

SOLID TANTALUM CHIP CAPACITORS

T495 SERIES—Low ESR, Surge Robust

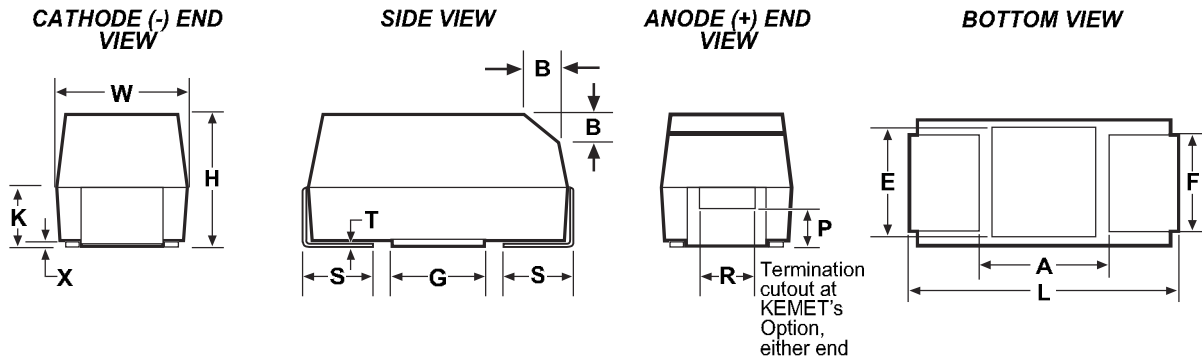


Solid Tantalum Surface Mount

FEATURES

- Designed for very low ESR
- High ripple current capability
- High surge current capability
- 100% accelerated steady-state aging
- 100% Surge Current test
- Meets or Exceeds EIA Standard 535BAAC
- Available tested per DSCC Dwg. 95158
- Operating Temperature: -55°C to +125°C
- New Extended Values for Low ESR
- Low Equivalent Series Inductance (<2.5nH ESL)
- Precision-molded, laser-marked case
- Symmetrical, compliant terminations
- Taped and reeled per EIA 481-1
- RoHS Compliant & Leadfree Terminations (see www.kemet.com for lead transition)

OUTLINE DRAWING



STANDARD T495 DIMENSIONS

Millimeters (Inches)

Case Size		L	W	H	K ±0.20	F ±0.1	S ±0.3	B ±0.15 (Ref) ±(0.06)	X (Ref)	P (Ref)	R (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
KEMET	EIA														
A	3216-18	3.2 ± 0.2 (.126 ± .008)	1.6 ± 0.2 (.063 ± .008)	1.6 ± 0.2 (.063 ± .008)	0.9 (.035)	1.2 (.047)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.4 (.016)	0.4 (.016)	0.13 (.005)	1.4 (.055)	1.1 (.043)	1.3 (.051)
B	3528-21	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.9 ± 0.1 (.075 ± .008)	1.1 (.043)	2.2 (.087)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.5 (.020)	1.0 (.039)	0.13 (.005)	2.1 (.083)	1.8 (.071)	2.2 (.087)
C	6032-28	6.0 ± 0.3 (.236 ± .012)	3.2 ± 0.3 (.126 ± .012)	2.5 ± 0.3 (.098 ± .012)	1.4 (.055)	2.2 (.087)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.0235)	1.0 (.039)	0.13 (.005)	3.1 (.122)	2.8 (.110)	2.4 (.094)
D	7343-31	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.8 ± 0.3 (.110 ± .012)	1.5 (.059)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.0235)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
X	7343-43	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	4.0 ± 0.3 (.157 ± .012)	2.3 (.091)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	1.7 (.067)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
E	7260-38	7.3 ± 0.3 (.287 ± .012)	6.0 ± 0.3 (.236 ± .012)	3.6 ± 0.2 (.142 ± .008)	2.3 (.091)	4.1 (.161)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

Notes: 1. Metric dimensions govern.
2. (Ref) - Dimensions provided for reference only.

LOW PROFILE T495 DIMENSIONS

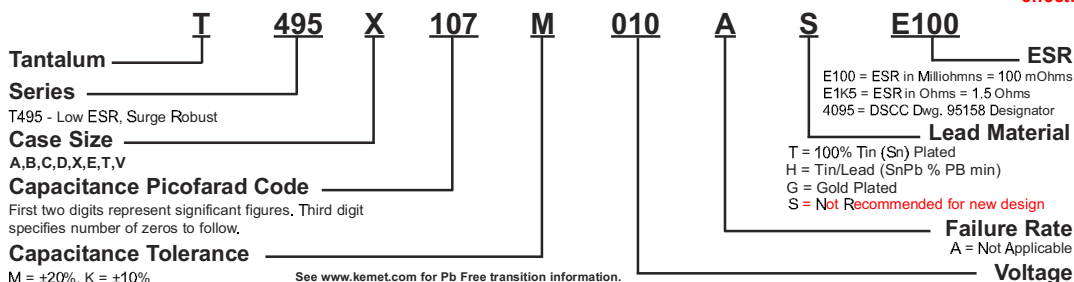
Millimeters (Inches)

CASE SIZE		COMPONENT										
KEMET	EIA	L	W	H Max.	K Min.	F ± 0.1	S ± 0.3	X (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
T	3528-12	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.2 (.047)	0.3 (.012)	2.2 (.087)	0.8 (.031)	0.05 (.002)	0.13 (.005)	2.1 (.083)	1.8 (.071)	2.2 (.087)
V	7343-20	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.0 (0.079)	0.9 (.035)	2.4 (.094)	1.3 (.051)	0.05 (.002)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

Notes: 1. Metric dimensions govern.
2. (Ref) - Dimensions provided for reference only.
3. No dimensions provided for B, P or R because low profile cases do not have a bevel or a notch.

*Pb-free supply is not guaranteed with the 'S' termination code.
This termination code not available effective 15 July 2007.

T495 Series – ORDERING INFORMATION



SOLID TANTALUM CHIP CAPACITORS

T495 SERIES—Low ESR, Surge Robust



Solid Tantalum Surface Mount

T495 RATINGS & PART NUMBER REFERENCE

Capacitance μ F	Case Size	KEMET Part Number	DSCC Dwg. No. 95158 Part Number	DC Leakage μ A @ 25°C Max	DF% @ 25°C 120 Hz Max	ESR m Ω @ 25°C 100 kHz Max	Ripple Current mA rms @ 25°C, 100 kHz Max		
							25°C	85°C	125°C
							10 Volt Rating @ +85°C (7 Volt Rating at +125°C) cont.		
220.0	V	T495V227(1)010A(2)E150		22.0	12.0	150	913	822	365
220.0	D	T495D227(1)010A(2)E045		22.0	8.0	45	1826	1643	730
220.0	D	T495D227(1)010A(2)E075		22.0	8.0	75	1414	1273	566
220.0	D	T495D227(1)010A(2)E100		22.0	8.0	100	1225	1102	490
220.0	D	T495D227(1)010A(2)E125		22.0	8.0	125	1095	986	438
220.0	X	T495X227(1)010A(2)E045		22.0	8.0	45	1915	1723	766
220.0	X	T495X227(1)010A(2)E050		22.0	8.0	50	1817	1635	727
220.0	X	T495X227(1)010A(2)E060		22.0	8.0	60	1658	1492	663
220.0	X	T495X227(1)010A(2)E070		22.0	8.0	70	1535	1382	614
220.0	X	T495X227(1)010A(2)E100		22.0	8.0	100	1285	1156	514
220.0	X	T495X227(1)010A(2)E105	95158-28(1)(2)	15.0	8.0	100	1285	1156	514
330.0	D	T495D337(1)010A(2)E100		33.0	8.0	100	1227	1102	490
330.0	D	T495D337(1)010A(2)E125		33.0	10.0	125	1095	986	438
330.0	D	T495D337(1)010A(2)E150		33.0	10.0	150	1000	900	400
330.0	X	T495X337(1)010A(2)E035		33.0	10.0	35	2171	1954	868
330.0	X	T495X337(1)010A(2)E050		33.0	10.0	50	1817	1635	727
330.0	X	T495X337(1)010A(2)E060		33.0	10.0	60	1658	1492	663
330.0	X	T495X337(1)010A(2)E100		33.0	10.0	100	1284	1156	513
330.0	E	T495E337(1)010A(2)E040		33.0	8.0	40	2236	2012	894
330.0	E	T495E337(1)010A(2)E060		33.0	10.0	60	1826	1643	730
330.0	E	T495E337(1)010A(2)E100		33.0	10.0	100	1414	1273	566
470.0	X	T495X477M010A(2)E045		47.0	10.0	45	1915	1723	766
470.0	X	T495X477M010A(2)E050		47.0	10.0	50	1817	1635	727
470.0	X	T495X477M010A(2)E060		47.0	10.0	60	1658	1492	663
470.0	X	T495X477M010A(2)E100		47.0	10.0	100	1284	1156	513
470.0	X	T495X477M010A(2)E200		47.0	10.0	200	908	817	363

Capacitance μ F	Case Size	KEMET Part Number	DSCC Dwg. No. 95158 Part Number	DC Leakage μ A @ 25°C Max	DF% @ 25°C 120 Hz Max	ESR m Ω @ 25°C 100 kHz Max	Ripple Current mA rms @ 25°C, 100 kHz Max		
							25°C	85°C	125°C
							20 Volt Rating @ +85°C (13 Volt Rating at +125°C)		
1.0	A	T495A105(1)020A(2)E3K0		0.2	4.0	3000	158	142	63
10.0	B	T495B106(1)020A(2)E1K0		2.0	6.0	1000	292	262	117
10.0	C	T495C106(1)020A(2)E400		2.0	6.0	400	524	472	210
10.0	C	T495C106(1)020A(2)E475		2.0	6.0	475	481	433	192
15.0	C	T495C156(1)020A(2)E375		3.0	6.0	375	542	487	217
15.0	D	T495D156(1)020A(2)E275		2.4	4.0	275	738	665	295
15.0	D	T495D156(1)020A(2)E4095	95158-12(1)(2)	2.4	4.0	275	738	665	295
22.0	D	T495D226(1)020A(2)E180		3.5	4.0	180	913	822	365
22.0	D	T495D226(1)020A(2)E225		3.5	4.0	225	816	735	326
22.0	D	T495D226(1)020A(2)E4095	95158-13(1)(2)	3.5	4.0	275	739	665	295
33.0	D	T495D336(1)020A(2)E100		6.6	6.0	100	1225	1102	490
33.0	D	T495D336(1)020A(2)E150		6.6	6.0	150	1000	900	400
33.0	D	T495D336(1)020A(2)E200		6.6	6.0	200	866	780	346
47.0	D	T495D476(1)020A(2)E075		9.4	6.0	75	1414	1272	565
47.0	D	T495D476(1)020A(2)E100		9.4	6.0	100	1225	1102	490
47.0	D	T495D476(1)020A(2)E175		9.4	6.0	175	926	833	370
47.0	X	T495X476(1)020A(2)E085		9.4	8.0	85	1593	1434	637
47.0	X	T495X476(1)020A(2)E100		9.4	6.0	100	1285	1156	514
47.0	X	T495X476(1)020A(2)E125		9.4	6.0	125	1149	1034	460
47.0	X	T495X476(1)020A(2)E150		7.5	4.0	150	1049	944	420
47.0	X	T495X476(1)020A(2)E4095	95158-14(1)(2)	7.5	4.0	150	1049	944	420
68.0	D	T495D686(1)020A(2)E070		13.8	8.0	70	1484	1317	586
68.0	D	T495D686(1)020A(2)E150		13.8	8.0	150	1000	900	400
68.0	X	T495X686(1)020A(2)E120		13.8	6.0	120	1173	1055	469
68.0	X	T495X686(1)020A(2)E150		13.8	6.0	150	1049	944	420
68.0	X	T495X686(1)020A(2)E4095	95158-15(1)(2)	13.8	6.0	150	1049	944	420
100.0	X	T495X107(1)020A(2)E100		20.0	6.0	100	1285	1156	514
100.0	X	T495X107(1)020A(2)E150		20.0	8.0	150	1049	944	420
100.0	E	T495E107(1)020A(2)E085		20.0	8.0	85	1534	1381	614
100.0	E	T495E107(1)020A(2)E100		20.0	8.0	100	1414	1273	566
100.0	E	T495E107(1)020A(2)E200		20.0	8.0	200	1000	900	400
150.0	E	T495E157(1)020A(2)E090		30.0	8.0	80	1581	1423	632

- To complete KEMET part number, insert "K" for $\pm 10\%$ or "M" for $\pm 20\%$ capacitance tolerance.
 - To complete KEMET part number, insert lead material designations per Ordering Information on page 31.
- * Extended Values

Higher voltage ratings and tighter capacitance tolerance product may be substituted within the same size at KEMET's option. Voltage substitutions will be marked with the higher voltage rating.

CAPACITOR ALTERNATE MARKINGS

A Case Size

A Case Size Voltage Code	Value
G	4
J	6.3
A	10
C	16
D	20
E	25
V	35
T	50

B Case Size

C,D,X Case Size

Date Code - Year		Date Code - Month			
S = 2004	V = 2007	1 = January	4 = April	7 = July	10 = October
T = 2005	W = 2008	2 = February	5 = May	8 = August	11 = November
U = 2006	X = 2009	3 = March	6 = June	9 = September	12 = December

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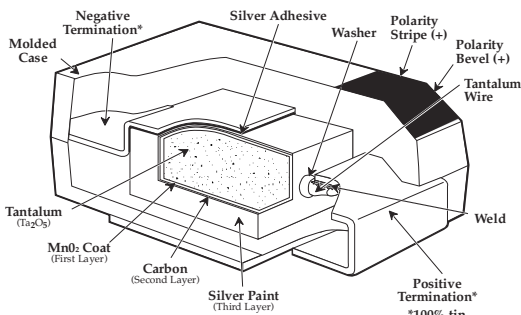
T495 RATINGS & PART NUMBER REFERENCE

Capacitance μF	Case Size	KEMET Part Number	DSCC Dwg. No. 95158 Part Number	DC Leakage μA @ 25°C Max	DF% @ 25°C 120 Hz	ESR $\text{m}\Omega$ @ 25°C 100 kHz	Ripple Current mA rms @ 25°C, 100 kHz Max		
							25°C	85°C	125°C
25 Volt Rating @ +85°C (17 Volt Rating at +125°C)									
68.0	X	T495X686(1)025A(2)E125		17.0	8.0	125	1149	1034	460
68.0	X	T495X686(1)025A(2)E150		17.0	8.0	150	1049	944	420
68.0	X	T495X686(1)025A(2)E200		17.0	8.0	200	908	817	363
100.0	E	T495E107(1)025A(2)E100		25.0	8.0	100	1414	1273	566
35 Volt Rating @ +85°C (23 Volt Rating at +125°C)									
0.47	B	T495B474(1)035A(2)E1K5		0.5	4.0	1500	238	214	95
0.47	B	T495B474(1)035A(2)E2K2		0.5	4.0	2200	197	177	79
1.0	A	T495A105(1)035A(2)E3K0		0.4	4.0	3000	158	142	63
1.0	B	T495B105(1)035A(2)E1K5		0.5	4.0	1500	238	214	95
1.0	B	T495B105(1)035A(2)E1K7		0.5	4.0	1700	224	201	89
2.2	B	T495B225(1)035A(2)E1K5		0.8	6.0	1500	238	214	95
2.2	C	T495C225(1)035A(2)E750		0.8	6.0	750	383	345	153
3.3	B	T495B335(1)035A(2)E900		1.2	6.0	900	307	276	123
3.3	C	T495C335(1)035A(2)E525		1.1	6.0	525	457	411	182
3.3	C	T495C335(1)035A(2)E550		1.1	6.0	550	447	402	178
3.3	C	T495C335(1)035A(2)E600		1.2	6.0	600	428	385	171
4.7	B	T495B475(1)035A(2)E1K0		1.6	6.0	1000	292	262	117
4.7	C	T495C475(1)035A(2)E450		1.7	6.0	450	494	445	198
4.7	C	T495C475(1)035A(2)E500		1.7	6.0	500	469	422	188
4.7	C	T495C475(1)035A(2)E600		1.7	6.0	600	428	385	171
4.7	C	T495C475(1)035A(2)4095	95158-29(1)(2)	1.7	6.0	600	428	385	171
6.8	D	T495D685(1)035A(2)E150		2.4	6.0	150	1000	900	400
6.8	D	T495D685(1)035A(2)E400		2.4	6.0	400	612	551	245
6.8	X	T495X685(1)035A(2)E300		1.9	4.0	300	742	667	297
6.8	X	T495X685(1)035A(2)4095	95158-20(1)(2)	1.9	4.0	300	742	667	297
10.0	D	T495D106(1)035A(2)E125		3.5	6.0	125	1095	986	438
10.0	D	T495D106(1)035A(2)E250		3.5	6.0	250	775	697	310
10.0	D	T495D106(1)035A(2)E300		3.5	6.0	300	707	636	283
10.0	D	T495D106(1)035A(2)4095	95158-27(1)(2)	3.5	4.0	300	707	636	283
10.0	X	T495X106(1)035A(2)E175		3.5	6.0	175	971	874	388
10.0	X	T495X106(1)035A(2)E200		3.5	6.0	200	908	817	363
10.0	X	T495X106(1)035A(2)E250		2.8	4.0	250	812	731	325
10.0	X	T495X106(1)035A(2)4095	95158-21(1)(2)	2.8	4.0	250	812	731	325
15.0	D	T495D156(1)035A(2)E225		5.3	6.0	225	816	735	327
15.0	D	T495D156(1)035A(2)E300		5.3	6.0	300	707	636	283
15.0	X	T495X156(1)035A(2)E200		5.3	6.0	200	908	817	363
15.0	X	T495X156(1)035A(2)E225		5.3	6.0	225	856	771	343
15.0	X	T495X156(1)035A(2)4095	95158-22(1)(2)	5.3	6.0	225	856	771	343
22.0	D	T495D226(1)035A(2)E125		7.7	6.0	125	1095	985	438
22.0	D	T495D226(1)035A(2)E200		7.7	6.0	200	866	779	346
22.0	D	T495D226(1)035A(2)E250		7.7	6.0	250	775	697	310
22.0	D	T495D226(1)035A(2)E300		7.7	6.0	300	707	636	283
22.0	X	T495X226(1)035A(2)E125		7.7	6.0	125	1149	1034	460
22.0	X	T495X226(1)035A(2)E200		7.7	6.0	200	908	817	363
22.0	X	T495X226(1)035A(2)E275		7.7	6.0	275	775	697	410
22.0	X	T495X226(1)035A(2)4095	95158-23(1)(2)	7.7	6.0	300	742	667	297
33.0	X	T495X336(1)035A(2)E100		11.6	6.0	100	1285	1158	514
33.0	X	T495X336(1)035A(2)E175		11.6	6.0	175	971	874	388
33.0	X	T495X336(1)035A(2)E250		11.6	6.0	250	812	731	325
47.0	X	T495X476(1)035A(2)E185		16.5	8.0	185	944	850	378
47.0	X	T495X476(1)035A(2)E200		16.5	8.0	200	908	817	363
47.0	X	T495X476(1)035A(2)E300		16.5	8.0	300	742	667	297
50 Volt Rating @ +85°C (33 Volt Rating at +125°C)									
1.0	C	T495C105(1)050A(2)E1K3		0.5	4.0	1300	291	262	116
2.2	D	T495D225(1)050A(2)E600		1.1	6.0	600	500	450	200
3.3	D	T495D335(1)050A(2)E700		1.7	6.0	700	463	417	185
4.7	D	T495D475(1)050A(2)E275		2.4	6.0	275	739	665	295
4.7	D	T495D475(1)050A(2)E300		2.4	6.0	300	707	636	283
4.7	X	T495X475(1)050A(2)E300		1.9	4.0	300	742	667	297
4.7	X	T495X475(1)050A(2)4095	95158-24(1)(2)	1.9	4.0	300	742	667	297
6.8	D	T495D685(1)050A(2)E190		3.4	6.0	190	888	799	355
6.8	D	T495D685(1)050A(2)E200		3.4	6.0	200	866	779	346
6.8	D	T495D685(1)050A(2)E275		3.4	6.0	275	739	665	295
6.8	D	T495D685(1)050A(2)E300		3.4	6.0	300	700	600	300
10.0	X	T495X106(1)050A(2)E250		5.0	6.0	250	774	697	309
10.0	X	T495X106(1)050A(2)E260		5.0	6.0	260	796	716	318
10.0	X	T495X106(1)050A(2)E300		5.0	6.0	300	741	667	297
15.0	X	T495X156(1)050A(2)E200		7.5	8.0	200	908	817	363
15.0	X	T495X156(1)050A(2)E300		7.5	8.0	300	742	667	297

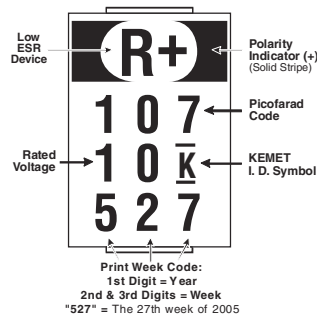
- (1) To complete KEMET part number, insert "K" for $\pm 10\%$ or "M" for $\pm 20\%$ capacitance tolerance.
 (2) To complete KEMET part number, insert lead material designations per Ordering Information on page 31.
 *Extended Values

Higher voltage ratings and tighter capacitance tolerance product may be substituted within the same size at KEMET's option. Voltage substitutions will be marked with the higher voltage rating.

CONSTRUCTION



CAPACITOR MARKINGS



SOLID TANTALUM CHIP CAPACITORS

T495 SERIES—Low ESR, Surge Robust



Solid Tantalum Surface Mount

T495 TANTALUM CHIP CAPACITANCE VALUES

Case Size and Max. ESR (mΩ) by Capacitance & Voltage
Standard Capacitance Values

Capacitance		Rated Voltage @ +85°C								
μF	Code	2.5	4	6	10	16	20	25	35	50
0.47	474							A,4500	B, 1500 B,2200	
1.0	105						A,3000		A,3000 B, 1500 B, 1700	C,1300
2.2	225					A, 1800		C,1300	B, 1500 C,750	D,600
3.3	335					A,3000		C,750	B,900 C,525,550,600	D,700
4.7	475				A,1300 B,1300	A,2000 B,700		C,575	B, 1000 C,450,500 C,600	D,275,300 X,300
6.8	685				A, 1800 B,900	C,750		B,1500 C,400,490,500	D,400 X,300	D,190,200,275 D,300
10.0	106				A, 1800 B,750	A,1700 T,4000	B,1000 C,400,475	B,750 C,450	D,120,125,250 ,300 X,175,200 X,250	X,250,300
15.0	156				B, 500 C,375,400,475	A,2500 B,800	C,375 D,275	D,275 X,200	C,350 D,225,300 X,200,225	X,300
22.0	226			A,900	B,500 C,290,345	B,600	D,180,225 D,275	C, 300,900 D,200 X,225	D,125,200,250 D300 X,125,200,275,300	
33.0	336				B,450 V,100,150	C,200,225,275 D,150,175,225,250	D,100,150 200	D,90,100 D,225,300 X,100,175	D,300 X,100,175,250	
47.0	476			B,450 C,250 V,150	B, 500 D,80,90,200	C,350 D,100,150,200	D,75,100,175 X,65,100 X,125,150	D,120,250 X,80,150,185,200	X,185,200,300	
68.0	686		V,150	D,175	V,70,100,140 B,600,750 B,900 C,80,225 D,90,150 X,150	V,180,300 D,150	D,70,150 X,120,150	X,125,150 200		
100.0	107	T, 3000	B,500	V,90,150 B,400,700 C,75,150 D,150	C,100 V,100,150 D,50,65,80,100 X,100	D,100,125 X,80,100,125	X,150 E,85,100 200	E,100		
150.0	157		B,900 C,70,250	V,40,70 C,50,200 X,100,125	C,200 D,50,60,80,100 X,70,80,85,100 V,100,150	D,100,125,150 X,75,100	E,80			
220.0	227	D,45		C,225 D,45,100 X,70,100	V,150 D,45,75 D,100,125 X,45,50,60,70,100	X,100 E,50,100,150				
330.0	337		C,300,700 D,30,45	X,45,65, X,100 D,40,50,70, D,100 E,40,60,100	D,100,125 X,35,50,60 E,40,60,100					
470.0	477	D,35	D,45,100 X,30,45,100	X,30,45,50, X,65 D,45,100,125 E,40,55,100	X,45,50					
680.0	687									
1000.0	108	X,30,40	X,30,40,60,70 E,35,50	E,50						

Note that standard values are preferred, especially where high surge currents are possible. Extended values are available to increase capacitance and reduce ESR. Note that standard CV values demonstrate inherently lower failure rates than extended CV values, especially in low impedance applications.

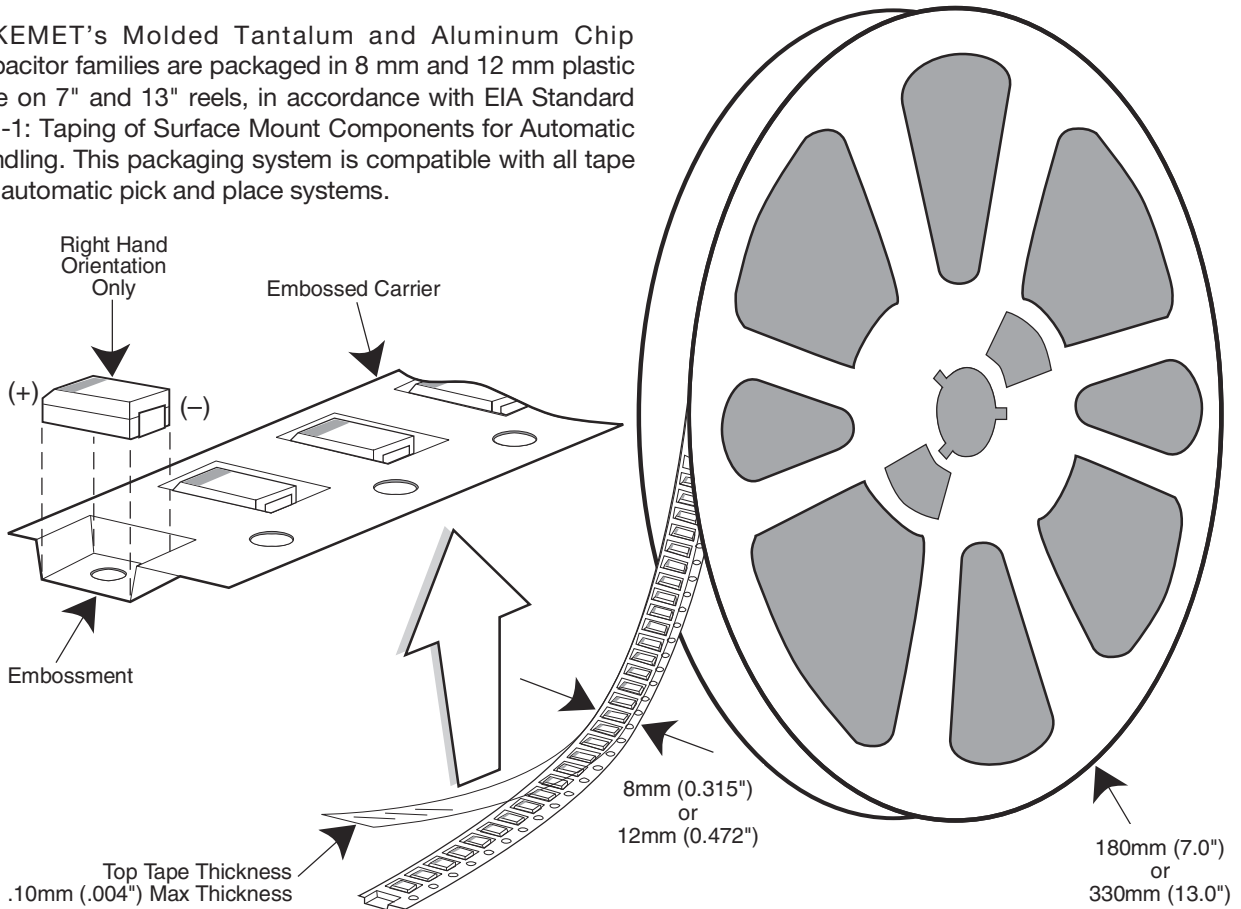
KEMET TANTALUM AND ALUMINUM CHIP CAPACITORS

CHARGED.™

Packaging Information

Tape & Reel Packaging

KEMET's Molded Tantalum and Aluminum Chip Capacitor families are packaged in 8 mm and 12 mm plastic tape on 7" and 13" reels, in accordance with EIA Standard 481-1: Taping of Surface Mount Components for Automatic Handling. This packaging system is compatible with all tape fed automatic pick and place systems.



Labeling: Bar code labeling (standard or custom) shall be on the side of the reel opposite the sprocket holes. Refer to EIA-556.

QUANTITIES PACKAGED PER REEL

Case Code		Tape Width-mm	7" Reel*	13" Reel*
KEMET	EIA			
R	2012-12	8	2,500	10,000
S	3216-12	8	2,500	10,000
T	3528-12	8	2,500	10,000
U	6032-15	12	1,000	5,000
W	7343-15	12	1,000	3,000
V	7343-20	12	1,000	3,000
A	3216-18	8	2,000	9,000
B	3528-21	8	2,000	8,000
C	6032-28	12	500	3,000
D	7343-31	12	500	2,500
Y	7343-40	12	500	2,000
X	7343-43	12	500	2,000
E	7260-38	12	500	2,000

* No c-spec required for 7" reel packaging. C-7280 required for 13" reel packaging.

Performance Notes

- Cover Tape Break Force:** 1.0 Kg Minimum.
- Cover Tape Peel Strength:** The total peel strength of the cover tape from the carrier tape shall be:

Tape Width	Peel Strength
8 mm	0.1 Newton to 1.0 Newton (10g to 100g)
12 mm	0.1 Newton to 1.3 Newton (10g to 130g)

The direction of the pull shall be opposite the direction of the carrier tape travel. The pull angle of the carrier tape shall be 165° to 180° from the plane of the carrier tape. During peeling, the carrier and/or cover tape shall be pulled at a velocity of 300 ±10 mm/minute.

- Reel Sizes:** Molded tantalum capacitors are available on either 180 mm (7") reels (standard) or 330 mm (13") reels (with C-7280). Note that 13" reels are preferred.
- Labeling:** Bar code labeling (standard or custom) shall be on the side of the reel opposite the sprocket holes. Refer to EIA-556.

Embossed Carrier Tape Configuration: Figure 1

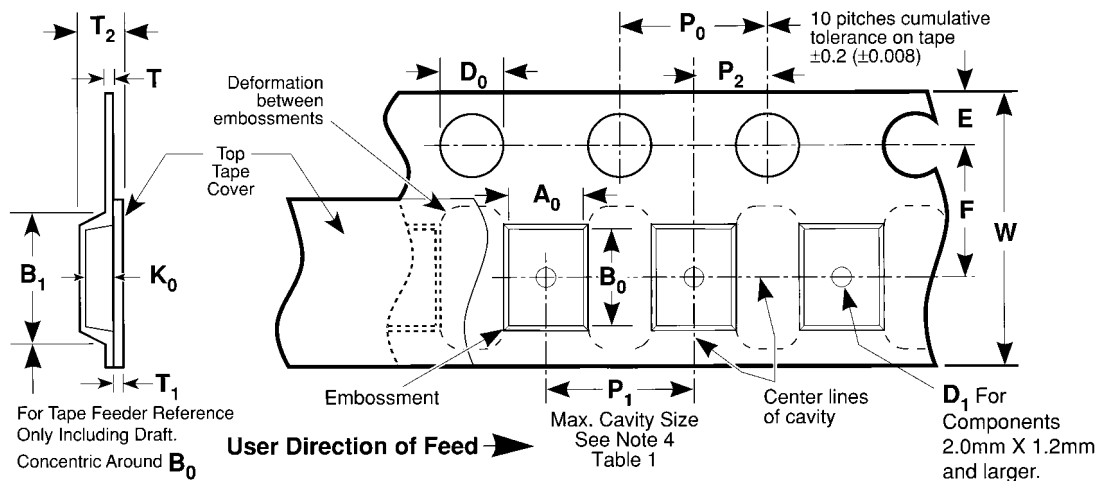


Table 1 — EMBOSSED TAPE DIMENSIONS (Metric will govern)

Constant Dimensions — Millimeters (Inches)									
Tape Size	D ₀	E	P ₀	P ₂	T Max	T ₁ Max			
8 mm and 12 mm	1.5 +0.10 -0.0 (0.059 +0.004, -0.0)	1.75 ±0.10 (0.069 ±0.004)	4.0 ±0.10 (0.157 ±0.004)	2.0 ±0.05 (0.079 ±0.002)	0.600 (0.024)	0.100 (0.004)			
Variable Dimensions — Millimeters (Inches)									
Tape Size	Pitch	B ₁ Max. Note 1	D ₁ Min. Note 2	F	P ₁	R Min. Note 3	T ₂ Max	W	A ₀ B ₀ K ₀ Note 4
8 mm	Single (4 mm)	4.4 (0.173)	1.0 (0.039)	3.5 ±0.05 (0.138 ±0.002)	4.0 ±0.10 (0.157 ±0.004)	25.0 (0.984)	2.5 (0.098)	8.0 ±0.30 (.315 ±0.012)	
12 mm	Double (8 mm)	8.2 (0.323)	1.5 (0.059)	5.5 ±0.05 (0.217 ±0.002)	8.0 ±0.10 (0.315 ±0.004)	30.0 (1.181)	4.6 (0.181)	12.0 ±0.30 (0.472 ±0.012)	

NOTES

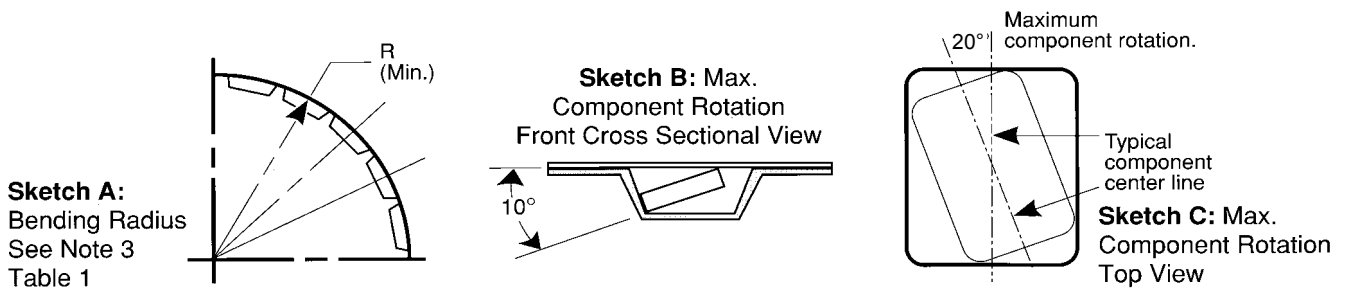
- B₁ dimension is a reference dimension for tape feeder clearance only.
- The embossment hole location shall be measured from the sprocket hole controlling the location of the embossment. Dimensions of embossment location and hole location shall be applied independent of each other.
- Tape with components shall pass around radius "R" without damage (see sketch A). The minimum trailer length (Fig. 2) may require additional length to provide R min. for 12 mm embossed tape for reels with hub diameters approaching N min. (Table 2)
- The cavity defined by A₀, B₀, and K₀ shall be configured to surround the part with sufficient clearance such that the chip does not protrude beyond the sealing plane of the cover tape, the chip can be removed from the cavity in a vertical direction without mechanical restriction, rotation of the chip is limited to 20 degrees maximum in all 3 planes, and lateral movement of the chip is restricted to 0.5 mm maximum in the pocket (not applicable to vertical clearance.)

TANTALUM, CERAMIC AND ALUMINUM CHIP CAPACITORS



Packaging Information

Embossed Carrier Tape Configuration (cont.)



Sketch D: Tape Camber (Top View)

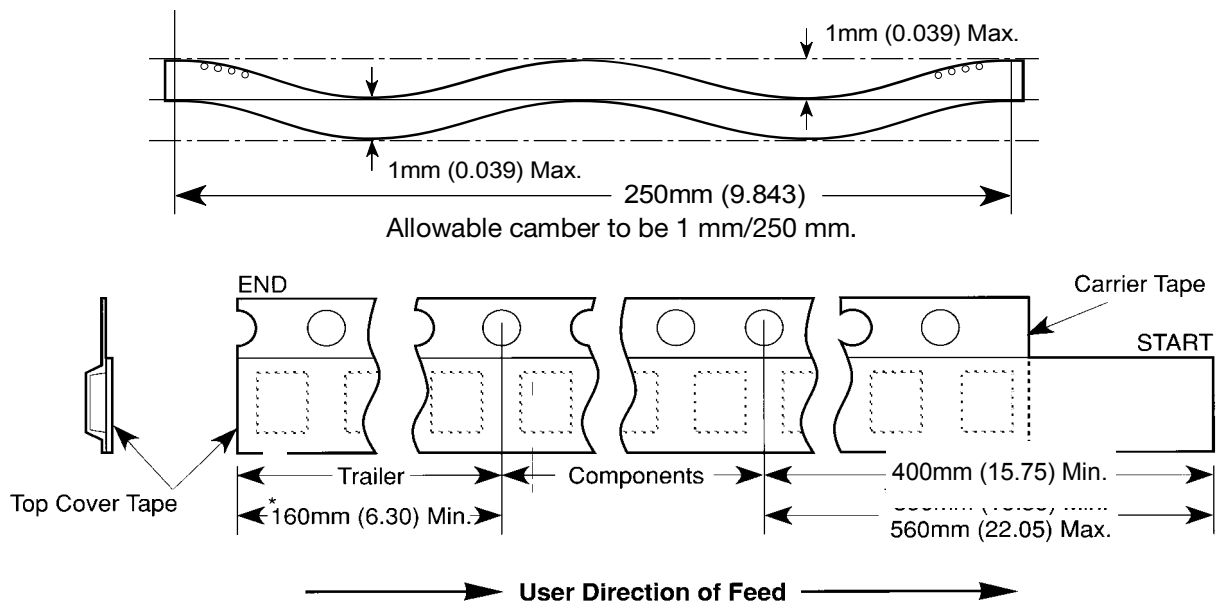


Figure 2: Tape Leader & Trailer Dimensions (Metric Dimensions Will Govern)

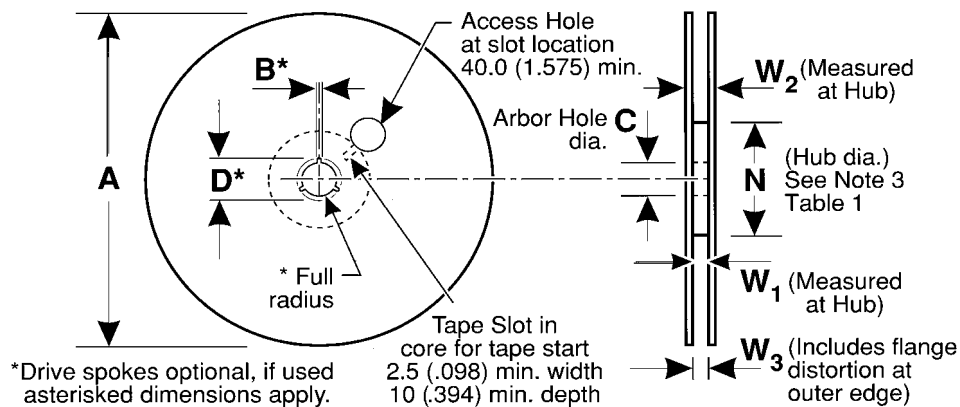


Figure 3: Reel Dimensions (Metric Dimensions will govern)

Table 2 – REEL DIMENSIONS (Metric will govern)

Tape Size	A Max	B* Min	C	D* Min	N Min	W_1	W_2 Max	W_3
8 mm	330.0 (12.992)	1.5 (0.059)	13.0 ± 0.20 (0.512 ± 0.008)	20.2 (0.795)	50.0 (1.969) See Note 3 Table 1	8.4 +1.5, -0.0 (0.331) +0.059, -0.0	14.4 (0.567)	7.9 Min (0.311) 10.9 Max (0.429)
12 mm	330.0 (12.992)	1.5 (0.059)	13.0 ± 0.20 (0.512 ± 0.008)	20.2 (0.795)	Table 1	12.4 +2.0, -0.0 (0.488) +0.078, -0.0	18.4 (0.724)	11.9 Min (0.469) 15.4 Max (0.606)