8	0.450	0.43
100	C	TR3C107(1)004(2)0225	4.0	6	0.225	0.70
150	B	TR3B157(1)004(2)0900	6.0	14	0.900	0.31
150	B	TR3B157(1)004(2)0500	6.0	14	0.500	0.41
150	B	TR3B157(1)004(2)0400	6.0	14	0.400	0.46
150	C	TR3C157(1)004(2)0250	6.0	12	0.250	0.66
150	D	TR3D157(1)004(2)0150	6.0	8	0.150	1.00
220	B	TR3B227M004(2)1100	8.8	18	1.100	0.28
220	B	TR3B227M004(2)0700	8.8	18	0.700	0.35
220	B	TR3B227M004(2)0500	8.8	18	0.500	0.41
220	B	TR3B227M004(2)0450	8.8	18	0.450	0.43
220	C	TR3C227(1)004(2)0200	8.8	8	0.200	0.74
220	D	TR3D227(1)004(3)0050	8.8	8	0.050	1.73
220	D	TR3D227(1)004(2)0150	8.8	8	0.150	1.00
220	D	TR3D227(1)004(2)0100	8.8	8	0.100	1.22
330	D	TR3D337(1)004(2)0100	13.2	8	0.100	1.22
330	D	TR3D337(1)004(3)0045	13.2	8	0.045	1.83
330	D	TR3D337(1)004(3)0035	13.2	8	0.035	2.07

**Notes**

- Part number definitions:
  - Capacitance tolerance codes: K, M
  - Terminations and packaging codes: C, D, E, F
  - Lead (Pb)-free terminations and packaging codes: C, D
- Rating under development.



STANDARD RATINGS						
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)
<b>4 V<sub>DC</sub> AT + 85 °C; 2.7 V<sub>DC</sub> AT + 125 °C</b>						
330	D	TR3D337(1)004(2)0150	13.2	8	0.150	1.00
470	D	TR3D477(1)004(2)0125	18.8	10	0.125	1.10
470	D	TR3D477(1)004(2)0100	18.8	10	0.100	1.22
470	D	TR3D477(1)004(2)0060	18.8	10	0.060	1.58
470	D	TR3D477(1)004(3)0045	18.8	10	0.045	1.83
470	D	TR3D477(1)004(3)0035	18.8	10	0.035	2.07
470	E	TR3E477(1)004(2)0100	18.8	10	0.100	1.28
470	E	TR3E477(1)004(3)0045	18.8	10	0.045	1.91
470	E	TR3E477(1)004(3)0035	18.8	10	0.035	2.17
680	D	TR3D687M004(2)0100	27.2	25	0.100	1.22
680	D	TR3D687M004(3)0060	27.2	25	0.060	1.58
680	E	TR3E687(1)004(2)0100	27.2	12	0.100	1.28
1000	E	TR3E108M004(2)0100	40.0	20	0.100	1.28
<b>6.3 V<sub>DC</sub> AT + 85 °C; 4 V<sub>DC</sub> AT 125 °C</b>						
10	A	TR3A106(1)6R3(2)2000	0.6	6	2.000	0.19
10	A	TR3A106(1)6R3(2)1500	0.6	6	1.500	0.22
15	A	TR3A156(1)6R3(2)2000	0.9	6	2.000	0.19
15	A	TR3A156(1)6R3(2)1000	0.9	6	1.000	0.27
22	A	TR3A226(1)6R3(2)3000	1.4	6	3.000	0.16
22	A	TR3A226(1)6R3(2)2000	1.4	6	2.000	0.19
22	A	TR3A226(1)6R3(2)1000	1.4	6	1.000	0.27
22	A	TR3A226(1)6R3(2)0900	1.4	6	0.900	0.29
22	B	TR3B226(1)6R3(2)0600	1.4	6	0.600	0.38
33	A	TR3A336(1)6R3(2)2000	2.0	14	2.000	0.19
33	A	TR3A336(1)6R3(2)0800	2.0	14	0.800	0.31
33	A	TR3A336(1)6R3(2)0600	2.0	14	0.600	0.35
33	B	TR3B336(1)6R3(2)0450	2.0	6	0.450	0.43
33	B	TR3B336(1)6R3(2)0350	2.0	6	0.350	0.49
33	B	TR3B336(1)6R3(2)0600	2.0	6	0.600	0.38
33	B	TR3B336(1)6R3(2)0500	2.0	6	0.500	0.41
47	A	TR3A476(1)6R3(2)0800	3.0	12	0.800	0.31
47	B	TR3B476(1)6R3(2)0550	3.0	6	0.550	0.39
47	B	TR3B476(1)6R3(2)0500	3.0	6	0.500	0.41
47	B	TR3B476(1)6R3(2)0350	3.0	6	0.350	0.49
47	B	TR3B476(1)6R3(2)0250	3.0	6	0.250	0.58
47	C	TR3C476(1)6R3(2)0300	3.0	6	0.300	0.61
47	C	TR3C476(1)6R3(2)0250	3.0	6	0.250	0.66
68	B	TR3B686(1)6R3(2)0650	4.3	6	0.650	0.36
68	B	TR3B686(1)6R3(2)0550	4.3	6	0.550	0.39
68	B	TR3B686(1)6R3(2)0500	4.3	6	0.500	0.41
68	B	TR3B686(1)6R3(2)0350	4.3	6	0.350	0.49
68	B	TR3B686(1)6R3(2)0250	4.3	6	0.250	0.58
68	C	TR3C686(1)6R3(2)0275	4.3	6	0.275	0.63
68	C	TR3C686(1)6R3(2)0250	4.3	6	0.250	0.66
68	C	TR3C686(1)6R3(2)0200	4.3	6	0.200	0.74
68	D	TR3D686(1)6R3(2)0200	4.3	6	0.200	0.87
68	D	TR3D686(1)6R3(2)0175	4.3	4	0.175	0.93
100	B	TR3B107(1)6R3(2)1500	6.3	15	1.500	0.24
100	B	TR3B107(1)6R3(2)0500	6.3	15	0.500	0.41
100	B	TR3B107(1)6R3(2)0400	6.3	15	0.400	0.46
100	C	TR3C107(1)6R3(2)0300	6.3	6	0.300	0.61
100	C	TR3C107(1)6R3(2)0250	6.3	6	0.250	0.66

Notes

- Part number definitions:
  - (1) Capacitance tolerance codes: K, M
  - (2) Terminations and packaging codes: C, D, E, F
  - (3) Lead (Pb)-free terminations and packaging codes: C, D
- (1) Rating under development.



STANDARD RATINGS						
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)
<b>6.3 V<sub>DC</sub> AT + 85 °C; 4 V<sub>DC</sub> AT 125 °C</b>						
100	C	TR3C107(1)6R3(2)0150	6.3	6	0.150	0.86
100	C	TR3C107(1)6R3(2)0125	6.3	6	0.125	0.94
100	C	TR3C107(1)6R3(2)0100	6.3	6	0.100	1.05
100	D	TR3D107(1)6R3(2)0150	6.3	6	0.150	1.00
100	D	TR3D107(1)6R3(2)0140	6.3	6	0.140	1.04
100	V	TR3V107(1)6R3(3)0200	6.3	8	0.200	0.79
100	V	TR3V107(1)6R3(3)0150	6.3	8	0.150	0.91
150	C	TR3C157(1)6R3(2)0300	9.4	8	0.300	0.61
150	C	TR3C157(1)6R3(2)0200	9.4	8	0.200	0.74
150	D	TR3D157(1)6R3(2)0150	9.4	8	0.150	1.00
150	D	TR3D157(1)6R3(2)0125	9.4	8	0.125	1.10
150	D	TR3D157(1)6R3(2)0075	9.4	8	0.075	1.41
150	D	TR3D157(1)6R3(2)0070	9.4	8	0.070	1.46
150	D	TR3D157(1)6R3(3)0050	9.4	8	0.050	1.73
150	E	TR3E157(1)6R3(2)0100	9.4	8	0.100	1.28
220	C	TR3C227(1)6R3(2)0300	13.9	14	0.300	0.61
220	C	TR3C227(1)6R3(2)0250	13.9	14	0.250	0.66
220	C	TR3C227(1)6R3(2)0225	13.9	14	0.225	0.70
220	D	TR3D227(1)6R3(2)0150	13.9	8	0.150	1.00
220	D	TR3D227(1)6R3(2)0100	13.9	8	0.100	1.22
220	D	TR3D227(1)6R3(3)0050	13.9	8	0.050	1.73
220	E	TR3E227(1)6R3(2)0150	13.9	8	0.150	1.05
220	E	TR3E227(1)6R3(2)0100	13.9	8	0.100	1.28
220	V	TR3V227(1)6R3(3)0100	13.9	10	0.100	1.12
220	V	TR3V227(1)6R3(3)0150	13.9	10	0.150	0.91
330	D	TR3D337(1)6R3(2)0150	20.8	8	0.150	1.00
330	D	TR3D337(1)6R3(2)0125	20.8	8	0.125	1.10
330	D	TR3D337(1)6R3(2)0100	20.8	8	0.100	1.22
330	D	TR3D337(1)6R3(2)0060	20.8	8	0.060	1.58
330	D	TR3D337(1)6R3(3)0050	20.8	8	0.050	1.73
330	D	TR3D337(1)6R3(3)0045	20.8	8	0.045	1.83
330	D	TR3D337(1)6R3(3)0035	20.8	8	0.035	2.07
330	E	TR3E337(1)6R3(2)0150	20.8	8	0.150	1.05
330	E	TR3E337(1)6R3(2)0100	20.8	8	0.100	1.28
330	E	TR3E337(1)6R3(2)0050	20.8	8	0.050	1.82
330	W	TR3W337(1)6R3(3)0100	20.8	8	0.100	1.58
330	W	TR3W337(1)6R3(3)0060	20.8	8	0.060	2.04
330	W	TR3W337(1)6R3(3)0040	20.8	8	0.040	2.50
470	D	TR3D477(1)6R3(2)0200	29.6	14	0.200	0.87
470	D	TR3D477(1)6R3(2)0150	29.6	14	0.150	1.00
470	D	TR3D477(1)6R3(2)0125	29.6	14	0.125	1.10
470	D	TR3D477(1)6R3(3)0100	29.6	14	0.100	1.22
470	E	TR3E477(1)6R3(2)0100	29.6	10	0.100	1.28
470	E	TR3E477(1)6R3(3)0065	29.6	10	0.065	1.59
470	E	TR3E477(1)6R3(3)0060	29.6	10	0.060	1.66
470	E	TR3E477(1)6R3(3)0050	29.6	10	0.050	1.82
470	W	TR3W477(1)6R3(3)0100	29.6	20	0.100	1.58
470	W	TR3W477(1)6R3(3)0060	29.6	20	0.060	2.04
470	W	TR3W477(1)6R3(3)0050	29.6	20	0.050	2.24
680	E	TR3E687(1)6R3(2)0100	42.8	20	0.100	1.28
1000	E	TR3E108M6R3(2)0200	63.0	30	0.200	0.91
1000	E	TR3E108M6R3(2)0150	63.0	30	0.150	1.05
1000	E	TR3E108M6R3(3)0100	63.0	30	0.100	1.28

Notes

- Part number definitions:
  - Capacitance tolerance codes: K, M
  - Terminations and packaging codes: C, D, E, F
  - Lead (Pb)-free terminations and packaging codes: C, D
- Rating under development.



STANDARD RATINGS						
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)
<b>10 V<sub>DC</sub> AT + 85 °C; 7 V<sub>DC</sub> AT 125 °C</b>						
2.2	A	TR3A225(1)010(2)6800	0.5	6	6.800	0.11
2.2	A	TR3A225(1)010(2)6000	0.5	6	6.000	0.11
2.2	A	TR3A225(1)010(2)1800	0.5	6	1.800	0.20
4.7	A	TR3A475(1)010(2)3000	0.5	6	3.000	0.16
4.7	A	TR3A475(1)010(2)1500	0.5	6	1.500	0.22
4.7	A	TR3A475(1)010(2)1400	0.5	6	1.400	0.23
4.7	A	TR3A475(1)010(2)1000	0.5	6	1.000	0.27
6.8	A	TR3A685(1)010(2)1800	0.7	6	1.800	0.20
6.8	A	TR3A685(1)010(2)3000	0.7	6	3.000	0.16
10	A	TR3A106(1)010(2)2000	1.0	6	2.000	0.19
10	A	TR3A106(1)010(2)1800	1.0	6	1.800	0.20
10	A	TR3A106(1)010(2)1000	1.0	6	1.000	0.27
10	A	TR3A106(1)010(2)0900	1.0	6	0.900	0.29
10	B	TR3B106(1)010(2)1000	1.0	6	1.000	0.29
10	B	TR3B106(1)010(2)0800	1.0	6	0.800	0.33
10	B	TR3B106(1)010(2)0750	1.0	6	0.750	0.34
15	A	TR3A156(1)010(2)2000	1.5	6	2.000	0.19
15	A	TR3A156(1)010(2)1000	1.5	6	1.000	0.27
15	B	TR3B156(1)010(2)0600	1.5	6	0.600	0.38
15	B	TR3B156(1)010(2)0450	1.5	6	0.450	0.43
15	B	TR3B156(1)010(2)0700	1.5	6	0.700	0.35
22	A	TR3A226(1)010(2)1500	2.2	8	1.500	0.22
22	A	TR3A226(1)010(2)1000	2.2	8	1.000	0.27
22	A	TR3A226(1)010(2)0900	2.2	8	0.900	0.29
22	A	TR3A226(1)010(2)0800	2.2	8	0.800	0.31
22	B	TR3B226(1)010(2)1000	2.2	6	1.000	0.29
22	B	TR3B226(1)010(2)0700	2.2	6	0.700	0.35
22	B	TR3B226(1)010(2)0500	2.2	6	0.500	0.41
22	B	TR3B226(1)010(2)0400	2.2	6	0.400	0.46
22	C	TR3C226(1)010(2)0400	2.2	6	0.400	0.52
22	C	TR3C226(1)010(2)0345	2.2	6	0.345	0.56
22	C	TR3C226(1)010(2)0300	2.2	6	0.300	0.61
33	B	TR3B336(1)010(2)0425	3.3	6	0.425	0.45
33	B	TR3B336(1)010(2)1400	3.3	6	1.400	0.25
33	B	TR3B336(1)010(2)0650	3.3	6	0.650	0.36
33	B	TR3B336(1)010(2)0600	3.3	6	0.600	0.38
33	B	TR3B336(1)010(2)0500	3.3	6	0.500	0.41
33	B	TR3B336(1)010(2)0300	3.3	6	0.300	0.53
33	C	TR3C336(1)010(2)0375	3.3	6	0.375	0.54
33	C	TR3C336(1)010(2)0300	3.3	6	0.300	0.61
47	B	TR3B476(1)010(2)0600	4.7	6	0.600	0.38
47	B	TR3B476(1)010(2)0500	4.7	6	0.500	0.41
47	B	TR3B476(1)010(2)0350	4.7	6	0.350	0.49
47	B	TR3B476(1)010(2)0650	4.7	6	0.650	0.36
47	C	TR3C476(1)010(2)0200	4.7	6	0.200	0.74
47	C	TR3C476(1)010(2)0350	4.7	6	0.350	0.56
47	C	TR3C476(1)010(2)0300	4.7	6	0.300	0.61
47	D	TR3D476(1)010(2)0220	4.7	6	0.220	0.83
47	D	TR3D476(1)010(2)0200	4.7	6	0.200	0.87
47	D	TR3D476(1)010(2)0140	4.7	6	0.140	1.04

Notes

- Part number definitions:
  - Capacitance tolerance codes: K, M
  - Terminations and packaging codes: C, D, E, F
  - Lead (Pb)-free terminations and packaging codes: C, D
- Rating under development.



STANDARD RATINGS						
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)
<b>10 V<sub>DC</sub> AT + 85 °C; 7 V<sub>DC</sub> AT 125 °C</b>						
47	D	TR3D476(1)010(2)0135	4.7	6	0.135	1.05
47	D	TR3D476(1)010(2)0100	4.7	6	0.100	1.22
68	B	TR3B686(1)010(2)1500	6.8	14	1.500	0.24
68	B	TR3B686(1)010(2)0900	6.8	14	0.900	0.31
68	B	TR3B686(1)010(2)0750	6.8	14	0.750	0.34
68	B	TR3B686(1)010(2)0600	6.8	14	0.600	0.38
68	C	TR3C686(1)010(2)0200	6.8	6	0.200	0.74
68	C	TR3C686(1)010(2)0300	6.8	6	0.300	0.61
68	C	TR3C686(1)010(2)0275	6.8	6	0.275	0.63
68	C	TR3C686(1)010(2)0225	6.8	6	0.225	0.70
68	D	TR3D686(1)010(2)0200	6.8	6	0.200	0.87
68	D	TR3D686(1)010(2)0150	6.8	6	0.150	1.00
68	D	TR3D686(1)010(2)0100	6.8	6	0.100	1.22
68	D	TR3D686(1)010(3)0070	6.8	6	0.070	1.46
68	E	TR3E686(1)010(2)0150	6.8	4	0.150	1.05
68	V	TR3V686(1)010(3)0700	6.8	6	0.700	0.42
68	V	TR3V686(1)010(3)0300	6.8	6	0.300	0.65
68	V	TR3V686(1)010(3)0200	6.8	6	0.200	0.79
68	V	TR3V686(1)010(3)0140	6.8	6	0.140	0.94
68	V	TR3V686(1)010(3)0100	6.8	6	0.100	1.12
100	B	TR3B107M010(2)1400	10.0	25	1.400	0.25
100	C	TR3C107(1)010(2)0200	10.0	8	0.200	0.74
100	C	TR3C107(1)010(2)0150	10.0	8	0.150	0.86
100	C	TR3C107(1)010(2)0100	10.0	8	0.100	1.05
100	D	TR3D107(1)010(2)0150	10.0	6	0.150	1.00
100	D	TR3D107(1)010(2)0100	10.0	6	0.100	1.22
100	D	TR3D107(1)010(2)0080	10.0	6	0.080	1.37
100	D	TR3D107(1)010(3)0070	10.0	6	0.070	1.52
100	D	TR3D107(1)010(3)0065	10.0	6	0.065	1.46
100	D	TR3D107(1)010(3)0050	10.0	6	0.050	1.73
100	E	TR3E107(1)010(2)0125	10.0	6	0.125	1.15
100	E	TR3E107(1)010(2)0150	10.0	6	0.150	1.05
100	E	TR3E107(1)010(2)0100	10.0	6	0.100	1.28
100	V	TR3V107(1)010(3)0400	10.0	8	0.400	0.56
100	V	TR3V107(1)010(3)0200	10.0	8	0.200	0.79
100	V	TR3V107(1)010(3)0150	10.0	8	0.150	0.91
150	C	TR3C157M010(2)0500	15.0	20	0.500	0.47
150	D	TR3D157(1)010(2)0150	15.0	8	0.150	1.00
150	D	TR3D157(1)010(2)0100	15.0	8	0.100	1.22
150	D	TR3D157(1)010(2)0075	15.0	8	0.075	1.41
150	D	TR3D157(1)010(3)0070	15.0	8	0.070	1.46
150	D	TR3D157(1)010(3)0050	15.0	8	0.050	1.73
150	E	TR3E157(1)010(2)0100	15.0	8	0.100	1.28
150	E	TR3E157(1)010(2)0080	15.0	8	0.080	1.44
220	D	TR3D227(1)010(2)0150	22.0	8	0.150	1.00
220	D	TR3D227(1)010(2)0125	22.0	8	0.125	1.10
220	D	TR3D227(1)010(2)0100	22.0	8	0.100	1.22
220	D	TR3D227(1)010(3)0050	22.0	8	0.050	1.73
220	E	TR3E227(1)010(2)0150	22.0	8	0.150	1.05
220	E	TR3E227(1)010(2)0100	22.0	8	0.100	1.28

Notes

- Part number definitions:
  - Capacitance tolerance codes: K, M
  - Terminations and packaging codes: C, D, E, F
  - Lead (Pb)-free terminations and packaging codes: C, D
- Rating under development.





STANDARD RATINGS						
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)
<b>10 V<sub>DC</sub> AT + 85 °C; 7 V<sub>DC</sub> AT 125 °C</b>						
220	E	TR3E227(1)010(3)0070	22.0	8	0.070	1.54
220	E	TR3E227(1)010(3)0060	22.0	8	0.060	1.66
220	E	TR3E227(1)010(3)0050	22.0	8	0.050	1.82
220	V	TR3V227(1)010(3)0200	30.0	12	0.200	0.79
220	V	TR3V227(1)010(3)0150	30.0	12	0.150	0.91
330	D	TR3D337(1)010(2)0150	33.0	15	0.150	1.00
330	D	TR3D337(1)010(2)0125	33.0	15	0.125	1.10
330	D	TR3D337(1)010(2)0100	33.0	15	0.100	1.22
330	E	TR3E337(1)010(2)0100	33.0	10	0.100	1.28
330	E	TR3E337(1)010(3)0060	33.0	10	0.060	1.66
330	W	TR3W337(1)010(3)0100	33.0	10	0.100	1.58
330	W	TR3W337(1)010(3)0060	33.0	10	0.060	2.04
330	W	TR3W337(1)010(3)0040	33.0	10	0.040	2.50
470	E	TR3E477(1)010(2)0200	47.0	15	0.200	0.91
470	E	TR3E477(1)010(2)0150	47.0	15	0.150	1.05
470	E	TR3E477(1)010(2)0100	47.0	15	0.100	1.28
470	E	TR3E477(1)010(3)0075	47.0	15	0.075	1.48
470	W	TR3W477(1)010(3)0100	47.0	20	0.100	1.58
470	W	TR3W477(1)010(3)0060	47.0	20	0.060	2.04
470	W	TR3W477(1)010(3)0050	47.0	20	0.050	2.24
<b>16 V<sub>DC</sub> AT + 85 °C; 10 V<sub>DC</sub> AT + 125 °C</b>						
2.2	A	TR3A225(1)016(2)4000	0.5	6	4.000	0.14
2.2	A	TR3A225(1)016(2)3500	0.5	6	3.500	0.15
2.2	A	TR3A225(1)016(2)1800	0.5	6	1.800	0.20
3.3	A	TR3A335(1)016(2)4000	0.5	6	4.000	0.14
3.3	A	TR3A335(1)016(2)3500	0.5	6	3.500	0.15
4.7	A	TR3A475(1)016(2)3000	0.8	6	3.000	0.16
4.7	A	TR3A475(1)016(2)2500	0.8	6	2.500	0.17
4.7	A	TR3A475(1)016(2)2000	0.8	6	2.000	0.19
4.7	A	TR3A475(1)016(2)1500	0.8	6	1.500	0.22
4.7	B	TR3B475(1)016(2)1500	0.8	6	1.500	0.24
4.7	B	TR3B475(1)016(2)0800	0.8	6	0.800	0.33
6.8	A	TR3A685(1)016(2)3000	1.1	6	3.000	0.16
6.8	A	TR3A685(1)016(2)1500	1.1	6	1.500	0.22
6.8	B	TR3B685(1)016(2)1200	1.1	6	1.200	0.27
6.8	B	TR3B685(1)016(2)0600	1.1	6	0.600	0.38
10	A	TR3A106(1)016(2)1700	1.6	6	1.700	0.21
10	B	TR3B106(1)016(2)0800	1.6	6	0.800	0.33
10	B	TR3B106(1)016(2)0500	1.6	6	0.500	0.41
10	C	TR3C106(1)016(2)0600	1.6	6	0.600	0.43
10	C	TR3C106(1)016(2)0500	1.6	6	0.500	0.47
10	C	TR3C106(1)016(2)0450	1.6	6	0.450	0.49
15	B	TR3B156(1)016(2)0800	2.4	6	0.800	0.33
15	B	TR3B156(1)016(2)0500	2.4	6	0.500	0.41
15	C	TR3C156(1)016(2)0400	2.4	6	0.400	0.52
22	B	TR3B226(1)016(2)1000	3.5	6	1.000	0.29
22	B	TR3B226(1)016(2)0700	3.5	6	0.700	0.35
22	B	TR3B226(1)016(2)0600	3.5	6	0.600	0.38
22	B	TR3B226(1)016(2)0400	3.5	6	0.400	0.46
22	C	TR3C226(1)016(2)0375	3.5	6	0.375	0.54
22	C	TR3C226(1)016(2)0350	3.5	6	0.350	0.56

Notes

- Part number definitions:
  - (1) Capacitance tolerance codes: K, M
  - (2) Terminations and packaging codes: C, D, E, F
  - (3) Lead (Pb)-free terminations and packaging codes: C, D
- (1) Rating under development.





STANDARD RATINGS							
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)	
<b>16 V<sub>DC</sub> AT + 85 °C; 10 V<sub>DC</sub> AT + 125 °C</b>							
22	D	TR3D226(1)016(2)0250	3.5	6	0.250	0.77	
33	B	TR3B336(1)016(2)0700	5.3	6	0.700	0.35	
33	B	TR3B336(1)016(2)0500	5.3	6	0.500	0.41	
33	B	TR3B336(1)016(2)0350	5.3	6	0.350	0.49	
33	C	TR3C336(1)016(2)0300	5.3	6	0.300	0.61	
33	C	TR3C336(1)016(2)0225	5.3	6	0.225	0.70	
33	D	TR3D336(1)016(2)0250	5.3	6	0.250	0.77	
33	D	TR3D336(1)016(2)0225	5.3	4	0.225	0.82	
33	D	TR3D336(1)016(2)0150	5.3	6	0.150	1.00	
47	C	TR3C476(1)016(2)0500	7.5	6	0.500	0.47	
47	C	TR3C476(1)016(2)0350	7.5	6	0.350	0.56	
47	C	TR3C476(1)016(2)0300	7.5	6	0.300	0.61	
47	D	TR3D476(1)016(2)0200	7.5	6	0.200	0.87	
47	D	TR3D476(1)016(2)0150	7.5	6	0.150	1.00	
47	D	TR3D476(1)016(2)0100	7.5	6	0.100	1.22	
47	D	TR3D476(1)016(2)0080	7.5	6	0.080	1.37	
47	D	TR3D476(1)016(2)0070	7.5	6	0.070	1.46	
68	D	TR3D686(1)016(2)0150	10.9	6	0.150	1.00	
68	D	TR3D686(1)016(2)0100	10.9	6	0.100	1.22	
68	D	TR3D686(1)016(3)0070	10.9	6	0.070	1.46	
100	D	TR3D107(1)016(2)0150	16.0	8	0.150	1.00	
100	D	TR3D107(1)016(2)0125	16.0	8	0.125	1.10	
100	D	TR3D107(1)016(2)0100	16.0	8	0.100	1.22	
100	D	TR3D107(1)016(3)0075	16.0	8	0.075	1.41	
100	E	TR3E107(1)016(2)0150	16.0	8	0.150	1.05	
100	E	TR3E107(1)016(2)0125	16.0	8	0.125	1.15	
100	E	TR3E107(1)016(2)0100	16.0	8	0.100	1.28	
100	V <sup>(1)</sup>	TR3V107(1)016(3)0150	16.0	10	0.150	0.91	
100	V <sup>(1)</sup>	TR3V107(1)016(3)0100	16.0	10	0.100	1.12	
150	D	TR3D157(1)016(2)0400	24.0	8	0.400	0.61	
150	D	TR3D157(1)016(2)0150	24.0	8	0.150	1.00	
150	D	TR3D157(1)016(2)0125	24.0	8	0.125	1.10	
150	D	TR3D157(1)016(2)0100	24.0	8	0.100	1.22	
150	D	TR3D157(1)016(2)0085	24.0	8	0.085	1.33	
150	D	TR3D157(1)016(3)0075	24.0	8	0.075	1.41	
150	D	TR3D157(1)016(3)0060	24.0	8	0.060	1.58	
150	E	TR3E157(1)016(2)0400	24.0	8	0.400	0.64	
150	E	TR3E157(1)016(2)0150	24.0	8	0.150	1.05	
150	E	TR3E157(1)016(2)0100	24.0	8	0.100	1.28	
150	E	TR3E157(1)016(2)0075	24.0	8	0.075	1.48	
150	E	TR3E157(1)016(2)0060	24.0	8	0.060	1.66	
220	E	TR3E227(1)016(2)0150	35.2	14	0.150	1.05	
220	E	TR3E227(1)016(2)0125	35.2	14	0.125	1.15	
220	E	TR3E227(1)016(2)0100	35.2	14	0.100	1.28	
<b>20 V<sub>DC</sub> AT + 85 °C; 13 V<sub>DC</sub> AT + 125 °C</b>							
1.0	A	TR3A105(1)020(2)5500	0.5	4	5.500	0.12	
1.0	A	TR3A105(1)020(2)3000	0.5	4	3.000	0.16	
2.2	A	TR3A225(1)020(2)4000	0.5	6	4.000	0.14	
2.2	A	TR3A225(1)020(2)3000	0.5	6	3.000	0.16	
3.3	A	TR3A335(1)020(2)4000	0.7	6	4.000	0.14	
3.3	B	TR3B335(1)020(2)1300	0.7	6	1.300	0.26	
4.7	A	TR3A475(1)020(2)3500	0.9	6	3.500	0.15	
4.7	A	TR3A475(1)020(2)1800	0.9	6	1.800	0.20	
4.7	B	TR3B475(1)020(2)1000	0.9	6	1.000	0.29	

**Notes**

- Part number definitions:
  - (1) Capacitance tolerance codes: K, M
  - (2) Terminations and packaging codes: C, D, E, F
  - (3) Lead (Pb)-free terminations and packaging codes: C, D
- (1) Rating under development.



STANDARD RATINGS						
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)
20 V <sub>DC</sub> AT + 85 °C; 13 V <sub>DC</sub> AT + 125 °C						
4.7	B	TR3B475(1)020(2)0750	0.9	6	0.750	0.34
6.8	A	TR3A685(1)020(2)3200	1.4	6	3.200	0.15
6.8	A	TR3A685(1)020(2)3000	1.4	6	3.000	0.16
6.8	A	TR3A685(1)020(2)2600	1.4	6	2.600	0.17
6.8	B	TR3B685(1)020(2)1000	1.4	6	1.000	0.29
6.8	B	TR3B685(1)020(2)0600	1.4	6	0.600	0.38
10	B	TR3B106(1)020(2)1000	2.0	6	1.000	0.29
10	B	TR3B106(1)020(2)0500	2.0	6	0.500	0.41
10	C	TR3C106(1)020(2)0700	2.0	6	0.700	0.40
10	C	TR3C106(1)020(2)0500	2.0	6	0.500	0.47
10	C	TR3C106(1)020(2)0475	2.0	6	0.475	0.48
10	C	TR3C106(1)020(2)0450	2.0	6	0.450	0.49
10	C	TR3C106(1)020(2)0400	2.0	6	0.400	0.52
15	B	TR3B156(1)020(2)1000	3.0	6	1.000	0.29
15	B	TR3B156(1)020(2)0500	3.0	6	0.500	0.41
15	C	TR3C156(1)020(2)0400	3.0	6	0.400	0.52
22	B	TR3B226(1)020(2)0800	4.4	6	0.800	0.33
22	B	TR3B226(1)020(2)0600	4.4	6	0.600	0.38
22	B	TR3B226(1)020(2)0400	4.4	6	0.400	0.46
22	C	TR3C226(1)020(2)0400	4.4	6	0.400	0.52
22	C	TR3C226(1)020(2)0375	4.4	6	0.375	0.54
22	D	TR3D226(1)020(2)0300	4.4	6	0.300	0.71
22	D	TR3D226(1)020(2)0225	3.5	4	0.225	0.82
22	D	TR3D226(1)020(2)0200	4.4	6	0.200	0.87
33	C	TR3C336(1)020(2)0350	6.6	6	0.350	0.56
33	C	TR3C336(1)020(2)0300	6.6	6	0.300	0.61
33	C	TR3C336(1)020(2)0200	6.6	6	0.200	0.74
33	D	TR3D336(1)020(2)0400	6.6	6	0.400	0.61
33	D	TR3D336(1)020(2)0250	6.6	6	0.250	0.77
33	D	TR3D336(1)020(2)0200	6.6	6	0.200	0.87
47	D	TR3D476(1)020(2)0200	9.4	6	0.200	0.87
47	D	TR3D476(1)020(2)0175	9.4	6	0.175	0.93
47	D	TR3D476(1)020(2)0150	9.4	6	0.150	1.00
47	D	TR3D476(1)020(3)0100	9.4	6	0.100	1.22
47	E	TR3E476(1)020(2)0150	9.4	6	0.150	1.05
47	E	TR3E476(1)020(3)0125	9.4	6	0.125	1.15
68	D	TR3D686(1)020(2)0200	13.6	6	0.200	0.87
68	D	TR3D686(1)020(2)0175	13.6	6	0.175	0.93
68	D	TR3D686(1)020(2)0150	13.6	6	0.150	1.00
68	D	TR3D686(1)020(2)0115	13.6	6	0.115	1.14
68	E	TR3E686(1)020(2)0200	13.6	6	0.200	0.91
68	E	TR3E686(1)020(2)0150	13.6	6	0.150	1.05
68	E	TR3E686(1)020(2)0125	13.6	6	0.125	1.15
68	E	TR3E686(1)020(2)0120	13.6	6	0.120	1.17
100	D	TR3D107(1)020(2)0200	20.0	8	0.200	0.87
100	D	TR3D107(1)020(2)0150	20.0	8	0.150	1.00
100	D	TR3D107(1)020(2)0100	20.0	8	0.100	1.22
100	D	TR3D107(1)020(3)0085	20.0	8	0.085	1.33
100	D	TR3D107(1)020(3)0080	20.0	8	0.080	1.37
100	E	TR3E107(1)020(2)0200	20.0	8	0.200	0.91

Notes

- Part number definitions:
  - Capacitance tolerance codes: K, M
  - Terminations and packaging codes: C, D, E, F
  - Lead (Pb)-free terminations and packaging codes: C, D
- Rating under development.



STANDARD RATINGS						
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)
<b>20 V<sub>DC</sub> AT + 85 °C; 13 V<sub>DC</sub> AT + 125 °C</b>						
100	E	TR3E107(1)020(2)0150	20.0	8	0.150	1.05
100	E	TR3E107(1)020(2)0100	20.0	8	0.100	1.28
100	W	TR3W107(1)020(3)0200	20.0	8	0.200	1.12
100	W	TR3W107(1)020(3)0100	20.0	8	0.100	1.58
100	W	TR3W107(1)020(3)0080	20.0	8	0.080	1.77
100	W	TR3W107(1)020(3)0060	20.0	8	0.060	2.04
150	W	TR3W157(1)020(3)0200	30.0	10	0.200	1.12
150	W	TR3W157(1)020(3)0150	30.0	10	0.150	1.29
150	W	TR3W157(1)020(3)0100	30.0	10	0.100	1.58
150	W	TR3W157(1)020(3)0080	30.0	10	0.080	1.77
<b>25 V<sub>DC</sub> AT + 85 °C; 17 V<sub>DC</sub> AT + 125 °C</b>						
1.0	A	TR3A105(1)025(2)4000	0.5	4	4.000	0.14
1.5	A	TR3A155(1)025(2)4000	0.5	6	4.000	0.14
1.5	A	TR3A155(1)025(2)3000	0.5	6	3.000	0.16
2.2	A	TR3A225(1)025(2)4000	0.6	6	4.000	0.14
2.2	B	TR3B225(1)025(2)1500	0.6	6	1.500	0.24
2.2	B	TR3B225(1)025(2)1200	0.6	6	1.200	0.27
2.2	B	TR3B225(1)025(2)0900	0.6	6	0.900	0.31
3.3	A	TR3A335(1)025(2)3500	0.8	6	3.500	0.15
3.3	A	TR3A335(1)025(2)3000	0.8	6	3.000	0.16
3.3	B	TR3B335(1)025(2)2000	0.8	6	2.000	0.21
3.3	B	TR3B335(1)025(2)1500	0.8	6	1.500	0.24
3.3	B	TR3B335(1)025(2)0750	0.8	6	0.750	0.34
4.7	A	TR3A475(1)025(2)3500	1.2	6	3.500	0.15
4.7	A	TR3A475(1)025(2)3000	1.2	6	3.000	0.16
4.7	B	TR3B475(1)025(2)1500	1.2	6	1.500	0.24
4.7	B	TR3B475(1)025(2)1000	1.2	6	1.000	0.29
4.7	B	TR3B475(1)025(2)0900	1.2	6	9.000	0.10
4.7	B	TR3B475(1)025(2)0700	1.2	6	0.700	0.35
4.7	C	TR3C475(1)025(2)0600	1.2	6	0.600	0.43
4.7	C	TR3C475(1)025(2)0525	1.2	6	0.525	0.46
6.8	B	TR3B685(1)025(2)2000	1.7	6	2.000	0.21
6.8	B	TR3B685(1)025(2)1500	1.7	6	1.500	0.24
6.8	B	TR3B685(1)025(2)1200	1.7	6	1.200	0.27
6.8	B	TR3B685(1)025(2)0700	1.7	6	0.700	0.35
6.8	B	TR3B685(1)025(3)0500	1.7	6	0.500	0.41
6.8	B	TR3B685(1)025(3)0400	1.7	6	0.400	0.46
6.8	C	TR3C685(1)025(2)0600	1.7	6	0.600	0.43
6.8	C	TR3C685(1)025(2)0500	1.7	6	0.500	0.47
10	B	TR3B106(1)025(2)1300	2.5	6	1.300	0.26
10	B	TR3B106(1)025(2)1100	2.5	6	1.100	0.28
10	B	TR3B106(1)025(2)0450	2.5	6	0.450	0.43
10	C	TR3C106(1)025(2)0600	2.5	6	0.600	0.43
10	C	TR3C106(1)025(2)0500	2.5	6	0.500	0.47
10	C	TR3C106(1)025(2)0450	2.5	6	0.450	0.49
10	C	TR3C106(1)025(2)0300	2.5	6	0.300	0.61
10	D	TR3D106(1)025(2)0400	2.5	6	0.400	0.61
10	D	TR3D106(1)025(2)0300	2.5	6	0.300	0.71
15	B	TR3B156(1)025(2)1000	3.8	6	1.000	0.29
15	B	TR3B156(1)025(2)0800	3.8	6	0.800	0.33
15	B	TR3B156(1)025(2)0600	3.8	6	0.600	0.38
15	C	TR3C156(1)025(2)0900	3.8	6	0.900	0.35

Notes

- Part number definitions:
  - Capacitance tolerance codes: K, M
  - Terminations and packaging codes: C, D, E, F
  - Lead (Pb)-free terminations and packaging codes: C, D
- Rating under development.



STANDARD RATINGS						
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)
<b>25 V<sub>DC</sub> AT + 85 °C; 17 V<sub>DC</sub> AT + 125 °C</b>						
15	C	TR3C156(1)025(2)0425	3.8	6	0.425	0.51
15	D	TR3D156(1)025(2)0350	3.8	6	0.350	0.65
15	D	TR3D156(1)025(2)0275	3.8	6	0.275	0.74
15	D	TR3D156(1)025(2)0250	3.8	6	0.250	0.77
15	D	TR3D156(1)025(2)0200	3.8	6	0.200	0.87
22	C	TR3C226(1)025(2)1000	5.5	6	1.000	0.33
22	C	TR3C226(1)025(2)0900	5.5	6	0.900	0.35
22	C	TR3C226(1)025(2)0400	5.5	6	0.400	0.52
22	C	TR3C226(1)025(2)0425	5.5	6	0.425	0.51
22	C	TR3C226(1)025(2)0300	5.5	6	0.300	0.61
22	C	TR3C226(1)025(2)0275	5.5	6	0.275	0.63
22	C	TR3C226(1)025(2)0250	5.5	6	0.250	0.66
22	D	TR3D226(1)025(2)0300	5.5	6	0.300	0.71
22	D	TR3D226(1)025(2)0200	5.5	6	0.200	0.87
22	E	TR3E226(1)025(2)0300	5.5	6	0.300	0.74
22	E	TR3E226(1)025(2)0200	5.5	6	0.200	0.91
22	V	TR3V226(1)025(3)0500	5.5	6	0.500	0.50
22	V	TR3V226(1)025(3)0400	5.5	6	0.400	0.56
22	V	TR3V226(1)025(3)0250	5.5	6	0.250	0.71
33	D	TR3D336(1)025(2)0400	8.3	6	0.400	0.61
33	D	TR3D336(1)025(2)0300	8.3	6	0.300	0.71
33	D	TR3D336(1)025(2)0225	8.3	6	0.225	0.82
33	D	TR3D336(1)025(2)0200	8.3	6	0.200	0.87
33	E	TR3E336(1)025(2)0300	8.3	6	0.300	0.74
33	E	TR3E336(1)025(2)0200	8.3	6	0.200	0.91
33	E	TR3E336(1)025(2)0175	6.6	4	0.175	0.97
47	D	TR3D476(1)025(2)0350	11.8	8	0.350	0.65
47	D	TR3D476(1)025(2)0250	11.8	8	0.250	0.77
47	D	TR3D476(1)025(2)0200	11.8	8	0.200	0.87
47	D	TR3D476(1)025(2)0150	11.8	8	0.150	1.00
47	D	TR3D476(1)025(3)0125	11.8	8	0.125	1.10
47	D	TR3D476(1)025(3)0100	11.8	8	0.100	1.22
47	E	TR3E476(1)025(2)0300	11.8	6	0.300	0.74
47	E	TR3E476(1)025(2)0200	11.8	6	0.200	0.91
47	E	TR3E476(1)025(2)0150	11.8	8	0.150	1.05
47	E	TR3E476(1)025(3)0125	11.8	8	0.125	1.15
47	E	TR3E476(1)025(3)0100	11.8	8	0.100	1.28
68	E	TR3E686(1)025(2)0250	17.0	8	0.250	0.81
68	W	TR3W686(1)025(3)0200	17.0	6	0.200	1.12
68	W	TR3W686(1)025(3)0150	17.0	6	0.150	1.29
68	W	TR3W686(1)025(3)0095	17.0	6	0.095	1.62
100	W	TR3W107(1)025(3)0200	25.0	15	0.200	1.12
100	W	TR3W107(1)025(3)0150	25.0	15	0.150	1.29
100	W	TR3W107(1)025(3)0100	25.0	15	0.100	1.58
<b>35 V<sub>DC</sub> AT + 85 °C; 23 V<sub>DC</sub> AT + 125 °C</b>						
0.47	A	TR3A474(1)035(2)4000	0.5	4	4.000	0.14
0.68	A	TR3A684(1)035(2)6000	0.5	4	6.000	0.11
0.68	A	TR3A684(1)035(2)4000	0.5	4	4.000	0.14
1.0	A	TR3A105(1)035(2)6000	0.5	4	6.000	0.11
1.0	A	TR3A105(1)035(2)4000	0.5	4	4.000	0.14
1.0	A	TR3A105(1)035(2)3000	0.5	4	3.000	0.16
1.0	B	TR3B105(1)035(2)2000	0.5	4	2.000	0.21

Notes

- Part number definitions:
  - (1) Capacitance tolerance codes: K, M
  - (2) Terminations and packaging codes: C, D, E, F
  - (3) Lead (Pb)-free terminations and packaging codes: C, D
- (1) Rating under development.



STANDARD RATINGS						
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 ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)
35 V <sub>DC</sub> AT + 85 °C; 23 V <sub>DC</sub> AT + 125 °C						
1.0	B	TR3B105(1)035(2)1700	0.5	4	1.700	0.22
1.0	B	TR3B105(1)035(2)1500	0.5	4	1.500	0.24
1.5	B	TR3B155(1)035(2)3000	0.5	6	3.000	0.17
1.5	B	TR3B155(1)035(2)2000	0.5	6	2.000	0.21
1.5	C	TR3C155(1)035(2)2500	0.5	6	2.500	0.21
1.5	C	TR3C155(1)035(2)0900	0.5	6	0.900	0.35
2.2	B	TR3B225(1)035(2)2500	0.8	6	2.500	0.18
2.2	B	TR3B225(1)035(2)2000	0.8	6	2.000	0.21
2.2	B	TR3B225(1)035(2)1500	0.8	6	1.500	0.24
2.2	C	TR3C225(1)035(2)1500	0.8	6	1.500	0.27
2.2	C	TR3C225(1)035(2)0900	0.8	6	0.900	0.35
3.3	B	TR3B335(1)035(2)1500	1.2	6	1.500	0.24
3.3	B	TR3B335(1)035(2)1000	1.2	6	1.000	0.29
3.3	C	TR3C335(1)035(2)0800	1.2	6	0.800	0.37
3.3	C	TR3C335(1)035(2)0700	1.2	6	0.700	0.40
3.3	C	TR3C335(1)035(2)0600	1.2	6	0.600	0.43
4.7	B	TR3B475(1)035(2)1500	1.6	6	1.500	0.24
4.7	B	TR3B475(1)035(2)1000	1.6	6	1.000	0.29
4.7	B	TR3B475(1)035(2)0700	1.6	6	0.700	0.35
4.7	C	TR3C475(1)035(2)0700	1.6	6	0.700	0.40
4.7	C	TR3C475(1)035(2)0600	1.6	6	0.600	0.43
4.7	C	TR3C475(1)035(2)0500	1.6	6	0.500	0.47
4.7	D	TR3D475(1)035(2)0700	1.6	6	0.700	0.46
6.8	C	TR3C685(1)035(2)0900	2.4	6	0.900	0.35
6.8	C	TR3C685(1)035(2)0475	2.4	6	0.475	0.48
6.8	D	TR3D685(1)035(2)0500	2.4	6	0.500	0.55
6.8	D	TR3D685(1)035(2)0400	2.4	6	0.400	0.61
6.8	D	TR3D685(1)035(2)0300	2.4	6	0.300	0.71
6.8	E	TR3E685(1)035(2)0300	2.4	4	0.300	0.74
10	C	TR3C106(1)035(2)1200	3.5	6	1.200	0.30
10	C	TR3C106(1)035(2)0450	3.5	6	0.450	0.49
10	D	TR3D106(1)035(2)0400	3.5	6	0.400	0.61
10	D	TR3D106(1)035(2)0300	3.5	6	0.300	0.71
10	D	TR3D106(1)035(2)0260	3.5	6	0.260	0.76
10	D	TR3D106(1)035(2)0250	3.5	6	0.250	0.77
10	D	TR3D106(1)035(2)0200	3.5	6	0.200	0.87
10	D	TR3D106(1)035(3)0135	3.5	6	0.135	1.05
10	D	TR3D106(1)035(3)0125	3.5	6	0.125	1.10
10	E	TR3E106(1)035(2)0250	3.5	6	0.250	0.81
10	E	TR3E106(1)035(2)0200	3.5	6	0.200	0.91
15	D	TR3D156(1)035(2)0350	5.3	6	0.350	0.65
15	D	TR3D156(1)035(2)0300	5.3	6	0.300	0.71
15	D	TR3D156(1)035(2)0260	5.3	6	0.260	0.76
15	D	TR3D156(1)035(2)0225	5.3	6	0.225	0.82
15	D	TR3D156(1)035(2)0200	5.3	6	0.200	0.87
15	D	TR3D156(1)035(2)0150	5.3	6	0.150	1.00
15	E	TR3E156(1)035(2)0300	5.3	6	0.300	0.74
15	E	TR3E156(1)035(2)0225	5.3	6	0.225	0.86
15	E	TR3E156(1)035(2)0200	5.3	6	0.200	0.91
15	E	TR3E156(1)035(2)0150	5.3	6	0.150	1.05
22	D	TR3D226(1)035(2)0400	7.7	6	0.400	0.61
22	D	TR3D226(1)035(2)0300	7.7	6	0.300	0.71

Notes

- Part number definitions:
  - Capacitance tolerance codes: K, M
  - Terminations and packaging codes: C, D, E, F
  - Lead (Pb)-free terminations and packaging codes: C, D
- Rating under development.



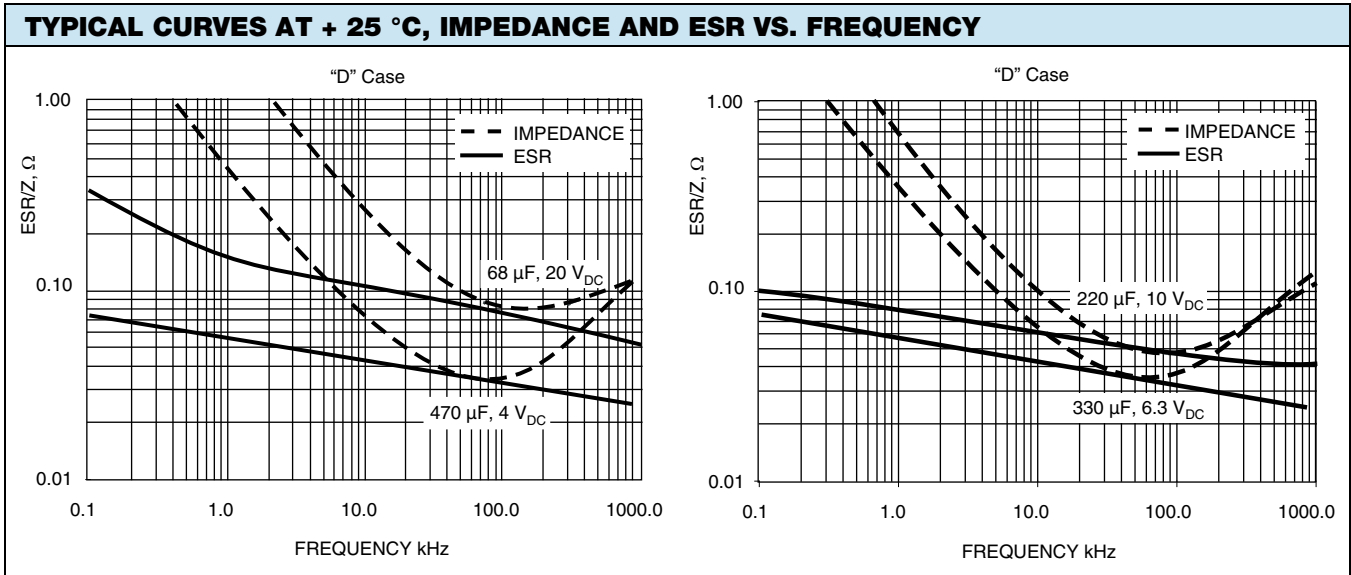
STANDARD RATINGS						
CAPACITANCE ( $\mu$ F)	CASE CODE	PART NUMBER	MAX. DCL AT + 25 °C ( $\mu$ A)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz ( $\Omega$ )	MAX. RIPPLE 100 kHz $I_{RMS}$ (A)
<b>35 V<sub>DC</sub> AT + 85 °C; 23 V<sub>DC</sub> AT + 125 °C</b>						
22	D	TR3D226(1)035(2)0275	7.7	6	0.275	0.74
22	D	TR3D226(1)035(2)0250	7.7	6	0.250	0.77
22	D	TR3D226(1)035(2)0200	7.7	6	0.200	0.87
22	E	TR3E226(1)035(2)0300	7.7	6	0.300	0.74
22	E	TR3E226(1)035(2)0275	7.7	6	0.275	0.77
22	E	TR3E226(1)035(2)0260	7.7	6	0.260	0.80
22	E	TR3E226(1)035(2)0200	7.7	6	0.200	0.91
<b>50 V<sub>DC</sub> AT + 85 °C; 33 V<sub>DC</sub> AT + 125 °C</b>						
1.0	B	TR3B105(1)050(2)4000	0.5	4	4.000	0.15
1.0	B	TR3B105(1)050(2)2000	0.5	4	2.000	0.21
1.0	C	TR3C105(1)050(2)1600	0.5	4	1.600	0.26
1.5	B	TR3B155(1)050(2)2000	0.8	6	2.000	0.21
1.5	C	TR3C155(1)050(2)1500	0.8	6	1.500	0.27
2.2	B	TR3B225(1)050(2)2000	1.1	6	2.000	0.21
2.2	C	TR3C225(1)050(2)1500	1.1	6	1.500	0.27
2.2	D	TR3D225(1)050(2)0800	1.1	6	0.800	0.43
3.3	C	TR3C335(1)050(2)1500	1.7	6	1.500	0.27
3.3	D	TR3D335(1)050(2)0800	1.7	6	0.800	0.43
4.7	C	TR3C475(1)050(2)1000	2.4	6	1.000	0.33
4.7	C	TR3C475(1)050(2)0700	2.4	6	0.700	0.40
4.7	C	TR3C475(1)050(2)0500	2.4	6	0.500	0.47
4.7	D	TR3D475(1)050(2)0700	2.4	6	0.700	0.46
4.7	D	TR3D475(1)050(2)0600	2.4	6	0.600	0.50
4.7	D	TR3D475(1)050(2)0500	2.4	6	0.500	0.55
4.7	D	TR3D475(1)050(2)0300	2.4	6	0.300	0.71
4.7	E	TR3E475(1)050(2)0600	2.4	4	0.600	0.52
4.7	E	TR3E475(1)050(2)0300	2.4	4	0.300	0.74
6.8	D	TR3D685(1)050(2)0700	3.4	6	0.700	0.46
6.8	D	TR3D685(1)050(2)0600	3.4	6	0.600	0.50
6.8	D	TR3D685(1)050(2)0500	3.4	6	0.500	0.55
6.8	D	TR3D685(1)050(2)0300	3.4	6	0.300	0.71
6.8	E	TR3E685(1)050(2)0550	3.4	6	0.550	0.55
6.8	E	TR3E685(1)050(2)0500	3.4	6	0.500	0.57
10	D	TR3D106(1)050(2)0700	5.0	6	0.700	0.46
10	D	TR3D106(1)050(2)0550	5.0	6	0.550	0.52
10	D	TR3D106(1)050(2)0450	5.0	6	0.450	0.58
10	E	TR3E106(1)050(2)0700	5.0	6	0.700	0.49
10	E	TR3E106(1)050(2)0550	5.0	6	0.550	0.55
10	E	TR3E106(1)050(2)0500	5.0	6	0.500	0.57
10	E	TR3E106(1)050(2)0400	5.0	6	0.400	0.64
10	E	TR3E106(1)050(2)0300	5.0	6	0.300	0.74
15	E	TR3E156(1)050(2)0400	7.5	6	0.400	0.64
15	E	TR3E156(1)050(3)0300	7.5	6	0.300	0.74
<b>63 V<sub>DC</sub> AT + 85 °C; 40 V<sub>DC</sub> AT + 125 °C</b>						
4.7	D	TR3D475(1)063(2)0700	3.0	6	0.700	0.46
10	E	TR3E106(1)063(2)0600	6.3	6	0.600	0.52

**Notes**

- Part number definitions:
  - Capacitance tolerance codes: K, M
  - Terminations and packaging codes: C, D, E, F
  - Lead (Pb)-free terminations and packaging codes: C, D
- Rating under development.



<b>RECOMMENDED VOLTAGE DERATING GUIDELINES</b> (for temperatures below + 85 °C)	
<b>STANDARD CONDITIONS. FOR EXAMPLE: OUTPUT FILTERS</b>	
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
63	38
<b>SEVERE CONDITIONS. FOR EXAMPLE: INPUT FILTERS</b>	
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
63	32







POWER DISSIPATION	
CASE CODE	MAXIMUM PERMISSIBLE POWER DISSIPATION AT + 25 °C (W) IN FREE AIR
A	0.075
B	0.085
C	0.110
D	0.150
E	0.165
V	0.125
W	0.250

STANDARD PACKAGING QUANTITY		
CASE CODE	UNITS PER REEL	
	7" REEL	13" REEL
A	2000	9000
B	2000	8000
C	500	3000
D	500	2500
E	400	1500
V	1000	5000
W	500	2000

PRODUCT INFORMATION	
Guide for Molded Tantalum Capacitors	<a href="http://www.vishay.com/doc?40074">www.vishay.com/doc?40074</a>
Pad Dimensions	
Packaging Dimensions	
Moisture Sensitivity	<a href="http://www.vishay.com/doc?40135">www.vishay.com/doc?40135</a>
SELECTOR GUIDES	
Solid Tantalum Selector Guide	<a href="http://www.vishay.com/doc?49053">www.vishay.com/doc?49053</a>
Solid Tantalum Chip Capacitors	<a href="http://www.vishay.com/doc?40091">www.vishay.com/doc?40091</a>
FAQ	
Frequently Asked Questions	<a href="http://www.vishay.com/doc?40110">www.vishay.com/doc?40110</a>



## Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

## Material Category Policy

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.**

**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.**