T350, T351, T352, T353, T354, T355 & T356
UltraDip II Polar

Overview

The KEMET UltraDip II offers quality instrument and entertainment system designs that are widely recognized and advantages inherent to solid tantalum capacitors at competitive prices. These capacitors are miniature, dipped, solid tantalum capacitors that provide the designer with the advantages of compactness, low leakage and low DF performance characteristics for filtering, bypassing, coupling, blocking and RC timing circuits. This series features a capacitance range from 0.1 to 680 µF at voltages from 3 to 50 VDC.

UltraDip II capacitors utilize the same sophisticated materials and processes that have positioned KEMET as the leading manufacturer of solid tantalum capacitors. The plastic case provides a tough barrier coating and maintains precision of lead wire spacing within ±0.015 inch. The gold color epoxy utilized permits laser marking with outstanding permanency and legibility. All case sizes are printed with capacitance, voltage, polarity and vendor identification. Solid tantalum devices exhibit no degradation failure mode during shelf storage and show a constantly decreasing failure rate (i.e., absence of wearout mechanism) during life tests. Self-insulating cases are resistant to shock and vibration. T35X also exhibits low DC leakage, ESR and impedance, and maintains excellent temperature stability.

Benefits

- Taped and reeled per EIA Specification RS-468
- Laser-marked case
- Capacitance values of 0.1 to 680 µF
- Tolerances of ± 5% (special order), ±10% and ±20%
- Voltage rating of 3 – 50 VDC
- Case sizes: A, B, C, D, E, F, G, H, J, K, L, and M

Applications

Typical applications include filtering, bypassing, coupling, blocking and RC timing circuits or other applications that can benefit from compactness.

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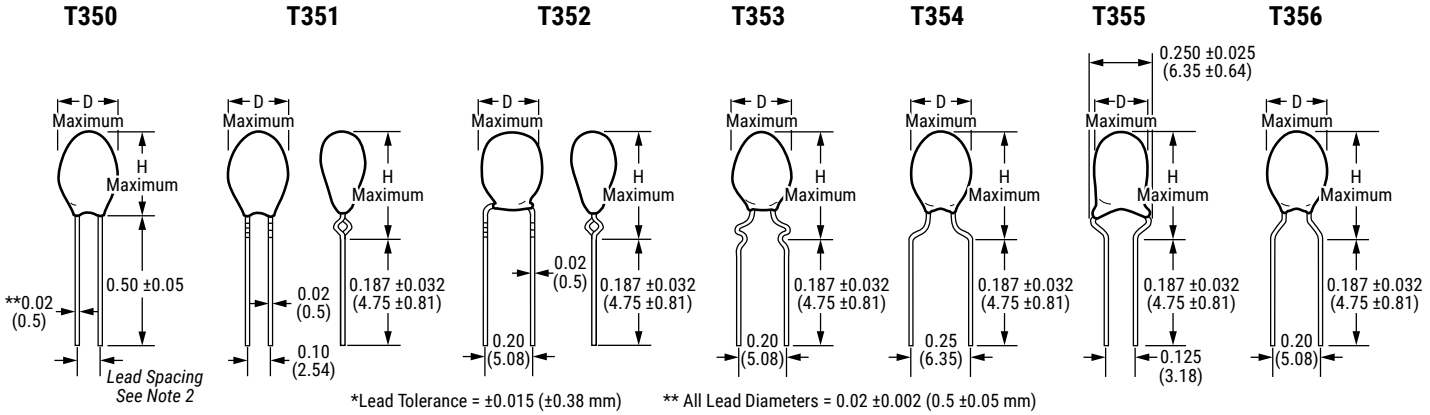
Ordering Information

T	35X	A	105	M	035	A	S	
Capacitor Class	Series	Case Size	Capacitance Code (pF)	Capacitance Tolerance	Rated Voltage (VDC)	Failure Rate	Termination Finish	Packaging
T = Tantalum	350 351 352 353 354 355 356	A, B, C, D, E, F, G, H, J, K, L, M	First two digits represent significant figures. Third digit specifies number of zeros to follow.	M = ±20% K = ±10% J = ±5% (Available on special order)	003 = 3 006 = 6 010 = 10 016 = 16 020 = 20 025 = 25 035 = 35 050 = 50	Not Applicable	S = Standard T =100% Sn (tin)	Blank = Bulk 7301 = Tape & Reel 7303 = Tape & Reel 7305 = Ammo 7317 = Ammo

Performance Characteristics

Item	Performance Characteristics
Operating Temperature	−55°C to 125°C
Rated Capacitance Range	0.1 – 680 µF at 120 Hz/25°C
Capacitance Tolerance	M tolerance ±20%, K tolerance ±10%
Rated Voltage Range	3 – 50 V
DF (120 Hz at 25°C)	Refer to Part Number Electrical Specification Table
Leakage Current	Refer to Part Number Electrical Specification Table (at rated voltage up to +85°C and 2/3 of rated voltage applied at 125°C)

Dimensions – Millimeters (Inches)



Case Size	All	T350	T351	T352	T353	T354	T355	T356
	D Maximum Diamenter	H* Maximum Height	H* Maximum Height	H* Maximum Height	H* Maximum Height	H* Maximum Height	H* Maximum Height	H* Maximum Height
A	0.175 (4.5)	0.280 (7.1)	0.380 (9.6)	0.400 (10.2)	0.400 (10.2)	0.340 (8.6)	0.340 (8.6)	0.340 (8.6)
B	0.175 (4.5)	0.300 (7/6)	0.390 (9.9)	0.410 (10.4)	0.410 (10.4)	0.350 (8.9)	0.350 (8.9)	0.350 (8.9)
C	0.196 (5.0)	0.330 (8.4)	0.420 (10.7)	0.440 (11.2)	0.440 (11.2)	0.380 (9.6)	0.380 (9.6)	0.380 (9.6)
D	0.196 (5.0)	0.340 (8.6)	0.430 (10.7)	0.450 (11.4)	0.450 (11.4)	0.390 (9.9)	0.390 (9.9)	0.390 (9.9)
E	0.216 (5.5)	0.350 (8.9)	0.440 (11.2)	0.460 (11.7)	0.460 (11.7	0.400 (10.2)	0.400 (10.2)	0.400 (10.2)
F	0.236 (6.0)	0.390 (9.9)	0.480 (12.2)	0.500 (12.7)	0.500 (12.7)	0.440 (11.2)	0.440 (11.2)	0.440 (11.2)
G	0.250 (6.3)	0.400 (10.2)	0.490 (12.4)	0.510 (13.0)	0.510 (13.0)	0.450 (11.4)	0.450 (11.4)	0.450 (11.4)
H	0.300 (7.6)	0.400 (10.2)	0.500 (12.7)	0.520 (13.2)	0.520 (13.2)	0.470 (11.9)	0.470 (11.9)	0.470 (11.9)
J**	0.330 (8.4)	0.500 (12.7)	***	***	0.580 (14.7)	0.550 (14.0)	***	0.550 (14.0)
K**	0.350 (8.9)	0.530 (13.5)	***	***	0.630 (16.0)	0.610 (15.5)	***	0.610 (15.5)
L**	0.350 (8.9)	0.630 (16.0)	***	***	0.730 (18.5)	0.710 (18.1)	***	0.710 (18.1)
M**	0.400 (10.2)	0.670 (17.0)	***	***	0.760 (19.3)	0.740 (18.8)	***	0.740 (18.8)

**All "H" Dimensions are from Capacitor seating plane to top of Capacitor.*
***On T350, case sizes A-H are supplied with 0.100" (2.54) lead spacing and case sizes J-M are supplied with 0.200" (5.08) lead spacing.*
****These case sizes are not available for T351, T352 and T355 capacitors.*

Table 1 - Ratings and Part Number Reference

Rated Voltage	Rated Capacitance	Case Code Case Size	KEMET Part Number	DC Leakage	DF % at 25°C
(V) 85°C	µF			µA at 25°C Maximum/5 Minutes	120 Hz Maximum
3	4.7	A	T35(1)A475(3)003A(4)	0.5	5
3	5.6	A	T35(1)A565(3)003A(4)	0.5	5
3	6.8	A	T35(1)A685(3)003A(4)	0.5	5
3	8.2	A	T35(1)A825(3)003A(4)	0.5	6
3	10.0	A	T35(1)A106(3)003A(4)	0.5	6
3	12.0	B	T35(1)B126(3)003A(4)	0.5	6
3	15.0	B	T35(1)B156(3)003A(4)	0.5	6
3	18.0	C	T35(1)C186(3)003A(4)	0.5	6
3	22.0	C	T35(1)C226(3)003A(4)	0.5	6
3	27.0	D	T35(1)D276(3)003A(4)	0.6	6
3	33.0	D	T35(1)C336(3)003A(4)	0.8	6
3	39.0	E	T35(1)E396(3)003A(4)	0.9	6
3	47.0	E	T35(1)E476(3)003A(4)	1.1	6
3	56.0	F	T35(1)F566(3)003A(4)	1.3	6
3	68.0	F	T35(1)F686(3)003A(4)	1.6	6
3	82.0	G	T35(1)G826(3)003A(4)	2.0	8
3	100.0	G	T35(1)G107(3)003A(4)	2.4	8
3	120.0	H	T35(1)H127(3)003A(4)	2.9	8
3	150.0	H	T35(1)H157(3)003A(4)	3.6	8
3	180.0	J	T35(2)J187(3)003A(4)	4.3	8
3	220.0	J	T35(2)J227(3)003A(4)	5.3	8
3	270.0	K	T35(2)K277(3)003A(4)	6.5	8
3	330.0	K	T35(2)K337(3)003A(4)	7.9	8
3	390.0	L	T35(2)L397(3)003A(4)	9.4	9
3	470.0	L	T35(2)L477(3)003A(4)	10.0	9
3	560.0	M	T35(2)M567(3)003A(4)	10.0	9
3	680.0	M	T35(2)M687(3)003A(4)	10.0	9
6	3.3	A	T35(1)A335(3)006A(4)	0.5	5
6	3.9	A	T35(1)A395(3)006A(4)	0.5	5
6	4.7	A	T35(1)A475(3)006A(4)	0.5	5
6	5.6	A	T35(1)A565(3)006A(4)	0.5	5
6	6.8	A	T35(1)A685(3)006A(4)	0.5	5
6	8.2	B	T35(1)B825(3)006A(4)	0.5	6
6	10.0	B	T35(1)B106(3)006A(4)	0.5	6
6	12.0	C	T35(1)C126(3)006A(4)	0.6	6
6	15.0	C	T35(1)C156(3)006A(4)	0.7	6
6	18.0	D	T35(1)D186(3)006A(4)	0.9	6
6	22.0	D	T35(1)D226(3)006A(4)	1.1	6
6	27.0	E	T35(1)E276(3)006A(4)	1.3	6
6	33.0	E	T35(1)E336(3)006A(4)	1.6	6
6	39.0	F	T35(1)F396(3)006A(4)	1.9	6
6	47.0	F	T35(1)F476(3)006A(4)	2.3	6
6	56.0	G	T35(1)G566(3)006A(4)	2.7	6
6	68.0	G	T35(1)G686(3)006A(4)	3.3	6
6	82.0	H	T35(1)H826(3)006A(4)	3.9	8
6	100.0	H	T35(1)H107(3)006A(4)	4.8	8
6	120.0	J	T35(2)J127(3)006A(4)	5.8	8
(V) 85°C	µF	Case Code Case Size	KEMET Part Number	µA at 25°C Maximum/5 Minutes	120 Hz Maximum
Rated Voltage	Rated Capacitance			DC Leakage	DF % at 25°C

(1) To complete KEMET Part Number, insert Series Designation as follows: "0 = T350, "1" = T351, "2" = T352, "3" = T353, "4" = T354, "5" = T355, "6" = T356.

(2) To complete KEMET Part Number, insert only Series Designation as follows: "0 = T350, "3" = T353, "4" = T354, "6" = T356.

(3) To complete KEMET part number, insert M - 20%, K - ±10%, J - ± 5%. Designates Capacitance tolerance.

(4) To complete KEMET part number, insert S = Standard coated or T=100% Sn (tin). Designates termination finish.

Higher voltage and better capacitance tolerance products may be substitued for an order within the same case size at KEMET's option.

Table 1 - Ratings and Part Number Reference (cont'd)

Rated Voltage	Rated Capacitance	Case Code Case Size	KEMET Part Number	DC Leakage	DF % at 25°C
(V) 85°C	µF			µA at 25°C Maximum/5 Minutes	120 Hz Maximum
6	150.0	J	T35(2)J157(3)006A(4)	7.2	8
6	180.0	K	T35(2)K187(3)006A(4)	8.6	8
6	220.0	K	T35(2)K227(3)006A(4)	10.0	8
6	270.0	L	T35(2)L227(3)006A(4)	10.0	8
6	330.0	L	T35(2)L337(3)006A(4)	10.0	8
10	2.2	A	T35(1)A225(3)010A(4)	0.5	5
10	2.7	A	T35(1)A275(3)010A(4)	0.5	5
10	3.3	A	T35(1)A335(3)010A(4)	0.5	5
10	3.9	A	T35(1)A395(3)010A(4)	0.5	5
10	4.7	A	T35(1)A475(3)010A(4)	0.5	5
10	5.6	B	T35(1)B565(3)010A(4)	0.5	5
10	6.8	B	T35(1)B685(3)010A(4)	0.5	5
10	8.2	C	T35(1)C825(3)010A(4)	0.7	6
10	10.0	C	T35(1)C106(3)010A(4)	0.8	6
10	12.0	E	T35(1)E126(3)010A(4)	1.0	6
10	15.0	E	T35(1)E156(3)010A(4)	1.2	6
10	18.0	E	T35(1)E186(3)010A(4)	1.4	6
10	22.0	E	T35(1)E226(3)010A(4)	1.8	6
10	27.0	F	T35(1)F276(3)010A(4)	2.2	6
10	33.0	F	T35(1)F336(3)010A(4)	2.6	6
10	39.0	G	T35(1)G396(3)010A(4)	3.1	6
10	47.0	H	T35(1)H476(3)010A(4)	3.8	6
10	56.0	H	T35(1)H566(3)010A(4)	4.5	6
10	68.0	H	T35(1)H686(3)010A(4)	5.4	6
10	82.0	J	T35(1)J826(3)010A(4)	6.6	8
10	100.0	J	T35(1)J107(3)010A(4)	8.0	8
10	120.0	K	T35(2)K127(3)010A(4)	9.6	8
10	150.0	K	T35(2)K157(3)010A(4)	10.0	8
10	180.0	L	T35(2)L187(3)010A(4)	10.0	8
10	220.0	L	T35(2)L227(3)010A(4)	10.0	8
16	1.5	A	T35(1)A155(3)016A(4)	0.5	5
16	1.8	A	T35(1)A185(3)016A(4)	0.5	5
16	2.2	A	T35(1)A225(3)016A(4)	0.5	5
16	2.7	A	T35(1)A275(3)016A(4)	0.5	5
16	3.3	A	T35(1)A335(3)016A(4)	0.5	5
16	3.9	B	T35(1)B395(3)016A(4)	0.5	5
16	4.7	B	T35(1)B475(3)016A(4)	0.6	5
16	5.6	C	T35(1)C565(3)016A(4)	0.7	5
16	6.8	C	T35(1)C685(3)016A(4)	0.9	5
16	8.2	E	T35(1)E825(3)016A(4)	1.0	6
16	10.0	E	T35(1)E106(3)016A(4)	1.3	6
16	12.0	E	T35(1)E126(3)016A(4)	1.5	6
16	15.0	E	T35(1)E156(3)016A(4)	1.8	6
16	18.0	F	T35(1)F186(3)016A(4)	2.2	6
16	22.0	F	T35(1)F226(3)016A(4)	2.6	6
16	27.0	H	T35(1)H276(3)016A(4)	3.2	6
16	33.0	H	T35(1)H336(3)016A(4)	4.0	6
(V) 85°C	µF	Case Code Case Size	KEMET Part Number	µA at 25°C Maximum/5 Minutes	120 Hz Maximum
Rated Voltage	Rated Capacitance			DC Leakage	DF % at 25°C

(1) To complete KEMET Part Number, insert Series Designation as follows: "0 = T350, "1" = T351, "2" = T352, "3" = T353, "4" = T354, "5" = T355, "6" = T356.

(2) To complete KEMET Part Number, insert only Series Designation as follows: "0 = T350, "3" = T353, "4" = T354, "6" = T356.

(3) To complete KEMET part number, insert M - 20%, K - ±10%, J - ± 5%. Designates Capacitance tolerance.

(4) To complete KEMET part number, insert S = Standard coated or T=100% Sn (tin). Designates termination finish.

Higher voltage and better capacitance tolerance products may be substitued for an order within the same case size at KEMET's option.

Table 1 - Ratings and Part Number Reference (cont'd)

Rated Voltage	Rated Capacitance	Case Code Case Size	KEMET Part Number	DC Leakage	DF % at 25°C
(V) 85°C	µF			µA at 25°C Maximum/5 Minutes	120 Hz Maximum
16	39.0	J	T35(2)J396(3)016A(4)	4.7	6
16	47.0	J	T35(2)J476(3)016A(4)	5.6	6
16	56.0	K	T35(2)K566(3)016A(4)	6.8	6
16	68.0	K	T35(2)K686(3)016A(4)	8.2	6
16	82.0	L	T35(2)L826(3)016A(4)	9.8	8
16	100.0	L	T35(2)L107(3)016A(4)	10.0	8
16	120.0	M	T35(2)M127(3)016A(4)	10.0	8
16	150.0	M	T35(2)M157(3)016A(4)	10.0	8
20	1.0	A	T35(1)A105(3)020A(4)	0.5	3
20	1.2	A	T35(1)A125(3)020A(4)	0.5	5
20	1.5	A	T35(1)A155(3)020A(4)	0.5	5
20	1.8	A	T35(1)A185(3)020A(4)	0.5	5
20	2.2	A	T35(1)A225(3)020A(4)	0.5	5
20	2.7	B	T35(1)B275(3)020A(4)	0.5	5
20	3.3	B	T35(1)B335(3)020A(4)	0.5	5
20	3.9	C	T35(1)C395(3)020A(4)	0.6	5
20	4.7	C	T35(1)C475(3)020A(4)	0.8	5
20	5.6	D	T35(1)D565(3)020A(4)	0.9	5
20	6.8	D	T35(1)D685(3)020A(4)	1.1	5
20	8.2	E	T35(1)E825(3)020A(4)	1.3	6
20	10.0	E	T35(1)E106(3)020A(4)	1.6	6
20	12.0	F	T35(1)F126(3)020A(4)	1.9	6
20	15.0	F	T35(1)F156(3)020A(4)	2.4	6
25	1.0	A	T35(1)A105(3)025A(4)	0.5	3
25	1.2	A	T35(1)A125(3)025A(4)	0.5	5
25	1.5	A	T35(1)A155(3)025A(4)	0.5	5
25	1.8	A	T35(1)A185(3)025A(4)	0.5	5
25	2.2	B	T35(1)B225(3)025A(4)	0.5	5
25	2.7	B	T35(1)B275(3)025A(4)	0.5	5
25	3.3	B	T35(1)B335(3)025A(4)	0.7	5
25	3.9	C	T35(1)C395(3)025A(4)	0.8	5
25	4.7	C	T35(1)C475(3)025A(4)	0.9	5
25	5.6	E	T35(1)E565(3)025A(4)	1.1	5
25	6.8	E	T35(1)E685(3)025A(4)	1.4	5
25	8.2	E	T35(1)E825(3)025A(4)	1.6	6
25	10.0	E	T35(1)E106(3)025A(4)	2.0	6
25	12.0	G	T35(1)G126(3)025A(4)	2.4	6
25	15.0	G	T35(1)G156(3)025A(4)	3.0	6
25	18.0	H	T35(1)H186(3)025A(4)	3.6	6
25	22.0	H	T35(1)H226(3)025A(4)	4.4	6
25	27.0	J	T35(2)J276(3)025A(4)	5.4	6
25	33.0	J	T35(2)J336(3)025A(4)	6.6	6
25	39.0	K	T35(2)K396(3)025A(4)	7.8	6
25	47.0	K	T35(2)K476(3)025A(4)	9.4	6
25	56.0	L	T35(2)L566(3)025A(4)	10.0	6
25	68.0	L	T35(2)L686(3)025A(4)	10.0	6
35	0.10	A	T35(1)A104(3)035A(4)	0.5	3
(V) 85°C	µF	Case Code Case Size	KEMET Part Number	µA at 25°C Maximum/5 Minutes	120 Hz Maximum
Rated Voltage	Rated Capacitance			DC Leakage	DF % at 25°C

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(2) To complete KEMET Part Number, insert only Series Designation as follows: "0 = T350, "3" = T353, "4" = T354, "6" = T356.

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Table 1 - Ratings and Part Number Reference (cont'd)

Rated Voltage	Rated Capacitance	Case Code Case Size	KEMET Part Number	DC Leakage	DF % at 25°C
(V) 85°C	µF			µA at 25°C Maximum/5 Minutes	120 Hz Maximum
35	0.12	A	T35(1)A124(3)035A(4)	0.5	3
35	0.15	A	T35(1)A154(3)035A(4)	0.5	3
35	0.18	A	T35(1)A184(3)035A(4)	0.5	3
35	0.22	A	T35(1)A224(3)035A(4)	0.5	3
35	0.27	A	T35(1)A274(3)035A(4)	0.5	3
35	0.33	A	T35(1)A334(3)035A(4)	0.5	3
35	0.39	A	T35(1)A394(3)035A(4)	0.5	3
35	0.47	A	T35(1)A474(3)035A(4)	0.5	3
35	0.56	A	T35(1)A564(3)035A(4)	0.5	3
35	0.68	A	T35(1)A684(3)035A(4)	0.5	3
35	0.82	A	T35(1)A824(3)035A(4)	0.5	3
35	1.0	A	T35(1)A105(3)035A(4)	0.5	3
35	1.2	B	T35(1)B125(3)035A(4)	0.5	5
35	1.5	B	T35(1)B155(3)035A(4)	0.5	5
35	1.8	C	T35(1)C185(3)035A(4)	0.5	5
35	2.2	C	T35(1)C225(3)035A(4)	0.6	5
35	2.7	D	T35(1)D275(3)035A(4)	0.7	5
35	3.3	D	T35(1)D335(3)035A(4)	0.9	5
35	3.9	E	T35(1)E395(3)035A(4)	1.0	5
35	4.7	E	T35(1)E475(3)035A(4)	1.3	5
35	5.6	F	T35(1)F565(3)035A(4)	1.6	5
35	6.8	F	T35(1)F685(3)035A(4)	1.9	5
35	8.2	G	T35(1)G825(3)035A(4)	2.3	6
35	10.0	G	T35(1)G106(3)035A(4)	2.8	6
35	12.0	J	T35(2)J126(3)035A(4)	3.4	6
35	15.0	J	T35(2)J156(3)035A(4)	4.2	6
35	18.0	K	T35(2)K186(3)035A(4)	5.0	6
35	22.0	K	T35(2)K226(3)035A(4)	6.2	6
35	27.0	L	T35(2)L276(3)035A(4)	7.6	6
35	33.0	L	T35(2)L336(3)035A(4)	9.2	6
35	39.0	M	T35(2)M396(3)035A(4)	10.0	6
35	47.0	M	T35(2)M476(3)035A(4)	10.0	6
50	0.10	A	T35(1)A104(3)050A(4)	0.5	3
50	0.12	A	T35(1)A124(3)050A(4)	0.5	3
50	0.15	A	T35(1)A154(3)050A(4)	0.5	3
50	0.18	A	T35(1)A184(3)050A(4)	0.5	3
50	0.22	A	T35(1)A224(3)050A(4)	0.5	3
50	0.27	A	T35(1)A274(3)050A(4)	0.5	3
50	0.33	A	T35(1)A334(3)050A(4)	0.5	3
50	0.39	B	T35(1)B394(3)050A(4)	0.5	3
50	0.47	B	T35(1)B474(3)050A(4)	0.5	3
50	0.56	B	T35(1)B564(3)050A(4)	0.5	3
50	0.68	B	T35(1)B684(3)050A(4)	0.5	3
50	0.82	B	T35(1)B824(3)050A(4)	0.5	3
50	1.0	B	T35(1)B105(3)050A(4)	0.5	3
50	1.2	D	T35(1)D125(3)050A(4)	0.5	5
50	1.5	E	T35(1)E155(3)050A(4)	0.6	5
(V) 85°C	µF	Case Code Case Size	KEMET Part Number	µA at 25°C Maximum/5 Minutes	120 Hz Maximum
Rated Voltage	Rated Capacitance			DC Leakage	DF % at 25°C

(1) To complete KEMET Part Number, insert Series Designation as follows: "0 = T350, "1" = T351, "2" = T352, "3" = T353, "4" = T354, "5" = T355, "6" = T356.

(2) To complete KEMET Part Number, insert only Series Designation as follows: "0 = T350, "3" = T353, "4" = T354, "6" = T356.

(3) To complete KEMET part number, insert M - 20%, K - ±10%, J - ± 5%. Designates Capacitance tolerance.

(4) To complete KEMET part number, insert S = Standard coated or T=100% Sn (tin). Designates termination finish.

Higher voltage and better capacitance tolerance products may be substitued for an order within the same case size at KEMET's option.

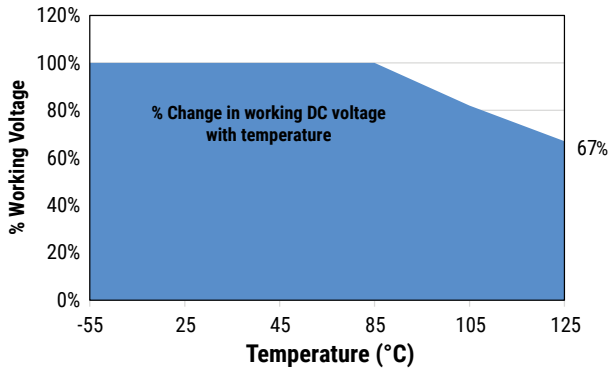
Table 1 - Ratings and Part Number Reference (cont'd)

Rated Voltage	Rated Capacitance	Case Code Case Size	KEMET Part Number	DC Leakage	DF % at 25°C
(V) 85°C	µF			µA at 25°C Maximum/5 Minutes	120 Hz Maximum
50	1.8	E	T35(1)E185(3)050A(4)	0.7	5
50	2.2	E	T35(1)E225(3)050A(4)	0.9	5
50	2.7	F	T35(1)F275(3)050A(4)	1.1	5
50	3.3	F	T35(1)F335(3)050A(4)	1.3	5
50	3.9	G	T35(1)G395(3)050A(4)	1.6	5
50	4.7	G	T35(1)G475(3)050A(4)	1.9	5
50	5.6	H	T35(1)H565(3)050A(4)	2.2	5
50	6.8	J	T35(2)J685(3)050A(4)	2.7	5
50	8.2	J	T35(2)J825(3)050A(4)	3.3	6
50	10.0	K	T35(2)K106(3)050A(4)	4.0	6
50	12.0	K	T35(2)K126(3)050A(4)	4.8	6
50	15.0	L	T35(2)L156(3)050A(4)	6.0	6
50	18.0	L	T35(2)L186(3)050A(4)	7.2	6
50	22.0	M	T35(2)M226(3)050A(4)	8.8	0
(V) 85°C	µF	Case Code Case Size	KEMET Part Number	µA at 25°C Maximum/5 Minutes	120 Hz Maximum
Rated Voltage	Rated Capacitance			DC Leakage	DF % at 25°C

(1) To complete KEMET Part Number, insert Series Designation as follows: "0 = T350, "1" = T351, "2" = T352, "3" = T353, "4" = T354, "5" = T355, "6" = T356.
(2) To complete KEMET Part Number, insert only Series Designation as follows: "0 = T350, "3" = T353, "4" = T354, "6" = T356.
(3) To complete KEMET part number, insert M - 20%, K - ±10%, J - ± 5%. Designates Capacitance tolerance.
(4) To complete KEMET part number, insert S = Standard coated or T=100% Sn (tin). Designates termination finish.
Higher voltage and better capacitance tolerance products may be substituted for an order within the same case size at KEMET's option.

Recommended Voltage Derating Guidelines

	−55°C to 85°C	85°C to 125°C
% Change in working DC voltage with temperature	V_R	66% of V_R



Ripple Current/Ripple Voltage

Permissible AC ripple voltage and current are related to equivalent series resistance (ESR) and the power dissipation capabilities of the device. Permissible AC ripple voltage that may be applied is limited by following criteria:

1. Dissipated power must not exceed the limits specified for the Series.
2. The positive peak AC voltage plus the DC bias voltage, if any, must not exceed the DC voltage rating of the capacitor.
3. The negative peak AC voltage in combination with bias voltage, if any, must not exceed the allowable limits specified for reverse voltage.

Thermal capacities for the various case sizes have been determined empirically and are listed below. The "ripple voltage" permissible may be calculated from the impedance and ESR data shown in the respective product section.

Temperature Compensation Multipliers for Maximum Power Dissipation		
T ≤ 25°C	T ≤ 85°C	T ≤ 125°C
1.00	0.90	0.40

T= Environmental Temperature

The maximum power dissipation rating must be reduced with increasing environmental operating temperatures. Refer to the Temperature Compensation Multiplier table for details.

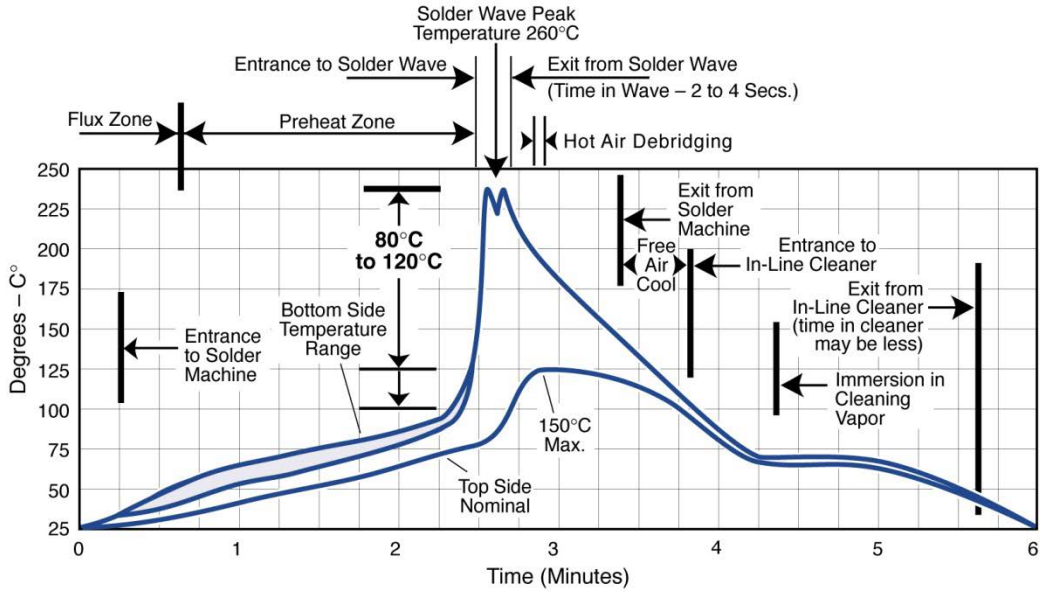
Case Size	Maximum Power Dissipation (Pmax) Watts at 25°C
A	0.040
B	0.050
C	0.060
D	0.065
E	0.070
F	0.080
G	0.090
H	0.100
J	0.110
K	0.120
L	0.130
M	0.140

Using the P max of the device, the maximum allowable rms ripple current or voltage may be determined.

$I(max) = \sqrt{P\ max/R}$
$E(max) = Z\sqrt{P\ max/R}$

I = rms ripple current (amperes)
E = rms ripple voltage (volts)
P max = maximum power dissipation (watts)
R = ESR at specified frequency (ohms)
Z = Impedance at specified frequency (ohms)

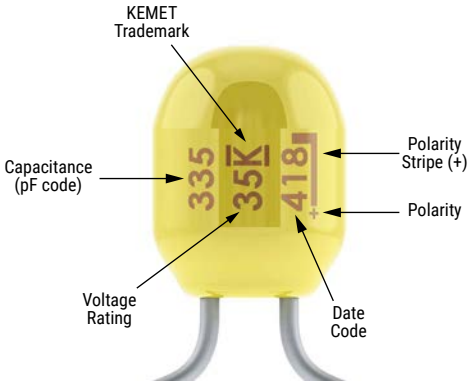
Optimum Solder Wave Profile



Mounting

All encased capacitors will pass the Resistance to Soldering Heat Test of MIL–STD–202, Method 210, Condition C. This test simulates wave solder of topside board mount product. This demonstration of resistance to solder heat is in accordance with what is believed to be the industry standard. More severe treatment must be considered reflective of an improper soldering process. The above figure is a recommended solder wave profile for both axial and radial leaded solid tantalum capacitors.

Capacitor Marking



Storage

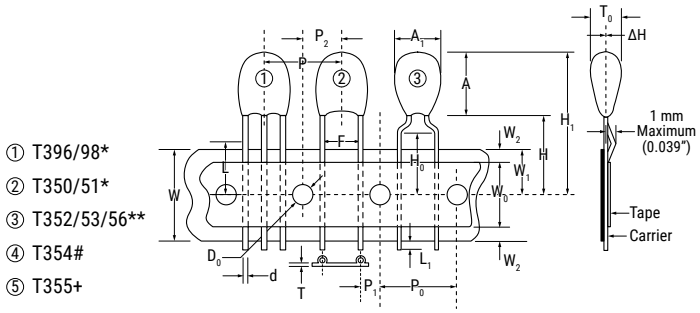
Tantalum molded radial/axial capacitors should be stored in normal working environments. KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 60°C RH. Storage at high temperature may cause a small, temporary increase in leakage current (measured under standard conditions), but the original value is usually restored within a few minutes after application of rated voltage. Storage at high humidity may increase capacitance and dissipation factor. Solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage. For optimized solderability capacitors stock should be used promptly, preferably within three years of receipt.

Tape & Reel Packaging Information

Table 2 – Packaging Quantity

Case Size	Standard Bulk Quantity	Standard Reel Quantity	Reel C-Spec	Ammo Pack Quantity
A	1,000	1,500	C-7301/7303	2,500
B	1,000	1,500		2,500
C	1,000	1,500		2,500
D	1,000	1,000		2,000
E	1,000	1,000		2,000
F	500	1,000		1,500
G	500	1,000		1,500
H	500	800		1,500
J	100	800		800
K	100	500		800
L, M	100	500	Pending	500

Figure 1



Dimension	Symbol	Nominal mm (inch)		Tolerance mm (inch)	
Body Height (1)	A	17.0 (0.67)		Maximum	
Body Width (1)	A_1	15.24 (0.600)		Maximum	
Sprocket Hole Diameter	D_0	4.0 (0.157)		±0.3 (±0.012)	
Lead Diameter	d	0.51 (0.020)	0.64 (0.025)	±0.05 (±0.002)	
Lead Center (4)	F	See Note Below			
Component Base to Tape Center (4)	H	C-7301 16.0 (0.630)	C-7303 18.0 (0.709)	C-7301 ±0.5 (±0.02)	C-7303 Minimum
Lead Standoff Height	H_0	C-7301 16.0 (0.630)	C-7303 18.0 (0.709)	C-7301 ±0.5 (±0.02)	C-7303 Minimum
Component Height Above Tape Center	H_1	32.25 (1.270)		Maximum	
Component Alignment Front to Rear	ΔH	0		1.0 (0.039)	
Cut Out Length	L	11.0 (0.433)		Maximum	
Lead Protrusion	L_1	1.0 (0.039)		Maximum	
Component Pitch (5)	P	12.7 (0.500)		±1.0 (±0.039)	
Sprocket Hole Pitch (2)	P_0	12.7 (0.500)		±0.03 (±0.012)	
Sprocket Hole Center to Lead Center (3) (4)	P_1	See Note Below		±0.7 (±0.028)	
Sprocket Hole Center to Component Center (5)	P_2	See Note Below			
Body Thickness	T_0	10.2 (0.400)		Maximum	
Total Tape Thickness	T	0.7 (0.28)		±0.02 (±0.008)	
Carrier Tape Width	W	18.0 (0.709)		+1.0/−0.5 (+0.039/−0.020)	
Hold-Down Tape Width	W_0	15 mm (0.561)	6 mm (0.236)	+1.0/−0.8 (+0.039/−0.031	
Sprocket Hole Location	W_1	9.0 (0.354)		+0.075/−0.5 (+0.030/−0.020)	
Hold-Down Tape Location	W_2	12.0 (0.472)		Maximum	

Notes:

(1) See Dimensions table for specific values per case size.
(2) Cumulative pitch error ± 1.0 mm (0.039) maximum in 20 consecutive sprocket hole locations.
(3) Measured at bottom of standoff.
(4) P_1 and F measured at egress from carrier tape.
(5) P and P2 measured at egress from carrier tape.

** Lead spacings are 2.5 mm (0.098") center to center (T350 A-H)*
*** Lead spacings are 5.0 mm (0.197") center to center*
 # Lead spacings are 6.35 mm (0.25") center to center
+ Lead spacings are 3.18 mm (0.125") center to center

F Dimensions:	P_1 Dimensions:
0.100" ±0.015	Lead Spacing
0.125" ±0.015	0.100" – 0.200 ±0.028"
0.200" ±0.015	0.125" – 0.187 ±0.028"
0.250" ±0.015"	0.200" – 0.150 ±0.028"
0.100" ±0.015 (3 leaded)	0.250" – 0.125 ±0.028"
	0.100" – 0.100 ±0.028" (3 leaded)

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Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331