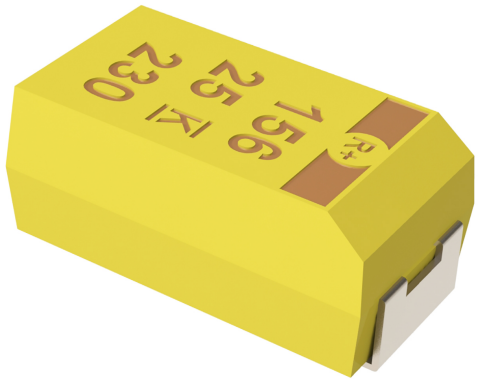
T495 Surge Robust Low ESR MnO_2 Series

Overview

The low ESR, surge-robust T495 Series is designed for demanding applications that require high surge current and high ripple current capability. This series builds upon the proven capabilities of our industrial grade tantalum chip capacitors to offer several advantages such as low ESR, high ripple current capability, excellent capacitance stability, and improved resistance to high in-rush currents. These benefits are achieved though a combination of proprietary design, materials, and process parameters as well as high-stress, low impedance electrical conditioning performed prior to screening.This series is classified as MSL (Mositure Sensitivity Level) 1 under J STD 020: unlimited floor life time at ≤30°C/85% RH.

Benefits

- Meets or exceeds EIA Standard 535BAAC
- Taped and reeled per EIA 481
- High surge current capability
- Optional gold-plated terminations
- High ripple current capability
- 100% surge current test on C, D, E, U, V, X sizes
- 100% steady-state accelerated aging
- Capacitance values of 0.1 µF to 1,000 µF
- Tolerances of ±10% and ±20%
- Voltage rating of 2.5 – 50 VDC
- Extended range values
- Available tested to DSCC 95158
- RoHS Compliant and lead-free terminations
- Operating temperature range of -55˚C to +125˚C



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Applications

Typical applications include decoupling and filtering in industrial and automotive end applications, such as DC/DC converters, portable electronics, telecommunications, and control units requiring high ripple current capability.

Environmental Compliance

RoHS Compliant (6/6) according to Directive 2002/95/EC when ordered with 100% Sn Solder

RoHS Compliant

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SPICE

For a detailed analysis of specific part numbers, please visit www.kemet.com for a free download of KEMET's SPICE software. The KEMET SPICE program is freeware intended to aid design engineers in analyzing the performance of these capacitors over frequency, temperature, ripple, and DC bias conditions.

Ordering Information

T	495	X	107	M	010	A	T	E045	
Capacitor Class	Series	Case Size	Capacitance Code (pF)	Capacitance Tolerance	Voltage	Failure Rate/ Design	Lead Material	ESR	Packaging (C-Spec)
T = Tantalum	Surge Robust Low ESR	A, B, C, D, E, T, V, X	First two digits represent significant figures. Third digit specifies number of zeros.	K = ±10% M = ±20%	2R5 = 2.5 V 004 = 4 V 006 = 6.3 V 010 = 10 V 016 = 16 V 020 = 20 V 025 = 25 V 035 = 35 V 050 = 50 V	A = N/A	T = 100% Matte Tin (Sn) Plated H = Standard Solder Coated (SnPb 5% Pb minimum) G = Gold Plated (A, B, C, D, X only)	Last three digits specify ESR in mΩ. (45 = 45 mΩ)	Blank = 7" Reel 7280 = 13" Reel

Performance Characteristics

Item	Performance Characteristics
Operating Temperature	-55°C to 125°C
Rated Capacitance Range	0.47 – 1,000 µF @ 120 Hz/25°C
Capacitance Tolerance	K Tolerance (10%), M Tolerance (20%)
Rated Voltage Range	2.5 – 50 V
DF (120 Hz)	Refer to Part Number Electrical Specification Table
ESR (100 kHz)	Refer to Part Number Electrical Specification Table
Leakage Current	≤ 0.01 CV (µA) at rated voltage after 5 minutes

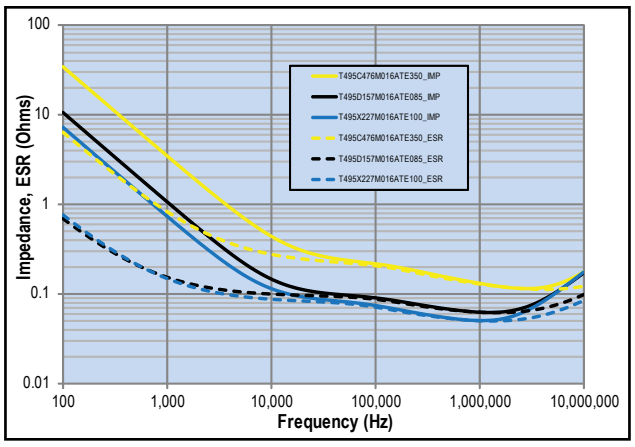
Qualification

Test	Condition		Characteristics			
Endurance	85°C @ rated voltage, 2,000 hours. 125°C @ 2/3 rated voltage, 2,000 hours.		Δ C/C	Within ±10% of initial value		
			DF	Within initial limits		
			DCL	Within 1.25 x initial limit		
			ESR	Within initial limits		
Storage Life	125°C @ 0 volts, 2,000 hours.		Δ C/C	Within ±10% of initial value		
			DF	Within initial limits		
			DCL	Within 1.25 x initial limit		
			ESR	Within initial limits		
Thermal Shock	MIL–STD–202, Method 107, Condition B, mounted, -55C° to 125° C, 1,000 cycles.		Δ C/C	Within ±5% of initial value		
			DF	Within initial limits		
			DCL	Within 1.25 x initial limit		
			ESR	Within initial limits		
Temperature Stability	Extreme temperature exposure at a succession of continuous steps at +25°C, -55°C, +25°C, +85°C, +125°C, +25°C.		+25°C	-55°C	+85°C	+125°C
		Δ C/C	IL*	±10%	±10%	±20%
		DF	IL	IL	1.5 x IL	1.5 x IL
		DCL	IL	n/a	10 x IL	12 x IL
Surge Voltage	25°C and 85°C, 1.32 x rated voltage 1,000 cycles (125°C, 1.2 x rated voltage).		Δ C/C	Within ±5% of initial value		
			DF	Within initial limits		
			DCL	Within initial limits		
			ESR	Within initial limits		
Mechanical Shock/Vibration	MIL–STD–202, Method 213, Condition I, 100 G peak MIL–STD–202, Method 204, Condition D, 10 Hz to 2,000 Hz, 20 G peak		Δ C/C	Within ±10% of initial value		
			DF	Within initial limits		
			DCL	Within initial limits		

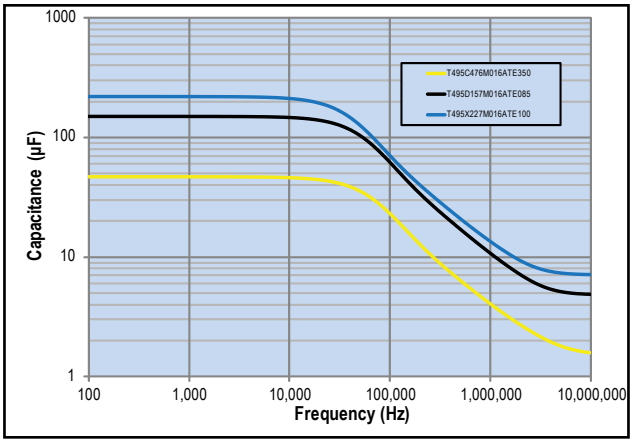
**IL = Initial limit*

Electrical Characteristics

ESR vs. Frequency

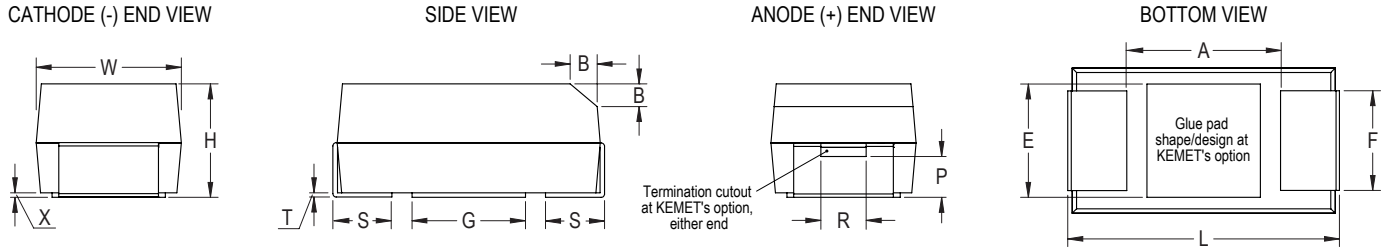


Capacitance vs. Frequency



Dimensions – Millimeters (Inches)

Metric will govern



Case Size		Component												
KEMET	EIA	L*	W*	H*	F* ±0.1 ±(.004)	S* ±0.3 ±(.012)	B* ±0.15 (Ref) ±.006	X (Ref)	P (Ref)	R (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
A	3216–18	3.2 ± 0.2 (.126 ± .008)	1.6 ± 0.2 (.063 ± .008)	1.6 ± 0.2 (.063 ± .008)	1.2 (.047)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.4 (.016)	0.4 (.016)	0.13 (.005)	0.8 (.31)	1.1 (.043)	1.3 (.051)
B	3528–21	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.9 ± 0.2 (.075 ± .008)	2.2 (.087)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.5 (.020)	1.0 (.039)	0.13 (.005)	1.1 (0.043)	1.8 (.071)	2.2 (.087)
C	6032–28	6.0 ± 0.3 (.236 ± .03)	3.2 ± 0.3 (.126 ± .012)	2.5 ± 0.3 (.098 ± .012)	2.2 (.087)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	2.5(.098)	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)	2.4 (.094)	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)
X	7343–43	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	4.0 ± 0.3 (.157 ± .012)	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	7360–38	7.3 ± 0.3 (.287 ± .012)	6.0± 0.3 (.236 ± .012)	3.6 ± 0.2 (.142 ± .008)	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)
T	3528–12	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.2 (.047)	2.2 (.087)	0.8 (.031)	N/A	0.05 (.002)	N/A	N/A	0.13 (.005)	1.1 (.043)	1.8 (.071)	2.2 (.087)
V	7343–20	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.0 (.079)	2.4 (.094)	1.3 (.051)	N/A	0.05 (.002)	N/A	N/A	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

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

** MIL–PRF–55365/8 specified dimensions*

Table 1 – Ratings & Part Number Reference

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
2.5	100	T/3528-12	T495T107(M)2R5A(2)E3K0	2.5	24.0	3000	153	138	61	1
2.5	220	D/7343-31	T495D227(1)2R5A(2)E045	5.5	8.0	45	1826	1643	730	1
2.5	470	D/7343-31	T495D477(1)2R5A(2)E035	11.8	8.0	35	2070	1863	828	1
2.5	1000	X/7343-43	T495X108(1)2R5A(2)E030	25.0	15.0	30	2345	2111	938	1
2.5	1000	X/7343-43	T495X108(1)2R5A(2)E040	25.0	15.0	40	2031	1828	812	1
4	6.8	A/3216-18	T495A685(1)004A(2)E2K0	0.5	6.0	2000	194	175	78	1
4	22	C/6032-28	T495C226(1)004A(2)E2K4	0.9	6.0	2400	214	193	86	1
4	22	C/6032-28	T495C226(1)004A(2)E380	0.9	6.0	380	538	484	215	1
4	33	T/3528-12	T495T336(1)004A(2)E1K2	1.3	8.0	1200	242	218	97	1
4	47	T/3528-12	T495T476(1)004A(2)E1K0	1.9	10.0	1000	265	239	106	1
4	68	T/3528-12	T495T686(1)004A(2)E1K5	2.7	20.0	1500	216	194	86	1
4	68	V/7343-20	T495V686(1)004A(2)E150	2.7	6.0	150	913	822	365	1
4	100	B/3528-21	T495B107(1)004A(2)E500	4.0	8.0	500	412	371	165	1
4	100	D/7343-31	T495D107(1)004A(2)E800	4.0	6.0	800	433	390	173	1
4	150	B/3528-21	T495B157(M)004A(2)E900	6.0	12.0	900	307	276	123	1
4	150	C/6032-28	T495C157(1)004A(2)E070	6.0	12.0	70	1254	1129	502	1
4	150	C/6032-28	T495C157(1)004A(2)E250	6.0	8.0	250	663	597	265	1
4	150	U/6032-15	T495U157(1)004A(2)E200	6.0	8.0	200	671	604	268	1
4	220	D/7343-31	T495D227(1)004A(2)E040	8.8	8.0	40	1936	1742	774	1
4	220	D/7343-31	T495D227(1)004A(2)E050	8.8	8.0	50	1732	1559	693	1
4	220	D/7343-31	T495D227(1)004A(2)E100	8.8	8.0	100	1225	1103	490	1
4	330	C/6032-28	T495C337(1)004A(2)E300	13.2	10.0	300	606	545	242	1
4	330	C/6032-28	T495C337(1)004A(2)E700	13.2	12.0	700	396	356	158	1
4	330	D/7343-31	T495D337(1)004A(2)E030	13.2	8.0	30	2236	2012	894	1
4	330	D/7343-31	T495D337(1)004A(2)E045	13.2	8.0	45	1826	1643	730	1
4	330	D/7343-31	T495D337(1)004A(2)E100	13.2	8.0	100	1225	1103	490	1
4	470	D/7343-31	T495D477(1)004A(2)E045	18.8	12.0	45	1826	1643	730	1
4	470	D/7343-31	T495D477(1)004A(2)E100	18.8	12.0	100	1225	1103	490	1
4	470	X/7343-43	T495X477(1)004A(2)E030	18.8	8.0	30	2345	2111	938	1
4	470	X/7343-43	T495X477(1)004A(2)E045	18.8	8.0	45	1915	1724	766	1
4	470	X/7343-43	T495X477(1)004A(2)E060	18.8	10.0	60	1658	1492	663	1
4	470	X/7343-43	T495X477(1)004A(2)E100	18.8	8.0	100	1285	1157	514	1
4	680	X/7343-43	T495X687(1)004A(2)E040	27.2	10.0	40	2031	1828	812	1
4	680	X/7343-43	T495X687(1)004A(2)E060	27.2	10.0	60	1658	1492	663	1
4	680	X/7343-43	T495X687(1)004A(2)E100	27.2	10.0	100	1285	1157	514	1
4	1000	X/7343-43	T495X108(1)004A(2)E030	40.0	10.0	30	2345	2111	938	1
4	1000	X/7343-43	T495X108(1)004A(2)E040	40.0	10.0	40	2031	1828	812	1
4	1000	X/7343-43	T495X108(1)004A(2)E060	40.0	10.0	60	1658	1492	663	1
4	1000	X/7343-43	T495X108(1)004A(2)E070	40.0	10.0	70	1535	1382	614	1
4	1000	X/7343-43	T495X108(1)004A(2)E090	40.0	10.0	90	1354	1219	542	1
4	1000	X/7343-43	T495X108(1)004A(2)E100	40.0	10.0	100	1285	1157	514	1
4	1000	E/7360-38	T495E108(1)004A(2)E035	40.0	15.0	35	2390	2151	956	1
4	1000	E/7360-38	T495E108(1)004A(2)E050	40.0	15.0	50	2000	1800	800	1
6.3	2.2	A/3216-18	T495A225(1)006ATE5K0	0.5	6.0	5000	122	110	49	1
6.3	3.3	A/3216-18	T495A335(1)006ATE3K0	0.5	6.0	3000	158	142	63	1
6.3	6.8	A/3216-18	T495A685(1)006ATE1K8	0.5	6.0	1800	204	184	82	1
6.3	6.8	A/3216-18	T495A685(1)006ATE2K0	0.5	6.0	2000	194	175	78	1
6.3	6.8	A/3216-18	T495A685(1)006A(2)E4K5	0.5	6.0	4500	129	116	52	1
6.3	6.8	C/6032-28	T495C685(1)006A(2)E480	0.5	6.0	480	479	431	192	1
6.3	10	A/3216-18	T495A106(1)006A(2)E800	0.6	6.0	800	306	275	122	1
6.3	10	A/3216-18	T495A106(1)006A(2)E1K0	0.6	6.0	1000	274	247	110	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
6.3	10	A/3216-18	T495A106(1)006A(2)E1K5	0.6	6.0	1500	224	202	90	1
6.3	10	A/3216-18	T495A106(1)006A(2)E2K0	0.6	6.0	2000	194	175	78	1
6.3	10	B/3528-21	T495B106(1)006A(2)E1K0	0.6	6.0	1000	292	263	117	1
6.3	10	T/3528-12	T495T106(1)006A(2)E1K2	0.6	6.0	1200	242	218	97	1
6.3	15	A/3216-18	T495A156(1)006A(2)E2K0	0.9	6.0	2000	194	175	78	1
6.3	15	T/3528-12	T495T156(1)006A(2)E1K0	0.9	6.0	1000	265	239	106	1
6.3	22	A/3216-18	T495A226(1)006A(2)E500	1.4	6.0	500	387	348	155	1
6.3	22	A/3216-18	T495A226(1)006A(2)E900	1.4	8.0	900	289	260	116	1
6.3	22	A/3216-18	T495A226(1)006A(2)E1K5	1.4	8.0	1500	224	202	90	1
6.3	22	B/3528-21	T495B226(1)006A(2)E500	1.4	6.0	500	412	371	165	1
6.3	22	C/6032-28	T495C226(1)006A(2)E380	1.4	6.0	380	538	484	215	1
6.3	33	A/3216-18	T495A336(1)006A(2)E600	2.1	12.0	600	354	319	142	1
6.3	33	B/3528-21	T495B336(1)006A(2)E600	2.1	6.0	600	376	338	150	1
6.3	33	T/3528-12	T495T336(1)006A(2)E800	2.1	6.0	800	296	266	118	1
6.3	33	C/6032-28	T495C336(1)006A(2)E350	2.1	6.0	350	561	505	224	1
6.3	47	B/3528-21	T495B476(1)006A(2)E250	3.0	6.0	250	583	525	233	1
6.3	47	B/3528-21	T495B476(1)006A(2)E500	3.0	6.0	500	583	525	233	1
6.3	47	B/3528-21	T495B476(1)006A(2)E450	3.0	6.0	450	435	392	174	1
6.3	47	B/3528-21	T495B476(1)006A(2)E400	3.0	6.0	400	461	415	184	1
6.3	47	C/6032-28	T495C476(1)006A(2)E250	3.0	6.0	250	663	597	265	1
6.3	47	C/6032-28	T495C476(1)006A(2)E300	3.0	6.0	300	606	545	242	1
6.3	47	C/6032-28	T495C476(1)006A(2)E330	3.0	6.0	330	577	519	231	1
6.3	47	V/7343-20	T495V476(1)006A(2)E150	3.0	6.0	150	913	822	365	1
6.3	68	B/3528-21	T495B686(1)006A(2)E500	4.3	8.0	500	412	371	165	1
6.3	68	C/6032-28	T495C686(1)006A(2)E400	4.3	6.0	400	524	472	210	1
6.3	68	U/6032-15	T495U686(1)006A(2)E400	4.3	6.0	400	474	427	190	1
6.3	68	D/7343-31	T495D686(1)006A(2)E175	4.3	4.0	175	926	833	370	1
6.3	68	D/7343-31	T495D686(1)006A(2)E180	4.3	4.0	180	913	822	365	1
6.3	68	D/7343-31	T495D686(1)006A(2)4095	4.3	4.0	175	926	833	370	1
6.3	100	B/3528-21	T495B107(1)006A(2)E400	6.3	15.0	400	461	415	184	1
6.3	100	B/3528-21	T495B107(M)006A(2)E700	6.3	15.0	700	348	313	139	1
6.3	100	M/3528-15	T495M107(1)006A(2)E500	6.3	20.0	500	490	441	196	1
6.3	100	M/3528-15	T495M107(1)006A(2)E1K0	6.3	20.0	1000	346	311	138	1
6.3	100	C/6032-28	T495C107(1)006A(2)E075	6.3	8.0	75	1211	1090	484	1
6.3	100	C/6032-28	T495C107(1)006A(2)E150	6.3	8.0	150	856	770	342	1
6.3	100	D/7343-31	T495D107(1)006A(2)E050	6.3	6.0	50	1732	1559	693	1
6.3	100	D/7343-31	T495D107(1)006A(2)E130	6.3	6.0	130	1074	967	430	1
6.3	100	D/7343-31	T495D107(1)006A(2)E150	6.3	8.0	150	1000	900	400	1
6.3	100	D/7343-31	T495D107(1)006A(2)E800	6.3	6.0	800	433	390	173	1
6.3	100	V/7343-20	T495V107(1)006A(2)E090	6.3	8.0	90	1179	1061	472	1
6.3	100	V/7343-20	T495V107(1)006A(2)E150	6.3	8.0	150	913	822	365	1
6.3	150	C/6032-28	T495C157(1)006A(2)E050	9.5	8.0	50	1483	1335	593	1
6.3	150	C/6032-28	T495C157(M)006A(2)E200	9.5	8.0	200	742	668	297	1
6.3	150	V/7343-20	T495V157(1)006A(2)E040	9.5	8.0	40	1768	1591	707	1
6.3	150	V/7343-20	T495V157(1)006A(2)E070	9.5	8.0	70	1336	1202	534	1
6.3	150	V/7343-20	T495V157(1)006A(2)E150	9.5	8.0	150	913	822	365	1
6.3	150	D/7343-31	T495D157(1)006A(2)E050	9.5	6.0	50	1732	1559	693	1
6.3	150	D/7343-31	T495D157(1)006A(2)E065	9.5	6.0	65	1519	1367	608	1
6.3	150	D/7343-31	T495D157(1)006A(2)E080	9.5	6.0	80	1369	1232	548	1
6.3	150	D/7343-31	T495D157(1)006A(2)E100	9.5	6.0	100	1225	1103	490	1
6.3	150	D/7343-31	T495D157(1)006A(2)E125	9.5	6.0	125	1095	986	438	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
6.3	150	X/7343-43	T495X157(1)006A(2)E100	9.5	6.0	100	1285	1157	514	1
6.3	150	X/7343-43	T495X157(1)006A(2)4095	9.5	6.0	125	1149	1034	460	1
6.3	220	C/6032-28	T495C227(1)006A(2)E225	13.9	10.0	225	699	629	280	1
6.3	220	C/6032-28	T495C227(1)006A(2)E200	13.9	10.0	200	742	668	297	1
6.3	220	D/7343-31	T495D227(1)006A(2)E045	13.9	8.0	45	1826	1643	730	1
6.3	220	D/7343-31	T495D227(1)006A(2)E050	13.9	8.0	50	1732	1559	693	1
6.3	220	D/7343-31	T495D227(1)006A(2)E100	13.9	8.0	100	1225	1103	490	1
6.3	220	D/7343-31	T495D227(1)006A(2)4095	13.9	8.0	100	1225	1103	490	1
6.3	220	X/7343-43	T495X227(1)006A(2)E070	13.9	8.0	70	1535	1382	614	1
6.3	220	X/7343-43	T495X227(1)006A(2)E080	13.9	8.0	80	1436	1292	574	1
6.3	220	X/7343-43	T495X227(1)006A(2)E100	13.9	8.0	100	1285	1157	514	1
6.3	220	V/7343-20	T495V227(1)006ATE150	13.9	8.0	150	913	822	365	1
6.3	220	X/7343-43	T495X227(1)006A(2)4095	13.9	8.0	100	1285	1157	514	1
6.3	330	C/6032-28	T495C337(1)006A(2)E200	20.8	18.0	200	742	668	297	1
6.3	330	D/7343-31	T495D337(1)006A(2)E040	20.8	8.0	40	1936	1742	774	1
6.3	330	D/7343-31	T495D337(1)006A(2)E045	20.8	8.0	45	1826	1643	730	1
6.3	330	D/7343-31	T495D337(1)006A(2)E050	20.8	8.0	50	1732	1559	693	1
6.3	330	D/7343-31	T495D337(1)006A(2)E070	20.8	8.0	70	1464	1318	586	1
6.3	330	D/7343-31	T495D337(1)006A(2)E100	20.8	8.0	100	1225	1103	490	1
6.3	330	V/7343-20	T495V337(1)006A(2)E150	20.8	8.0	150	913	822	365	1
6.3	330	X/7343-43	T495X337(1)006A(2)E045	20.8	8.0	45	1915	1724	766	1
6.3	330	X/7343-43	T495X337(1)006A(2)E050	20.8	8.0	50	1817	1635	727	1
6.3	330	X/7343-43	T495X337(1)006A(2)E065	20.8	8.0	65	1593	1434	637	1
6.3	330	X/7343-43	T495X337(1)006A(2)E080	20.8	8.0	80	1436	1292	574	1
6.3	330	X/7343-43	T495X337(1)006A(2)E100	20.8	8.0	100	1285	1157	514	1
6.3	330	E/7360-38	T495E337(1)006A(2)E060	20.8	8.0	60	1826	1643	730	1
6.3	330	E/7360-38	T495E337(1)006A(2)E100	20.8	8.0	100	1414	1273	566	1
6.3	470	D/7343-31	T495D477(1)006A(2)E045	29.6	12.0	45	1826	1643	730	1
6.3	470	D/7343-31	T495D477(1)006A(2)E100	29.6	12.0	100	1225	1103	490	1
6.3	470	D/7343-31	T495D477(1)006A(2)E125	29.6	12.0	125	1095	986	438	1
6.3	470	D/7343-31	T495D477(1)006A(2)E150	29.6	12.0	150	1000	900	400	1
6.3	470	V/7343-20	T495V477(1)006A(2)E150	29.6	15.0	150	913	822	365	1
6.3	470	X/7343-43	T495X477(1)006A(2)E030	29.6	10.0	30	2345	2111	938	1
6.3	470	X/7343-43	T495X477(1)006A(2)E045	29.6	10.0	45	1915	1724	766	1
6.3	470	X/7343-43	T495X477(1)006A(2)E050	29.6	10.0	50	1817	1635	727	1
6.3	470	X/7343-43	T495X477(1)006A(2)E060	29.6	10.0	60	1658	1492	663	1
6.3	470	X/7343-43	T495X477(1)006A(2)E065	29.6	10.0	65	1593	1434	637	1
6.3	470	X/7343-43	T495X477(1)006A(2)E100	29.6	10.0	100	1285	1157	514	1
6.3	470	X/7343-43	T495X477(1)006A(2)E125	29.6	10.0	125	1149	1034	460	1
6.3	470	E/7360-38	T495E477(1)006A(2)E040	29.6	12.0	40	2236	2012	894	1
6.3	470	E/7360-38	T495E477(1)006A(2)E055	29.6	10.0	55	1907	1716	763	1
6.3	470	E/7360-38	T495E477(1)006A(2)E100	29.6	10.0	100	1414	1273	566	1
6.3	680	X/7343-43	T495X687(1)006A(2)E100	42.8	12.0	100	1285	1157	514	1
6.3	680	X/7343-43	T495X687(1)006A(2)E060	42.8	12.0	60	1658	1492	663	1
6.3	680	X/7343-43	T495X687(1)006A(2)E045	42.8	12.0	45	1915	1724	766	1
6.3	1000	X/7343-43	T495X108(1)006A(2)E100	63.0	20.0	100	1285	1157	514	1
6.3	1000	E/7360-38	T495E108(1)006A(2)E050	63.0	15.0	50	2000	1800	800	1
10	2.2	A/3216-18	T495A225(1)010A(2)E1K8	0.5	6.0	1800	204	184	82	1
10	2.2	A/3216-18	T495A225(1)010A(2)E7K0	0.5	6.0	7000	104	94	42	1
10	3.3	A/3216-18	T495A335(1)010A(2)E2K0	0.5	6.0	2000	194	175	78	1
10	4.7	A/3216-18	T495A475(1)010A(2)E1K2	0.5	6.0	1200	250	225	100	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
10	4.7	A/3216-18	T495A475(1)010A(2)E1K3	0.5	6.0	1300	240	216	96	1
10	4.7	A/3216-18	T495A475(1)010A(2)E1K4	0.5	6.0	1400	231	208	92	1
10	4.7	A/3216-18	T495A475(1)010A(2)E1K8	0.5	6.0	1800	204	184	82	1
10	4.7	A/3216-18	T495A475(1)010A(2)E2K0	0.5	6.0	2000	194	175	78	1
10	4.7	B/3528-21	T495B475(1)010A(2)E1K3	0.5	15.0	1300	256	230	102	1
10	4.7	B/3528-21	T495B475(1)010A(2)E1K5	0.5	6.0	1500	238	214	95	1
10	6.8	A/3216-18	T495A685(1)010A(2)E1K8	0.7	6.0	1800	204	184	82	1
10	6.8	B/3528-21	T495B685(1)010A(2)E900	0.7	6.0	900	307	276	123	1
10	6.8	B/3528-21	T495B685(1)010A(2)E1K1	0.7	6.0	1100	278	250	111	1
10	6.8	B/3528-21	T495B685(1)010A(2)E1K2	0.7	6.0	1200	266	239	106	1
10	10	A/3216-18	T495A106(1)010A(2)E1K8	1.0	6.0	1800	204	184	82	1
10	10	A/3216-18	T495A106(1)010A(2) E2K0	1.0	6.0	2000	194	175	78	1
10	10	A/3216-18	T495A106(1)010A(2) E2K5	1.0	6.0	2500	173	156	69	1
10	10	A/3216-18	T495A106(1)010A(2) E3K8	1.0	6.0	3800	140	126	56	1
10	10	B/3528-21	T495B106(1)010A(2) E600	1.0	6.0	600	376	338	150	1
10	10	B/3528-21	T495B106(1)010A(2)E750	1.0	6.0	750	337	303	135	1
10	10	B/3528-21	T495B106(1)010A(2) E1K2	1.0	6.0	1200	266	239	106	1
10	10	B/3528-21	T495B106(1)010A(2)E3K0	1.0	6.0	3000	168	151	67	1
10	10	C/6032-28	T495C106(1)010AT E400	1.0	6.0	400	524	472	210	1
10	10	T/3528-12	T495T106(1)010AT E1K5	1.0	6.0	1500	216	194	86	1
10	15	A/3216-18	T495A156(1)010AT E1K0	1.5	6.0	1000	274	247	110	1
10	15	A/3216-18	T495A156(1)010AT E1K8	1.5	6.0	1800	204	184	82	1
10	15	B/3528-21	T495B156(1)010AT E600	1.5	6.0	600	376	338	150	1
10	15	B/3528-21	T495B156(1)010AT E900	1.5	6.0	900	307	276	123	1
10	15	T/3528-12	T495T156(1)010AT E1K2	1.5	6.0	1200	242	218	97	1
10	15	B/3528-21	T495B156(1)010A(2)E500	1.5	6.0	500	412	371	165	1
10	15	C/6032-28	T495C156(1)010A(2)E375	1.5	6.0	375	542	488	217	1
10	15	C/6032-28	T495C156(1)010A(2)E400	1.5	6.0	400	524	472	210	1
10	15	C/6032-28	T495C156(1)010A(2)E475	1.5	6.0	475	481	433	192	1
10	22	A/3216-18	T495A226(1)010AT E1K2	2.2	8.0	1200	250	225	100	1
10	22	A/3216-18	T495A226(1)010AT E1K5	2.2	8.0	1500	224	202	90	1
10	22	B/3528-21	T495B226(1)010AT E400	2.2	6.0	400	461	415	184	1
10	22	B/3528-21	T495B226(1)010AT E500	2.2	6.0	500	412	371	165	1
10	22	B/3528-21	T495B226(1)010AT E700	2.2	6.0	700	348	313	139	1
10	22	B/3528-21	T495B226(1)010AT E800	2.2	6.0	800	326	293	130	1
10	22	B/3528-21	T495B226(1)010A(2)E2K3	2.2	6.0	2300	192	173	77	1
10	22	C/6032-28	T495C226(1)010A(2)E200	2.2	6.0	200	742	668	297	1
10	22	C/6032-28	T495C226(1)010A(2)E245	2.2	6.0	245	670	603	268	1
10	22	C/6032-28	T495C226(1)010A(2)E290	2.2	6.0	290	616	554	246	1
10	22	C/6032-28	T495C226(1)010A(2)E300	2.2	6.0	300	606	545	242	1
10	22	C/6032-28	T495C226(1)010A(2)E345	2.2	6.0	345	565	509	226	1
10	22	C/6032-28	T495C226(1)010A(2)E350	2.2	6.0	350	561	505	224	1
10	22	C/6032-28	T495C226(1)010A(2)E380	2.2	6.0	380	538	484	215	1
10	33	B/3528-21	T495B336(1)010A(2)E450	3.3	6.0	450	435	392	174	1
10	33	B/3528-21	T495B336(1)010A(2)E550	3.3	6.0	550	393	354	157	1
10	33	B/3528-21	T495B336(1)010A(2)E650	3.3	6.0	650	362	326	145	1
10	33	V/7343-20	T495V336(1)010A(2)E100	3.3	6.0	100	1118	1006	447	1
10	33	V/7343-20	T495V336(1)010A(2)E150	3.3	6.0	150	913	822	365	1
10	47	B/3528-21	T495B476(1)010A(2)E500	4.7	6.0	500	412	371	165	1
10	47	B/3528-21	T495B476(1)010A(2)E650	4.7	6.0	650	362	326	145	1
10	47	C/6032-28	T495C476(1)010A(2)E300	4.7	6.0	300	606	545	242	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
10	47	U/6032-15	T495U476(1)010A(2)E400	4.7	6.0	400	474	427	190	1
10	47	D/7343-31	T495D476(1)010A(2)E080	4.7	4.0	80	1369	1232	548	1
10	47	D/7343-31	T495D476(1)010A(2)E090	4.7	6.0	90	1291	1162	516	1
10	47	D/7343-31	T495D476(1)010A(2)E100	4.7	6.0	100	1225	1103	490	1
10	47	D/7343-31	T495D476(1)010A(2)E200	4.7	4.0	200	866	779	346	1
10	47	D/7343-31	T495D476(1)010A(2)4095	4.7	4.0	200	866	779	346	1
10	47	V/7343-20	T495V476(1)010A(2)E200	4.7	6.0	200	791	712	316	1
10	68	B/3528-21	T495B686(1)010A(2)E600	6.8	8.0	600	376	338	150	1
10	68	B/3528-21	T495B686(1)010A(2)E750	6.8	8.0	750	337	303	135	1
10	68	B/3528-21	T495B686(M)010A(2)E900	6.8	8.0	900	307	276	123	1
10	68	C/6032-28	T495C686(1)010A(2)E080	6.8	6.0	80	1173	1056	469	1
10	68	C/6032-28	T495C686(1)010A(2)E200	6.8	6.0	200	742	668	297	1
10	68	C/6032-28	T495C686(1)010A(2)E225	6.8	6.0	225	699	629	280	1
10	68	C/6032-28	T495C686(1)010A(2)E250	6.8	6.0	250	663	597	265	1
10	68	V/7343-20	T495V686(1)010A(2)E070	6.8	6.0	70	1336	1202	534	1
10	68	V/7343-20	T495V686(1)010A(2)E100	6.8	6.0	100	1118	1006	447	1
10	68	V/7343-20	T495V686(1)010A(2)E140	6.8	6.0	140	945	851	378	1
10	68	V/7343-20	T495V686(1)010A(2)E200	6.8	6.0	200	791	712	316	1
10	68	D/7343-31	T495D686(1)010A(2)E070	6.8	6.0	70	1464	1318	586	1
10	68	D/7343-31	T495D686(1)010A(2)E090	6.8	6.0	90	1291	1162	516	1
10	68	D/7343-31	T495D686(1)010A(2)E100	6.8	6.0	100	1225	1103	490	1
10	68	D/7343-31	T495D686(1)010A(2)E150	6.8	6.0	150	1000	900	400	1
10	68	X/7343-43	T495X686(1)010A(2)E150	6.8	4.0	150	1049	944	420	1
10	68	X/7343-43	T495X686(1)010A(2)4095	6.8	4.0	150	1049	944	420	1
10	100	B/3528-21	T495B107(M)010A(2)E350	10.0	12.0	350	493	444	197	1
10	100	B/3528-21	T495B107(M)010A(2)E500	10.0	30.0	500	412	371	165	1
10	100	B/3528-21	T495B107(M)010A(2)E700	10.0	30.0	700	348	313	139	1
10	100	C/6032-28	T495C107(1)010A(2)E100	10.0	8.0	100	1050	945	420	1
10	100	C/6032-28	T495C107(1)010A(2)E150	10.0	8.0	150	856	812	542	1
10	100	C/6032-28	T495C107(1)010A(2)E180	10.0	8.0	180	782	704	313	1
10	100	C/6032-28	T495C107(1)010A(2)E200	10.0	8.0	200	742	668	297	1
10	100	C/6032-28	T495C107(1)010A(2)E250	10.0	8.0	250	663	597	265	1
10	100	U/6032-15	T495U107(1)010A(2)E150	10.0	8.0	150	775	698	310	1
10	100	V/7343-20	T495V107(1)010A(2)E100	10.0	8.0	100	1118	1006	447	1
10	100	V/7343-20	T495V107(1)010A(2)E150	10.0	8.0	150	913	822	365	1
10	100	V/7343-20	T495V107(1)010A(2)E200	10.0	8.0	200	791	712	316	1
10	100	D/7343-31	T495D107(1)010A(2)E050	10.0	8.0	50	1732	1559	693	1
10	100	D/7343-31	T495D107(1)010A(2)E065	10.0	8.0	65	1519	1367	608	1
10	100	D/7343-31	T495D107(1)010A(2)E080	10.0	8.0	80	1369	1232	548	1
10	100	D/7343-31	T495D107(1)010A(2)E100	10.0	8.0	100	1225	1103	490	1
10	100	D/7343-31	T495D107(1)010A(2)E120	10.0	8.0	120	1118	1006	447	1
10	100	D/7343-31	T495D107(1)010A(2)E125	10.0	8.0	125	1095	986	438	1
10	100	D/7343-31	T495D107(1)010A(2)4095	10.0	8.0	100	1225	1103	490	1
10	100	X/7343-43	T495X107(1)010A(2)E100	10.0	6.0	100	1285	1157	514	1
10	100	X/7343-43	T495X107(1)010A(2)4095	10.0	6.0	100	1285	1157	514	1
10	150	C/6032-28	T495C157(1)010A(2)E200	15.0	10.0	200	742	668	297	1
10	150	V/7343-20	T495V157(1)010A(2)E100	15.0	8.0	100	1118	1006	447	1
10	150	V/7343-20	T495V157(1)010A(2)E150	15.0	8.0	150	913	822	365	1
10	150	V/7343-20	T495V157(1)010A(2)E200	15.0	8.0	200	791	712	316	1
10	150	D/7343-31	T495D157(1)010A(2)E050	15.0	8.0	50	1732	1559	693	1
10	150	D/7343-31	T495D157(1)010A(2)E060	15.0	8.0	60	1581	1423	632	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
10	150	D/7343-31	T495D157(1)010A(2)E080	15.0	8.0	80	1369	1232	548	1
10	150	D/7343-31	T495D157(1)010A(2)E100	15.0	8.0	100	1225	1103	490	1
10	150	D/7343-31	T495D157(1)010A(2)4095	15.0	8.0	100	1225	1103	490	1
10	150	X/7343-43	T495X157(1)010A(2)E070	15.0	8.0	70	1535	1382	614	1
10	150	X/7343-43	T495X157(1)010A(2)E080	15.0	8.0	80	1436	1292	574	1
10	150	X/7343-43	T495X157(1)010A(2)E085	15.0	8.0	85	1393	1254	557	1
10	150	X/7343-43	T495X157(1)010A(2)E100	15.0	8.0	100	1285	1157	514	1
10	150	X/7343-43	T495X157(1)010A(2)4095	15.0	8.0	100	1285	1157	514	1
10	220	D/7343-31	T495D227(1)010A(2)E045	22.0	8.0	45	1826	1643	730	1
10	220	D/7343-31	T495D227(1)010A(2)E050	22.0	9.0	50	1732	1559	693	1
10	220	D/7343-31	T495D227(1)010A(2)E075	22.0	8.0	75	1414	1273	566	1
10	220	D/7343-31	T495D227(1)010A(2)E100	22.0	8.0	100	1225	1103	490	1
10	220	D/7343-31	T495D227(1)010A(2)E125	22.0	8.0	125	1095	986	438	1
10	220	V/7343-20	T495V227(1)010A(2)E150	22.0	10.0	150	913	822	365	1
10	220	V/7343-20	T495V227(1)010A(2)E200	22.0	10.0	200	791	712	316	1
10	220	X/7343-43	T495X227(1)010A(2)E045	22.0	8.0	45	1915	1724	766	1
10	220	X/7343-43	T495X227(1)010A(2)E050	22.0	8.0	50	1817	1635	727	1
10	220	X/7343-43	T495X227(1)010A(2)E060	22.0	8.0	60	1658	1492	663	1
10	220	X/7343-43	T495X227(1)010A(2)E070	22.0	8.0	70	1535	1382	614	1
10	220	X/7343-43	T495X227(1)010A(2)E080	22.0	8.0	80	1436	1292	574	1
10	220	X/7343-43	T495X227(1)010A(2)E100	22.0	8.0	100	1285	1157	514	1
10	220	X/7343-43	T495X227(1)010A(2)4095	22.0	8.0	100	1285	1157	514	1
10	330	D/7343-31	T495D337(1)010A(2)E100	33.0	8.0	100	1225	1103	490	1
10	330	D/7343-31	T495D337(1)010A(2)E125	33.0	10.0	125	1095	986	438	1
10	330	D/7343-31	T495D337(1)010A(2)E150	33.0	10.0	150	1000	900	400	1
10	330	X/7343-43	T495X337(1)010A(2)E035	33.0	10.0	35	2171	1954	868	1
10	330	X/7343-43	T495X337(1)010A(2)E040	33.0	10.0	40	2031	1828	812	1
10	330	X/7343-43	T495X337(1)010A(2)E050	33.0	10.0	50	1817	1635	727	1
10	330	X/7343-43	T495X337(1)010A(2)E060	33.0	10.0	60	1658	1492	663	1
10	330	X/7343-43	T495X337(1)010A(2)E080	33.0	10.0	80	1436	1292	574	1
10	330	X/7343-43	T495X337(1)010A(2)E100	33.0	10.0	100	1285	1157	514	1
10	330	E/7360-38	T495E337(1)010A(2)E040	33.0	8.0	40	2236	2012	894	1
10	330	E/7360-38	T495E337(1)010A(2)E060	33.0	10.0	60	1826	1643	730	1
10	330	E/7360-38	T495E337(1)010A(2)E100	33.0	10.0	100	1414	1273	566	1
10	470	X/7343-43	T495X477(1)010A(2)E045	47.0	10.0	45	1915	1724	766	1
10	470	X/7343-43	T495X477(1)010A(2)E050	47.0	10.0	50	1817	1635	727	1
10	470	X/7343-43	T495X477(1)010A(2)E060	47.0	10.0	60	1658	1492	663	1
10	470	X/7343-43	T495X477(1)010A(2)E080	47.0	10.0	80	1436	1292	574	1
10	470	X/7343-43	T495X477(1)010A(2)E100	47.0	10.0	100	1285	1157	514	1
10	470	X/7343-43	T495X477(1)010A(2)E200	47.0	10.0	200	908	817	363	1
10	470	E/7360-38	T495E477(1)010A(2)E040	47.0	10.0	40	2236	2012	894	1
10	470	E/7360-38	T495E477(1)010A(2)E060	47.0	10.0	60	1826	1643	730	1
10	470	E/7360-38	T495E477(1)010A(2)E100	47.0	10.0	100	1414	1273	566	1
16	1.0	A/3216-18	T495A105(1)016A(2)E5K0	0.5	6.0	5000	122	110	49	1
16	1.5	A/3216-18	T495A155(1)016A(2)E5K0	0.5	6.0	5000	122	110	49	1
16	2.2	A/3216-18	T495A225(1)016A(2)E2K5	0.5	6.0	2500	173	156	69	1
16	2.2	A/3216-18	T495A225(1)016A(2)E1K8	0.5	6.0	1800	204	184	82	1
16	3.3	A/3216-18	T495A335(1)016A(2)E3K0	0.5	6.0	3000	158	142	63	1
16	3.3	B/3528-21	T495B335(1)016A(2)E2K0	0.5	6.0	2000	206	185	82	1
16	4.7	A/3216-18	T495A475(1)016A(2)E2K0	0.8	6.0	2000	194	175	78	1
16	4.7	B/3528-21	T495B475(1)016A(2)E700	0.8	6.0	700	348	313	139	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
16	4.7	B/3528-21	T495B475(1)016A(2)E800	0.8	6.0	800	326	293	130	1
16	4.7	B/3528-21	T495B475(1)016A(2)E1K0	0.8	6.0	1000	292	263	117	1
16	4.7	B/3528-21	T495B475(1)016A(2)E1K5	0.8	6.0	1500	238	214	95	1
16	6.8	B/3528-21	T495B685(1)016A(2)E1K2	1.1	6.0	1200	266	239	106	1
16	6.8	C/6032-28	T495C685(1)016A(2)E750	1.1	6.0	750	383	345	153	1
16	10	A/3216-18	T495A106(1)016A(2)E1K7	1.6	6.0	1700	210	189	84	1
16	10	B/3528-21	T495B106(1)016A(2)E500	1.6	6.0	500	412	371	165	1
16	10	B/3528-21	T495B106(1)016A(2)E650	1.6	6.0	650	362	326	145	1
16	10	B/3528-21	T495B106(1)016A(2)E800	1.6	6.0	800	326	293	130	1
16	10	B/3528-21	T495B106(1)016A(2)E2K5	1.6	6.0	2500	184	166	74	1
16	10	T/3528-12	T495T106(M)016A(2)E4K0	1.6	8.0	4000	132	119	53	1
16	15	A/3216-18	T495A156(1)016A(2)E2K5	2.4	8.0	2500	173	156	69	1
16	15	B/3528-21	T495B156(1)016A(2)E500	2.4	6.0	500	412	371	165	1
16	15	B/3528-21	T495B156(1)016A(2)E800	2.4	6.0	800	326	293	130	1
16	15	C/6032-28	T495C156(1)016A(2)E400	2.4	6.0	400	524	472	210	1
16	22	B/3528-21	T495B226(1)016A(2)E600	3.5	6.0	600	376	338	150	1
16	22	B/3528-21	T495B226(1)016A(2)E700	3.5	6.0	700	348	313	139	1
16	22	C/6032-28	T495C226(1)016A(2)E300	3.5	6.0	300	606	545	242	1
16	22	C/6032-28	T495C226(1)016A(2)E350	3.5	6.0	350	561	505	224	1
16	22	C/6032-28	T495C226(1)016A(2)E500	3.5	6.0	500	469	422	188	1
16	22	U/6032-15	T495U226(1)016A(2)E500	3.5	6.0	500	424	382	170	1
16	33	C/6032-28	T495C336(1)016A(2)E200	5.3	6.0	200	742	668	297	1
16	33	C/6032-28	T495C336(1)016A(2)E225	5.3	6.0	225	699	629	280	1
16	33	C/6032-28	T495C336(1)016A(2)E230	5.3	6.0	230	692	623	277	1
16	33	C/6032-28	T495C336(1)016A(2)E275	5.3	6.0	275	632	569	253	1
16	33	C/6032-28	T495C336(1)016A(2)E300	5.3	6.0	300	606	545	242	1
16	33	U/6032-15	T495U336(1)016A(2)E200	5.3	6.0	200	671	604	268	1
16	33	U/6032-15	T495U336(1)016A(2)E400	5.3	6.0	400	474	427	190	1
16	33	B/3528-21	T495B336(1)016A(2)E350	5.3	6.0	350	493	444	197	1
16	33	D/7343-31	T495D336(1)016A(2)E150	5.3	6.0	150	1000	900	400	1
16	33	D/7343-31	T495D336(1)016A(2)E175	5.3	6.0	175	926	833	370	1
16	33	D/7343-31	T495D336(1)016A(2)E200	5.3	6.0	200	866	779	346	1
16	33	D/7343-31	T495D336(1)016A(2)E225	5.3	4.0	225	816	734	326	1
16	33	D/7343-31	T495D336(1)016A(2)E250	5.3	6.0	250	775	698	310	1
16	33	D/7343-31	T495D336(1)016A(2)4095	5.3	4.0	250	775	698	310	1
16	47	C/6032-28	T495C476(1)016A(2)E300	7.5	6.0	300	606	545	242	1
16	47	C/6032-28	T495C476(1)016A(2)E350	7.5	6.0	350	561	505	224	1
16	47	D/7343-31	T495D476(1)016A(2)E080	7.5	6.0	80	1369	1232	548	1
16	47	D/7343-31	T495D476(1)016A(2)E100	7.5	6.0	100	1225	1103	490	1
16	47	D/7343-31	T495D476(1)016A(2)E150	7.5	6.0	150	1000	900	400	1
16	47	D/7343-31	T495D476(1)016A(2)E180	7.5	6.0	180	913	822	365	1
16	47	D/7343-31	T495D476(1)016A(2)E800	7.5	6.0	800	433	390	173	1
16	47	D/7343-31	T495D476(1)016A(2)4095	7.5	6.0	200	866	779	346	1
16	68	C/6032-28	T495C686(1)016A(2)E250	10.9	6.0	250	663	597	265	1
16	68	C/6032-28	T495C686(1)016A(2)E200	10.9	6.0	200	742	668	297	1
16	68	C/6032-28	T495C686(1)016A(2)E180	10.9	6.0	180	782	704	313	1
16	68	V/7343-20	T495V686(1)016A(2)E180	10.9	6.0	180	833	750	333	1
16	68	V/7343-20	T495V686(1)016A(2)E250	10.9	6.0	250	707	636	283	1
16	68	V/7343-20	T495V686(1)016A(2)E300	10.9	6.0	300	645	581	258	1
16	68	D/7343-31	T495D686(1)016A(2)E070	10.9	6.0	70	1464	1318	586	1
16	68	D/7343-31	T495D686(1)016A(2)E100	10.9	6.0	100	1225	1103	490	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
16	68	D/7343-31	T495D686(1)016A(2)E150	10.9	6.0	150	1000	900	400	1
16	68	X/7343-43	T495X686(1)016A(2)E150	10.9	5.0	150	1049	944	420	1
16	100	C/6032-28	T495C107(1)016A(2)E200	16.0	10.0	200	742	668	297	1
16	100	D/7343-31	T495D107(1)016A(2)E060	16.0	8.0	60	1581	1423	632	1
16	100	D/7343-31	T495D107(1)016A(2)E100	16.0	8.0	100	1225	1103	490	1
16	100	D/7343-31	T495D107(1)016A(2)E125	16.0	8.0	125	1095	986	438	1
16	100	D/7343-31	T495D107(1)016A(2)E130	16.0	8.0	130	1074	967	430	1
16	100	D/7343-31	T495D107(1)016A(2)E150	16.0	8.0	150	1000	900	400	1
16	100	D/7343-31	T495D107(1)016A(2)E800	16.0	8.0	800	433	390	173	1
16	100	V/7343-20	T495V107(1)016A(2)E250	16.0	8.0	250	707	636	283	1
16	100	X/7343-43	T495X107(1)016A(2)E080	16.0	8.0	80	1436	1292	574	1
16	100	X/7343-43	T495X107(1)016A(2)E100	16.0	8.0	100	1285	1157	514	1
16	100	X/7343-43	T495X107(1)016A(2)4095	16.0	8.0	125	1149	1034	460	1
16	150	D/7343-31	T495D157(M)016A(2)E060	24.0	12.0	60	1581	1423	632	1
16	150	D/7343-31	T495D157(M)016A(2)E085	24.0	8.0	85	1328	1195	531	1
16	150	D/7343-31	T495D157(1)016A(2)E100	24.0	8.0	100	1225	1103	490	1
16	150	D/7343-31	T495D157(1)016A(2)E125	24.0	8.0	125	1095	986	438	1
16	150	D/7343-31	T495D157(1)016A(2)E130	24.0	8.0	130	1074	967	430	1
16	150	D/7343-31	T495D157(1)016A(2)E150	24.0	8.0	150	1000	900	400	1
16	150	X/7343-43	T495X157(1)016A(2)E075	24.0	8.0	75	1483	1335	593	1
16	150	X/7343-43	T495X157(1)016A(2)E100	24.0	8.0	100	1285	1157	514	1
16	220	D/7343-31	T495D227(1)016A(2)E150	35.2	12.0	150	1000	900	400	1
16	220	D/7343-31	T495D227(1)016A(2)E200	35.2	12.0	200	866	779	346	1
16	220	D/7343-31	T495D227(1)016A(2)E220	35.2	12.0	220	826	743	330	1
16	220	X/7343-43	T495X227(1)016A(2)E100	35.2	8.0	100	1285	1157	514	1
16	220	E/7360-38	T495E227(1)016A(2)E050	35.2	12.0	50	2000	1800	800	1
16	220	E/7360-38	T495E227(1)016A(2)E075	35.2	8.0	75	1633	1470	653	1
16	220	E/7360-38	T495E227(1)016A(2)E100	35.2	7.2	100	1414	1273	566	1
16	220	E/7360-38	T495E227(1)016A(2)E150	35.2	7.2	150	1155	1040	462	1
20	1	A/3216-18	T495A105(1)020A(2)E3K0	0.5	4.0	3000	158	142	63	1
20	1	A/3216-18	T495A105(1)020A(2)E5K0	0.5	4.0	5000	122	110	49	1
20	2.2	A/3216-18	T495A225(1)020A(2)E3K0	0.5	6.0	3000	158	142	63	1
20	4.7	A/3216-18	T495A475(1)020A(2)E1K8	0.9	6.0	1800	204	184	82	1
20	4.7	A/3216-18	T495A475(1)020A(2)E2K0	0.9	6.0	2000	194	175	78	1
20	4.7	B/3528-21	T495B475(1)020A(2)E750	0.9	6.0	750	337	303	135	1
20	4.7	B/3528-21	T495B475(1)020A(2)E1K0	0.9	6.0	1000	292	263	117	1
20	6.8	C/6032-28	T495C685(1)020A(2)E480	1.4	6.0	480	479	431	192	1
20	10	B/3528-21	T495B106(1)020A(2)E1K0	2.0	6.0	1000	292	263	117	1
20	10	B/3528-21	T495B106(1)020A(2)E800	2.0	6.0	800	326	293	130	1
20	10	C/6032-28	T495C106(1)020A(2)E300	2.0	6.0	300	606	545	242	1
20	10	C/6032-28	T495C106(1)020A(2)E350	2.0	6.0	350	561	505	224	1
20	10	C/6032-28	T495C106(1)020A(2)E400	2.0	6.0	400	524	472	210	1
20	10	C/6032-28	T495C106(1)020A(2)E450	2.0	6.0	450	494	445	198	1
20	10	C/6032-28	T495C106(1)020A(2)E475	2.0	6.0	475	481	433	192	1
20	15	C/6032-28	T495C156(1)020A(2)E375	3.0	6.0	375	542	488	217	1
20	15	C/6032-28	T495C156(1)020A(2)E400	3.0	6.0	400	524	472	210	1
20	15	D/7343-31	T495D156(1)020A(2)E275	3.0	4.0	275	739	665	296	1
20	15	D/7343-31	T495D156(1)020A(2)E1K2	3.0	4.0	1200	354	319	142	1
20	15	D/7343-31	T495D156(1)020A(2)4095	3.0	4.0	275	739	665	296	1
20	22	D/7343-31	T495D226(1)020A(2)E180	4.4	4.0	180	913	822	365	1
20	22	D/7343-31	T495D226(1)020A(2)E200	4.4	4.0	200	866	779	346	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
20	22	D/7343-31	T495D226(1)020A(2)E225	4.4	4.0	225	816	734	326	1
20	22	D/7343-31	T495D226(1)020A(2)4095	4.4	4.0	275	739	665	296	1
20	22	V/7343-20	T495V226(1)020A(2)E400	4.4	6.0	400	559	503	224	1
20	33	C/6032-28	T495C336(1)020A(2)E200	6.6	6.0	200	742	668	297	1
20	33	D/7343-31	T495D336(1)020A(2)E100	6.6	6.0	100	1225	1103	490	1
20	33	D/7343-31	T495D336(1)020A(2)E150	6.6	6.0	150	1000	900	400	1
20	33	D/7343-31	T495D336(1)020A(2)E200	6.6	6.0	200	866	779	346	1
20	33	X/7343-43	T495X336(1)020A(2)E200	6.6	6.0	200	908	817	363	1
20	47	D/7343-31	T495D476(1)020A(2)E075	9.4	6.0	75	1414	1273	566	1
20	47	D/7343-31	T495D476(1)020A(2)E100	9.4	6.0	100	1225	1103	490	1
20	47	D/7343-31	T495D476(1)020A(2)E150	9.4	6.0	150	1000	900	400	1
20	47	D/7343-31	T495D476(1)020A(2)E175	9.4	6.0	175	926	833	370	1
20	47	D/7343-31	T495D476(1)020A(2)E200	9.4	6.0	200	866	779	346	1
20	47	D/7343-31	T495D476(1)020A(2)E250	9.4	6.0	250	775	698	310	1
20	47	X/7343-43	T495X476(1)020A(2)E065	9.4	8.0	65	1593	1434	637	1
20	47	X/7343-43	T495X476(1)020A(2)E070	9.4	6.0	70	1535	1382	614	1
20	47	X/7343-43	T495X476(1)020A(2)E100	9.4	6.0	100	1285	1157	514	1
20	47	X/7343-43	T495X476(1)020A(2)E125	9.4	6.0	125	1149	1034	460	1
20	47	X/7343-43	T495X476(1)020A(2)E130	9.4	6.0	130	1127	1014	451	1
20	47	X/7343-43	T495X476(1)020A(2)E150	9.4	4.0	150	1049	944	420	1
20	47	X/7343-43	T495X476(1)020A(2)4095	9.4	4.0	150	1049	944	420	1
20	68	D/7343-31	T495D686(1)020A(2)E070	13.6	6.0	70	1464	1318	586	1
20	68	D/7343-31	T495D686(1)020A(2)E150	13.6	6.0	150	1000	900	400	1
20	68	D/7343-31	T495D686(1)020A(2)E200	13.6	6.0	200	866	779	346	1
20	68	D/7343-31	T495D686(1)020A(2)E300	13.6	6.0	300	707	636	283	1
20	68	X/7343-43	T495X686(1)020A(2)E120	13.6	6.0	120	1173	1056	469	1
20	68	X/7343-43	T495X686(1)020A(2)E130	13.6	6.0	130	1127	1014	451	1
20	68	X/7343-43	T495X686(1)020A(2)E150	13.6	6.0	150	1049	944	420	1
20	68	X/7343-43	T495X686(1)020A(2)E200	13.6	6.0	200	908	817	363	1
20	68	X/7343-43	T495X686(1)020A(2)4095	13.6	6.0	150	1049	944	420	1
20	100	X/7343-43	T495X107(1)020A(2)E100	20.0	6.0	100	1285	1157	514	1
20	100	X/7343-43	T495X107(1)020A(2)E150	20.0	8.0	150	1049	944	420	1
20	100	E/7360-38	T495E107(1)020A(2)E060	20.0	8.0	60	1826	1643	730	1
20	100	E/7360-38	T495E107(1)020A(2)E085	20.0	8.0	85	1534	1381	614	1
20	100	E/7360-38	T495E107(1)020A(2)E100	20.0	8.0	100	1414	1273	566	1
20	100	E/7360-38	T495E107(1)020A(2)E200	20.0	8.0	200	1000	900	400	1
20	150	E/7360-38	T495E157(1)020A(2)E080	30.0	8.0	80	1581	1423	632	1
25	0.47	A/3216-18	T495A474(1)025A(2)E4K5	0.5	4.0	4500	129	116	52	1
25	0.47	A/3216-18	T495A474(1)025A(2)E7K0	0.5	4.0	7000	104	94	42	1
25	1	A/3216-18	T495A105(1)025A(2)E2K5	0.5	4.0	2500	173	156	69	1
25	1	A/3216-18	T495A105(1)025A(2)E3K0	0.5	4.0	3000	158	142	63	1
25	1	A/3216-18	T495A105(1)025A(2)E4K0	0.5	4.0	4000	137	123	55	1
25	1	A/3216-18	T495A105(1)025A(2)E5K0	0.5	4.0	5000	122	110	49	1
25	1.5	A/3216-18	T495A155(1)025A(2)E3K0	0.5	6.0	3000	158	142	63	1
25	2.2	B/3528-21	T495B225(1)025A(2)E1K2	0.6	4.0	1200	266	239	106	1
25	2.2	C/6032-28	T495C225(1)025A(2)E1K3	0.6	6.0	1300	291	262	116	1
25	3.3	B/3528-21	T495B335(1)025A(2)E1K2	0.8	6.0	1200	266	239	106	1
25	3.3	C/6032-28	T495C335(1)025A(2)E750	0.8	6.0	750	383	345	153	1
25	4.7	C/6032-28	T495C475(1)025A(2)E530	1.2	6.0	530	456	410	182	1
25	4.7	C/6032-28	T495C475(1)025A(2)E575	1.2	6.0	575	437	393	175	1
25	4.7	B/3528-21	T495B475(1)025A(2)E700	1.2	6.0	700	348	313	139	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
25	4.7	B/3528-21	T495B475(1)025A(2)E750	1.2	6.0	750	337	303	135	1
25	4.7	B/3528-21	T495B475(1)025A(2)E800	1.2	6.0	800	326	293	130	1
25	4.7	B/3528-21	T495B475(1)025A(2)E900	1.2	6.0	900	307	276	123	1
25	4.7	B/3528-21	T495B475(1)025A(2)E1K0	1.2	6.0	1000	292	263	117	1
25	6.8	B/3528-21	T495B685(1)025A(2)E1K0	1.7	6.0	1000	292	263	117	1
25	6.8	B/3528-21	T495B685(1)025A(2)E1K5	1.7	6.0	1500	238	214	95	1
25	6.8	C/6032-28	T495C685(1)025A(2)E400	1.7	6.0	400	524	472	210	1
25	6.8	C/6032-28	T495C685(1)025A(2)E490	1.7	6.0	490	474	427	190	1
25	6.8	C/6032-28	T495C685(1)025A(2)E500	1.7	6.0	500	469	422	188	1
25	10	B/3528-21	T495B106(1)025A(2)E750	2.5	6.0	750	337	303	135	1
25	10	C/6032-28	T495C106(1)025A(2)E275	2.5	6.0	275	632	569	253	1
25	10	C/6032-28	T495C106(1)025A(2)E300	2.5	6.0	300	606	545	242	1
25	10	C/6032-28	T495C106(1)025A(2)E450	2.5	6.0	450	494	445	198	1
25	10	D/7343-31	T495D106(1)025A(2)E1K2	2.5	6.0	1200	354	319	142	1
25	15	C/6032-28	T495C156(1)025A(2)E300	3.8	6.0	300	606	545	242	1
25	15	D/7343-31	T495D156(1)025A(2)E100	3.8	6.0	100	1225	1103	490	1
25	15	D/7343-31	T495D156(1)025A(2)E230	3.8	4.0	230	808	727	323	1
25	15	D/7343-31	T495D156(1)025A(2)E275	3.8	6.0	275	739	665	296	1
25	15	D/7343-31	T495D156(1)025A(2)4095	3.8	6.0	275	739	665	296	1
25	15	V/7343-20	T495V156(1)025A(2)E500	3.8	6.0	500	500	450	200	1
25	15	X/7343-43	T495X156(1)025A(2)E200	3.8	4.0	200	908	817	363	1
25	15	X/7343-43	T495X156(1)025A(2)4095	3.8	4.0	200	908	817	363	1
25	22	C/6032-28	T495C226(1)025A(2)E275	5.5	6.0	275	632	569	253	1
25	22	C/6032-28	T495C226(1)025A(2)E280	5.5	6.0	280	627	564	251	1
25	22	C/6032-28	T495C226(1)025A(2)E300	5.5	8.0	300	606	545	242	1
25	22	C/6032-28	T495C226(1)025A(2)E900	5.5	6.0	900	350	315	140	1
25	22	D/7343-31	T495D226(1)025A(2)E200	5.5	6.0	200	866	779	346	1
25	22	D/7343-31	T495D226(1)025A(2)E230	5.5	6.0	230	808	727	323	1
25	22	X/7343-43	T495X226(1)025A(2)E225	5.5	4.0	225	856	770	342	1
25	22	X/7343-43	T495X226(1)025A(2)4095	5.5	4.0	225	856	770	342	1
25	33	D/7343-31	T495D336(1)025A(2)E090	8.3	6.0	90	1291	1162	516	1
25	33	D/7343-31	T495D336(1)025A(2)E100	8.3	6.0	100	1225	1103	490	1
25	33	D/7343-31	T495D336(1)025A(2)E150	8.3	6.0	150	1000	900	400	1
25	33	D/7343-31	T495D336(1)025A(2)E200	8.3	6.0	200	866	779	346	1
25	33	D/7343-31	T495D336(1)025A(2)E225	8.3	6.0	225	816	734	326	1
25	33	D/7343-31	T495D336(1)025A(2)E230	8.3	6.0	230	808	727	323	1
25	33	D/7343-31	T495D336(1)025A(2)E300	8.3	6.0	300	707	636	283	1
25	33	X/7343-43	T495X336(1)025A(2)E100	8.3	4.0	100	1285	1157	514	1
25	33	X/7343-43	T495X336(1)025A(2)E175	8.3	4.0	175	971	874	388	1
25	33	X/7343-43	T495X336(1)025A(2)E180	8.3	4.0	180	957	861	383	1
25	33	X/7343-43	T495X336(1)025A(2)E200	8.3	4.0	200	908	817	363	1
25	33	X/7343-43	T495X336(1)025A(2)4095	8.3	4.0	175	971	874	388	1
25	47	X/7343-43	T495X476(1)025A(2)E080	11.8	6.0	80	1436	1292	574	1
25	47	X/7343-43	T495X476(1)025A(2)E100	11.8	6.0	100	1285	1157	514	1
25	47	X/7343-43	T495X476(1)025A(2)E120	11.8	6.0	120	1173	1056	469	1
25	47	X/7343-43	T495X476(1)025A(2)E150	11.8	6.0	150	1049	944	420	1
25	47	X/7343-43	T495X476(1)025A(2)E185	11.8	6.0	185	944	850	378	1
25	47	X/7343-43	T495X476(1)025A(2)E200	11.8	6.0	200	908	817	363	1
25	47	D/7343-31	T495D476(1)025A(2)E100	11.8	6.0	100	1225	1103	490	1
25	47	D/7343-31	T495D476(1)025A(2)E120	11.8	6.0	120	1118	1006	447	1
25	47	D/7343-31	T495D476(1)025A(2)E130	11.8	6.0	130	1074	967	430	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
25	47	D/7343-31	T495D476(1)025A(2)E150	11.8	6.0	150	1000	900	400	1
25	47	D/7343-31	T495D476(1)025A(2)E250	11.8	6.0	250	775	698	310	1
25	68	D/7343-31	T495D686(1)025A(2)E150	17.0	10.0	150	1000	900	400	1
25	68	D/7343-31	T495D686(1)025A(2)E200	17.0	10.0	200	866	779	346	1
25	68	X/7343-43	T495X686(1)025A(2)E125	17.0	6.0	125	1149	1034	460	1
25	68	X/7343-43	T495X686(1)025A(2)E130	17.0	6.0	130	1127	1014	451	1
25	68	X/7343-43	T495X686(1)025A(2)E150	17.0	6.0	150	1049	944	420	1
25	68	X/7343-43	T495X686(1)025A(2)E200	17.0	6.0	200	908	817	363	1
25	100	X/7343-43	T495X107(1)025A(2)E150	25.0	10.0	150	1049	944	420	1
25	100	E/7360-38	T495E107(1)025A(2)E100	25.0	8.0	100	1414	1273	566	1
35	0.33	A/3216-18	T495A334(1)035A(2)E6K0	0.5	4.0	6000	112	101	45	1
35	0.47	A/3216-18	T495A474(1)035A(2)E4K0	0.5	4.0	4000	137	123	55	1
35	0.47	B/3528-21	T495B474(1)035A(2)E1K5	0.5	4.0	1500	238	214	95	1
35	0.47	B/3528-21	T495B474(1)035A(2)E2K2	0.5	4.0	2200	197	177	79	1
35	0.47	B/3528-21	T495B474(1)035A(2)E2K5	0.5	4.0	2500	184	166	74	1
35	0.47	B/3528-21	T495B474(1)035A(2)E11K	0.5	4.0	11000	88	79	35	1
35	1	A/3216-18	T495A105(1)035A(2)E3K0	0.5	4.0	3000	158	142	63	1
35	1	B/3528-21	T495B105(1)035A(2)E1K5	0.5	4.0	1500	238	214	95	1
35	1	B/3528-21	T495B105(1)035A(2)E1K7	0.5	4.0	1700	224	202	90	1
35	1	B/3528-21	T495B105(1)035A(2)E2K0	0.5	4.0	2000	206	185	82	1
35	1	B/3528-21	T495B105(1)035A(2)E7K0	0.5	4.0	7000	110	99	44	1
35	2.2	B/3528-21	T495B225(1)035A(2)E1K5	0.8	6.0	1500	238	214	95	1
35	2.2	B/3528-21	T495B225(1)035A(2)E2K0	0.8	6.0	2000	206	185	82	1
35	2.2	B/3528-21	T495B225(1)035A(2)E4K0	0.8	6.0	4000	146	131	58	1
35	2.2	C/6032-28	T495C225(1)035A(2)E750	0.8	6.0	750	383	345	153	1
35	3.3	B/3528-21	T495B335(1)035A(2)E1K0	1.2	6.0	1000	292	263	117	1
35	3.3	B/3528-21	T495B335(1)035A(2)E900	1.2	6.0	900	307	276	123	1
35	3.3	C/6032-28	T495C335(1)035A(2)E525	1.2	6.0	525	458	412	183	1
35	3.3	C/6032-28	T495C335(1)035A(2)E550	1.2	6.0	550	447	402	179	1
35	3.3	C/6032-28	T495C335(1)035A(2)E600	1.2	6.0	600	428	385	171	1
35	4.7	B/3528-21	T495B475(1)035A(2)E1K0	1.6	6.0	1000	292	263	117	1
35	4.7	C/6032-28	T495C475(1)035A(2)E450	1.6	6.0	450	494	445	198	1
35	4.7	C/6032-28	T495C475(1)035A(2)E500	1.6	6.0	500	469	422	188	1
35	4.7	C/6032-28	T495C475(1)035A(2)E600	1.6	6.0	600	428	385	171	1
35	4.7	C/6032-28	T495C475(1)035A(2)4095	1.6	6.0	600	428	385	171	1
35	4.7	D/7343-31	T495D475(1)035A(2)E300	1.6	6.0	300	707	636	283	1
35	6.8	C/6032-28	T495C685(1)035A(2)E1K8	2.4	6.0	1800	247	222	99	1
35	6.8	D/7343-31	T495D685(1)035A(2)E150	2.4	6.0	150	1000	900	400	1
35	6.8	D/7343-31	T495D685(1)035A(2)E300	2.4	6.0	300	707	636	283	1
35	6.8	D/7343-31	T495D685(1)035A(2)E400	2.4	6.0	400	612	551	245	1
35	6.8	V/7343-20	T495V685(1)035A(2)E600	2.4	6.0	600	456	410	182	1
35	6.8	X/7343-43	T495X685(1)035A(2)E300	2.4	4.0	300	742	668	297	1
35	6.8	X/7343-43	T495X685(1)035A(2)4095	2.4	4.0	300	742	668	297	1
35	10	C/6032-28	T495C106(1)035A(2)E400	3.5	6.0	400	524	472	210	1
35	10	D/7343-31	T495D106(1)035A(2)E120	3.5	4.0	120	1118	1006	447	1
35	10	D/7343-31	T495D106(1)035A(2)E125	3.5	6.0	125	1095	986	438	1
35	10	D/7343-31	T495D106(1)035A(2)E130	3.5	6.0	130	1074	967	430	1
35	10	D/7343-31	T495D106(1)035A(2)E250	3.5	6.0	250	775	698	310	1
35	10	D/7343-31	T495D106(1)035A(2)E260	3.5	6.0	260	760	684	304	1
35	10	D/7343-31	T495D106(1)035A(2)E300	3.5	6.0	300	707	636	283	1
35	10	D/7343-31	T495D106(1)035A(2)E1K0	3.5	6.0	1000	387	348	155	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
35	10	D/7343-31	T495D106(1)035A(2)4095	3.5	4.0	300	707	636	283	1
35	10	V/7343-20	T495V106(1)035A(2)E600	3.5	6.0	600	456	410	182	1
35	10	X/7343-43	T495X106(1)035A(2)E175	3.5	6.0	175	971	874	388	1
35	10	X/7343-43	T495X106(1)035A(2)E200	3.5	6.0	200	908	817	363	1
35	10	X/7343-43	T495X106(1)035A(2)E250	3.5	4.0	250	812	731	325	1
35	10	X/7343-43	T495X106(1)035A(2)E260	3.5	4.0	260	797	717	319	1
35	10	X/7343-43	T495X106(1)035A(2)4095	3.5	4.0	250	812	731	325	1
35	15	C/6032-28	T495C156(M)035A(2)E350	5.3	6.0	350	561	505	224	1
35	15	D/7343-31	T495D156(1)035A(2)E225	5.3	6.0	225	816	734	326	1
35	15	D/7343-31	T495D156(1)035A(2)E260	5.3	6.0	260	760	684	304	1
35	15	D/7343-31	T495D156(1)035A(2)E300	5.3	6.0	300	707	636	283	1
35	15	X/7343-43	T495X156(1)035A(2)E200	5.3	6.0	200	908	817	363	1
35	15	X/7343-43	T495X156(1)035A(2)E225	5.3	6.0	225	856	770	342	1
35	15	X/7343-43	T495X156(1)035A(2)E250	5.3	6.0	250	812	731	325	1
35	15	X/7343-43	T495X156(1)035A(2)E260	5.3	6.0	260	797	717	319	1
35	15	X/7343-43	T495X156(1)035A(2)4095	5.3	6.0	225	856	770	342	1
35	22	D/7343-31	T495D226(1)035A(2)E125	7.7	6.0	125	1095	986	438	1
35	22	D/7343-31	T495D226(1)035A(2)E200	7.7	6.0	200	866	779	346	1
35	22	D/7343-31	T495D226(1)035A(2)E250	7.7	6.0	250	775	698	310	1
35	22	D/7343-31	T495D226(1)035A(2)E260	7.7	6.0	260	760	684	304	1
35	22	D/7343-31	T495D226(1)035A(2)E300	7.7	6.0	300	707	636	283	1
35	22	X/7343-43	T495X226(1)035A(2)E125	7.7	6.0	125	1149	1034	460	1
35	22	X/7343-43	T495X226(1)035A(2)E130	7.7	6.0	130	1127	1014	451	1
35	22	X/7343-43	T495X226(1)035A(2)E180	7.7	6.0	180	957	861	383	1
35	22	X/7343-43	T495X226(1)035A(2)E200	7.7	6.0	200	908	817	363	1
35	22	X/7343-43	T495X226(1)035A(2)E260	7.7	6.0	260	797	717	319	1
35	22	X/7343-43	T495X226(1)035A(2)E275	7.7	6.0	275	775	698	310	1
35	22	X/7343-43	T495X226(1)035A(2)E300	7.7	6.0	300	742	668	297	1
35	22	X/7343-43	T495X226(1)035A(2)4095	7.7	6.0	300	742	668	297	1
35	33	D/7343-31	T495D336(1)035A(2)E200	11.6	6.0	200	866	779	346	1
35	33	D/7343-31	T495D336(1)035A(2)E300	11.6	6.0	300	707	636	283	1
35	33	X/7343-43	T495X336(1)035A(2)E100	11.6	6.0	100	1285	1157	514	1
35	33	X/7343-43	T495X336(1)035A(2)E175	11.6	6.0	175	971	874	388	1
35	33	X/7343-43	T495X336(1)035A(2)E250	11.6	6.0	250	812	731	325	1
35	33	X/7343-43	T495X336(1)035A(2)E260	11.6	6.0	260	797	717	319	1
35	33	E/7360-38	T495E336(1)035A(2)E200	11.6	6.0	200	1000	900	400	1
35	47	X/7343-43	T495X476(1)035A(2)E185	16.5	8.0	185	944	850	378	1
35	47	X/7343-43	T495X476(1)035A(2)E200	16.5	8.0	200	908	817	363	1
35	47	X/7343-43	T495X476(1)035A(2)E230	16.5	8.0	230	847	762	339	1
35	47	X/7343-43	T495X476(1)035A(2)E300	16.5	8.0	300	742	668	297	1
50	1	C/6032-28	T495C105(1)050A(2)E1K3	0.5	4.0	1300	291	262	116	1
50	1	C/6032-28	T495C105(1)050A(2)E1K6	0.5	4.0	1600	262	236	105	1
50	2.2	D/7343-31	T495D225(1)050A(2)E600	1.1	6.0	600	500	450	200	1
50	3.3	D/7343-31	T495D335(1)050A(2)E700	1.7	6.0	700	463	417	185	1
50	4.7	D/7343-31	T495D475(1)050A(2)E275	2.4	6.0	275	739	665	296	1
50	4.7	D/7343-31	T495D475(1)050A(2)E300	2.4	6.0	300	707	636	283	1
50	4.7	X/7343-43	T495X475(1)050A(2)E300	2.4	4.0	300	742	668	297	1
50	4.7	X/7343-43	T495X475(1)050A(2)4095	2.4	4.0	300	742	668	297	1
50	6.8	D/7343-31	T495D685(1)050A(2)E190	3.4	6.0	190	889	800	356	1
50	6.8	D/7343-31	T495D685(1)050A(2)E200	3.4	6.0	200	866	779	346	1
50	6.8	D/7343-31	T495D685(1)050A(2)E275	3.4	6.0	275	739	665	296	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
50	6.8	D/7343-31	T495D685(1)050A(2)E300	3.4	6.0	300	707	636	283	1
50	6.8	D/7343-31	T495D685(1)050A(2)E400	3.4	6.0	400	612	551	245	1
50	6.8	X/7343-43	T495X685(1)050A(2)E300	3.4	6.0	300	742	668	297	1
50	10	X/7343-43	T495X106(1)050A(2)E250	5.0	8.0	250	812	731	325	1
50	10	X/7343-43	T495X106(1)050A(2)E260	5.0	6.0	260	797	717	319	1
50	10	X/7343-43	T495X106(1)050A(2)E300	5.0	6.0	300	742	668	297	1
50	15	X/7343-43	T495X156(1)050A(2)E200	7.5	6.0	200	908	817	363	1
50	15	X/7343-43	T495X156(1)050A(2)E250	7.5	6.0	250	812	731	325	1
50	15	X/7343-43	T495X156(1)050A(2)E300	7.5	6.0	300	742	668	297	1
VDC	µF	KEMET/EIA	(See below for part options)	µAmps +20°C Max/5 Min	% @ +20°C 120 Hz Max	mΩ @ 20°C 100 kHz Max	(mA) 100 kHz +25°C	(mA) 100 kHz +85°C	(mA) 100 kHz +125°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current			Moisture Sensitivity

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.

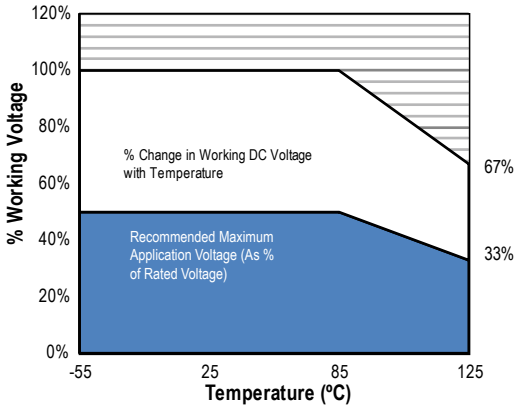
(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, G = Gold Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Refer to Ordering Information for additional detail.

Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.

Recommended Voltage Derating Guidelines

	-55°C to 85°C	85°C to 125°C
% Change in Working DC Voltage with Temperature	V_R	67% of V_R
Recommended Maximum Application Voltage	50% of V_R	33% 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 which may be applied is limited by two criteria:

1. The positive peak AC voltage plus the DC bias voltage, if any, must not exceed the DC voltage rating of the capacitor.
2. The negative peak AC voltage in combination with bias voltage, if any, must not exceed the allowable limits specified for reverse voltage. See the Reverse Voltage section for allowable limits.

The maximum power dissipation by case size can be determined using the table at right. The maximum power dissipation rating stated in the table must be reduced with increasing environmental operating temperatures. Refer to the table below for temperature compensation requirements.

KEMET Case Code	EIA Case Code	Maximum Power Dissipation (P max) mWatts @ 25°C w/+20°C Rise
A	3216–18	75
B	3528–21	85
C	6032–28	110
D	7343–31	150
X	7343–43	165
E	7360–38	200
S	3216–12	60
T	3528–12	70
U	6032–15	90
V	7343–20	125
T510X	7343–43	270
T510E	7360–38	285

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

Temperature Compensation Multipliers for Maximum Ripple Current		
T ≤ 25°C	T ≤ 85°C	T ≤ 125°C
1.00	0.90	0.40

T= Environmental Temperature

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)

Reverse Voltage

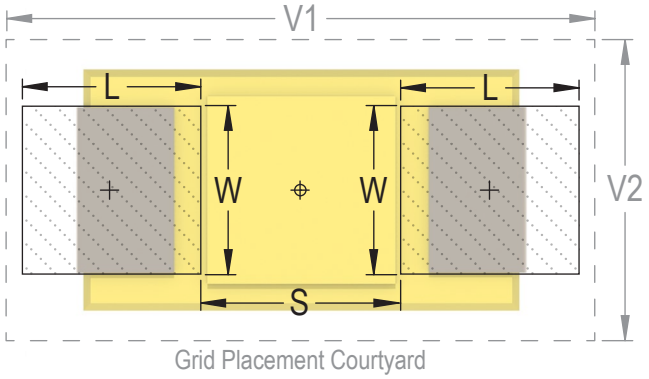
Solid tantalum capacitors are polar devices and may be permanently damaged or destroyed if connected with the wrong polarity. The positive terminal is identified on the capacitor body by a stripe plus in some cases a beveled edge. A small degree of transient reverse voltage is permissible for short periods per the table. The capacitors should not be operated continuously in reverse mode, even within these limits.

Temperature	Permissible Transient Reverse Voltage
25°C	15% of Rated Voltage
85°C	5% of Rated Voltage
125°C	1% of Rated Voltage

Table 2 – Land Dimensions/Courtyard

KEMET	Metric Size Code	Density Level A: Maximum (Most) Land Protrusion (mm)					Density Level B: Median (Nominal) Land Protrusion (mm)					Density Level C: Minimum (Least) Land Protrusion (mm)				
Case	EIA	W	L	S	V1	V2	W	L	S	V1	V2	W	L	S	V1	V2
A	3216–18	1.35	2.20	0.62	6.02	2.80	1.23	1.80	0.82	4.92	2.30	1.13	1.42	0.98	4.06	2.04
B	3528–21	2.35	2.21	0.92	6.32	4.00	2.23	1.80	1.12	5.22	3.50	2.13	1.42	1.28	4.36	3.24
C	6032–25	2.35	2.77	2.37	8.92	4.50	2.23	2.37	2.57	7.82	4.00	2.13	1.99	2.73	6.96	3.74
D	7343–31	2.55	2.77	3.67	10.22	5.60	2.43	2.37	3.87	9.12	5.10	2.33	1.99	4.03	8.26	4.84
E[1]	7360–38	4.25	2.77	3.67	10.22	7.30	4.13	2.37	3.87	9.12	6.80	4.03	1.99	4.03	8.26	6.54
T	3528–12	2.35	2.20	0.92	6.32	4.00	2.23	1.80	1.12	5.22	3.50	2.13	1.42	1.28	4.36	3.24
V	7343–20	2.55	2.77	3.67	10.22	5.60	2.43	2.37	3.87	9.12	5.10	2.33	1.99	4.03	8.26	4.84
X[1]	7343–43	2.55	2.77	3.67	10.22	5.60	2.43	2.37	3.87	9.12	5.10	2.33	1.99	4.03	8.26	4.84

Density Level A: *For low-density product applications. Recommended for wave solder applications and provides a wider process window for reflow solder processes.*
Density Level B: *For products with a moderate level of component density. Provides a robust solder attachment condition for reflow solder processes.*
Density Level C: *For high component desity product applications. Before adapting the minimum land pattern variations the user should perform qualification testing based on the conditions outlined in IPC standard 7351 (IPC–7351).*
[1] Height of these chips may create problems in wave soldering.
[2] Land pattern geometry is too small for silkscreen outline.



Soldering Process

KEMET's families of surface mount capacitors are compatible with wave (single or dual), convection, IR, or vapor phase reflow techniques. Preheating of these components is recommended to avoid extreme thermal stress. KEMET's recommended profile conditions for convection and IR reflow reflect the profile conditions of the IPC/J–STD–020D standard for moisture sensitivity testing. The devices can safely withstand a maximum of three reflow passes at these conditions.

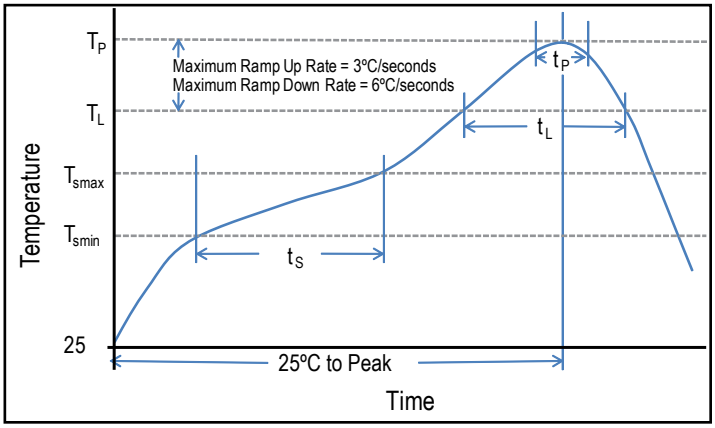
Please note that although the X/7343–43 case size can withstand wave soldering, the tall profile (4.3 mm maximum) dictates care in wave process development.

Hand soldering should be performed with care due to the difficulty in process control. If performed, care should be taken to avoid contact of the soldering iron to the molded case. The iron should be used to heat the solder pad, applying solder between the pad and the termination, until reflow occurs. Once reflow occurs, the iron should be removed immediately. "Wiping" the edges of a chip and heating the top surface is not recommended.

During typical reflow operations, a slight darkening of the gold-colored epoxy may be observed. This slight darkening is normal and not harmful to the product. Marking permanency is not affected by this change.

Profile Feature	SnPb Assembly	Pb-Free Assembly
Preheat/Soak		
Temperature Minimum (T_{Smin})	100°C	150°C
Temperature Maximum (T_{Smax})	150°C	200°C
Time (t_s) from T_{smin} to T_{smax})	60 – 120 seconds	60 – 120 seconds
Ramp-up Rate (T_L to T_P)	3°C/seconds maximum	3°C/seconds maximum
Liquidous Temperature (T_L)	183°C	217°C
Time Above Liquidous (t_L)	60 – 150 seconds	60 – 150 seconds
Peak Temperature (T_P)	220°C* 235°C**	250°C* 260°C**
Time within 5°C of Maximum Peak Temperature (t_P)	20 seconds maximum	30 seconds maximum
Ramp-down Rate (T_P to T_L)	6°C/seconds maximum	6°C/seconds maximum
Time 25°C to Peak Temperature	6 minutes maximum	8 minutes maximum

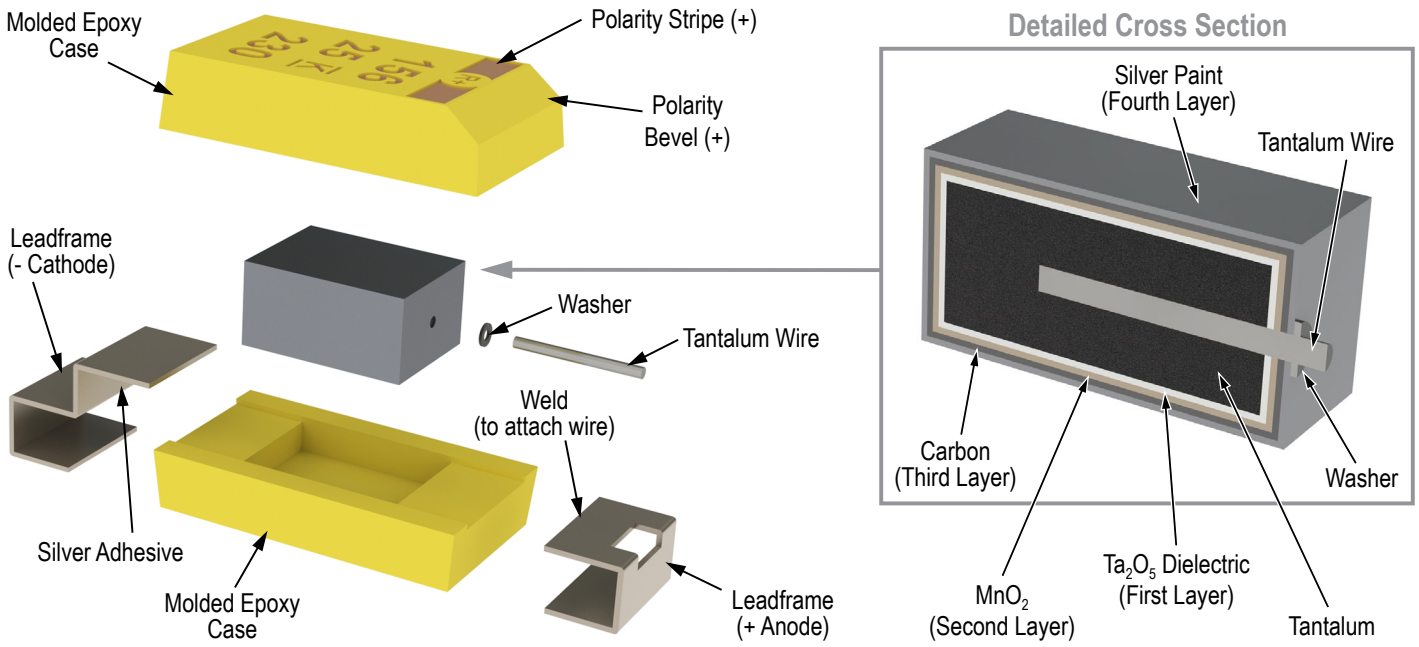
Note: All temperatures refer to the center of the package, measured on the package body surface that is facing up during assembly reflow.
**Case Size D, E, P, Y, and X*
***Case Size A, B, C, H, I, K, M, R, S, T, U, V, W, and Z*



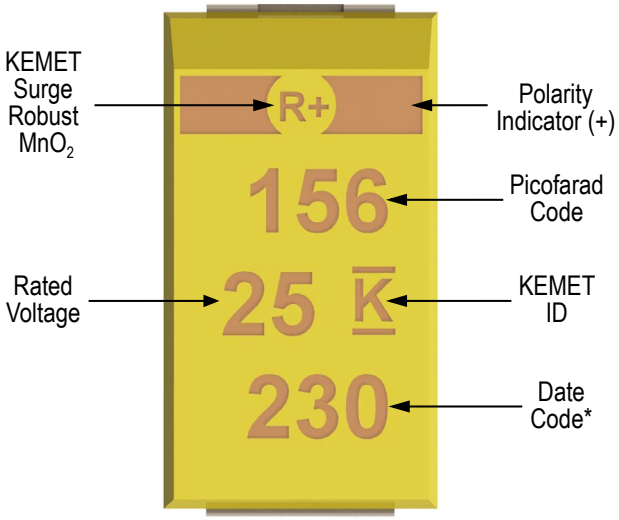
Storage

Tantalum chip capacitors should be stored in normal working environments. While the chips themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage. In addition, packaging materials will be degraded by high temperature– reels may soften or warp and tape peel force may increase. KEMET recommends that maximum storage temperature not exceed 40ºC and maximum storage humidity not exceed 60% relative humidity. Temperature fluctuations should be minimized to avoid condensation on the parts and atmospheres should be free of chlorine and sulphur bearing compounds. For optimized solderability chip stock should be used promptly, preferably within three years of receipt.

Construction



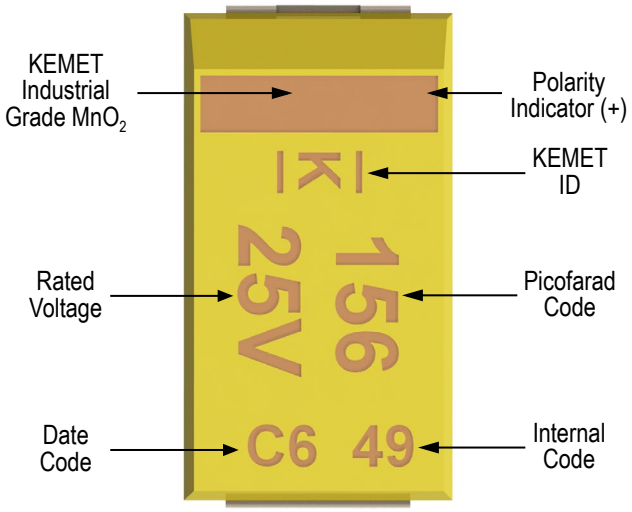
Capacitor Marking



* 230 = 30th week of 2012

Date Code *	
1st digit = Last number of Year	9 = 2009 0 = 2010 1 = 2011 2 = 2012 3 = 2013 4 = 2014
2nd and 3rd digit = Week of the Year	01 = 1st week of the Year to 52 = 52nd week of the Year

C, D, X Case Sizes



Date Code*		
Year	Month	
X = 2009	1 = Jan	7 = Jul
A = 2010	2 = Feb	8 = Aug
B = 2011	3 = Mar	9 = Sept
C = 2012	4 = Apr	O = Oct
D = 2013	5 = May	N = Nov
E = 2014	6 = Jun	D = Dec

Tape & Reel Packaging Information

KEMET's molded tantalum and aluminum chip capacitor families are packaged in 8 and 12 mm plastic tape on 7" and 13" reels in accordance with *EIA Standard 481*: Embossed Carrier Taping of Surface Mount Components for Automatic Handling. This packaging system is compatible with all tape-fed automatic pick-and-place systems.

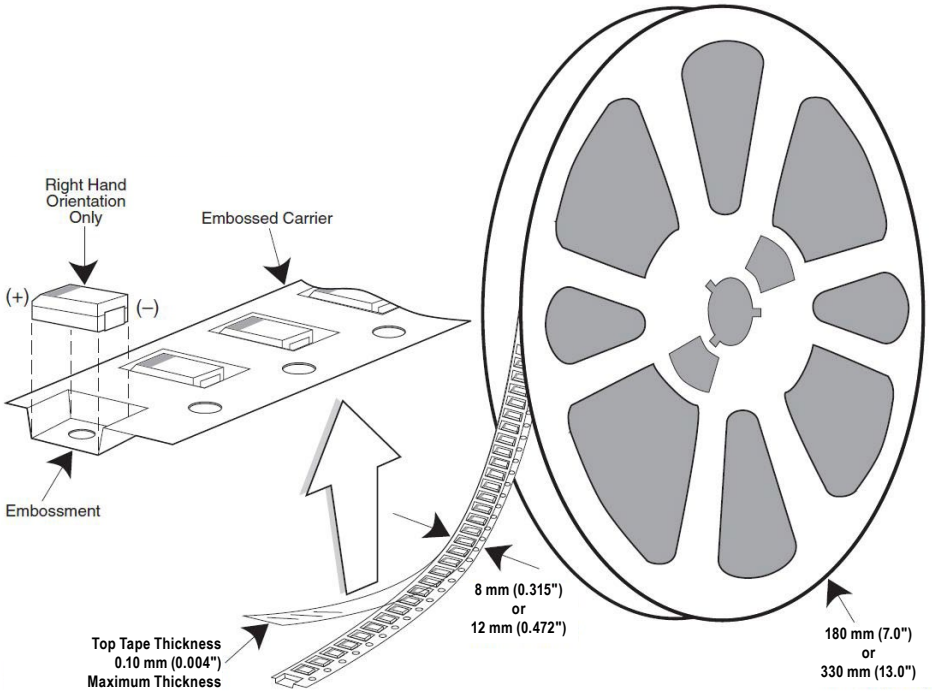


Table 3 – Packaging Quantity

Case Code		Tape Width (mm)	7" Reel*	13" Reel*
KEMET	EIA			
S	3216-12	8	2,500	10,000
T	3528-12	8	2,500	10,000
M	3528-15	8	2,000	8,000
U	6032-15	12	1,000	5,000
L	6032-19	12	1,000	5,000
W	7343-15	12	1,000	3,000
Z	7343-17	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
Q	7343-12	12	1,000	3,000
Y	7343-40	12	500	2,000
X	7343-43	12	500	2,000
E/T428P	7360-38	12	500	2,000
H	7360-20	12	1,000	2,500

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

Figure 1 – Embossed (Plastic) Carrier Tape Dimensions

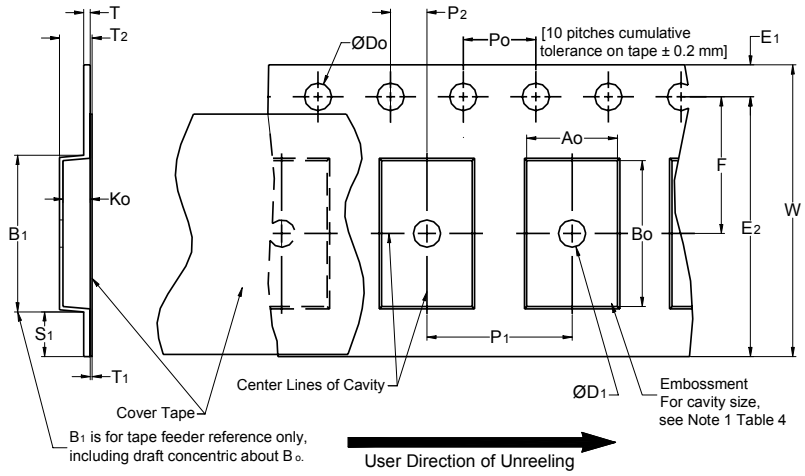


Table 4 – Embossed (Plastic) Carrier Tape Dimensions

Metric will govern

Constant Dimensions — Millimeters (Inches)									
Tape Size	D_0	D_1 Minimum Note 1	E_1	P_0	P_2	R Reference Note 2	S_1 Minimum Note 3	T Maximum	T_1 Maximum
8 mm	1.5 +0.10/-0.0 (0.059 +0.004/-0.0)	1.0 (0.039)	1.75 ±0.10 (0.069 ±0.004)	4.0 ±0.10 (0.157 ±0.004)	2.0 ±0.05 (0.079 ±0.002)	25.0 (0.984)	0.600 (0.024)	0.600 (0.024)	0.100 (0.004)
12 mm		1.5 (0.059)				30 (1.181)			
16 mm					2.0 ±0.1 (0.079 ±0.059)				

Variable Dimensions — Millimeters (Inches)								
Tape Size	Pitch	B_1 Maximum Note 4	E_2 Minimum	F	P_1	T_2 Maximum	W Maximum	A_0, B_0 & K_0
8 mm	Single (4 mm)	4.35 (0.171)	6.25 (0.246)	3.5 ±0.05 (0.138 ±0.002)	2.0 ±0.05 or 4.0 ±0.10 (0.079 ±0.002 or 0.157 ±0.004)	2.5 (0.098)	8.3 (0.327)	Note 5
12 mm	Single (4 mm) & Double (8 mm)	8.2 (0.323)	10.25 (0.404)	5.5 ±0.05 (0.217 ±0.002)	2.0 ±0.05 (0.079 ±0.002) or 4.0 ±0.10 (0.157 ±0.004) or 8.0 ±0.10 (0.315 ±0.004)	4.6 (0.181)	12.3 (0.484)	
16 mm	Triple (12 mm)	12.1 (0.476)	14.25 (0.561)	7.5±0.10 (0.295 ±0.004)	4.0 ±0.10 (0.157 ±0.004) to 12.0 ±0.10 (0.472 ±0.004)	8.0 (0.315)	16.3 (0.642)	

1. 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.

2. The tape, with or without components, shall pass around R without damage (see Figure 4).

3. If S_1 < 1.0 mm, there may not be enough area for cover tape to be properly applied (see EIA Standard 481–D, paragraph 4.3, section b).

4. B_1 dimension is a reference dimension for tape feeder clearance only.

5. The cavity defined by A_0, B_0 and K_0 shall surround the component with sufficient clearance that:

(a) the component does not protrude above the top surface of the carrier tape.

(b) the component can be removed from the cavity in a vertical direction without mechanical restriction, after the top cover tape has been removed.

(c) rotation of the component is limited to 20° maximum for 8 and 12 mm tapes and 10° maximum for 16 mm tapes (see Figure 2).

(d) lateral movement of the component is restricted to 0.5 mm maximum for 8 mm and 12 mm wide tape and to 1.0 mm maximum for 16 mm tape (see Figure 3).

(e) see Addendum in EIA Standard 481–D for standards relating to more precise taping requirements.

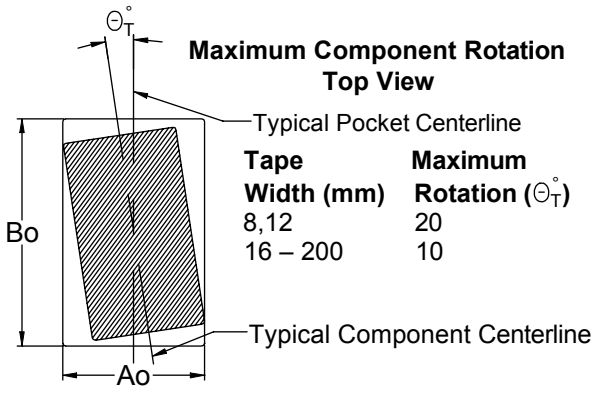
Packaging Information Performance Notes

1. Cover Tape Break Force: 1.0 Kg minimum.
2. 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 to 1.0 Newton (10 to 100 gf)
12 and 16 mm	0.1 to 1.3 Newton (10 to 130 gf)

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.
3. Labeling: Bar code labeling (standard or custom) shall be on the side of the reel opposite the sprocket holes. *Refer to EIA Standards 556 and 624.*

Figure 2 – Maximum Component Rotation



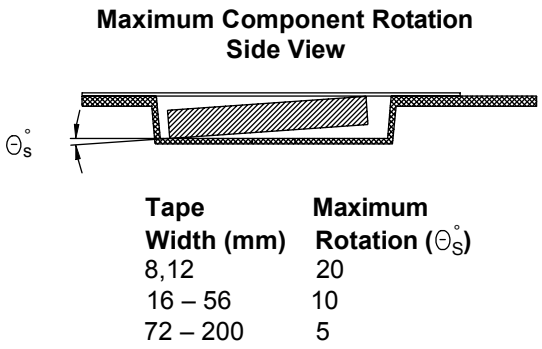


Figure 3 – Maximum Lateral Movement

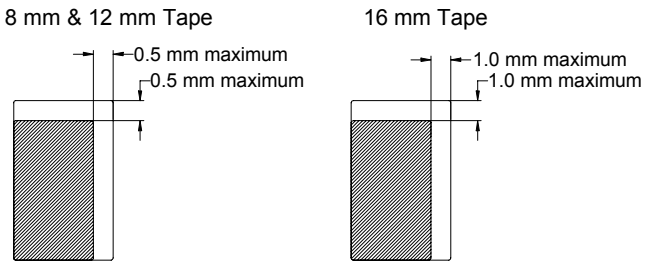


Figure 4 – Bending Radius

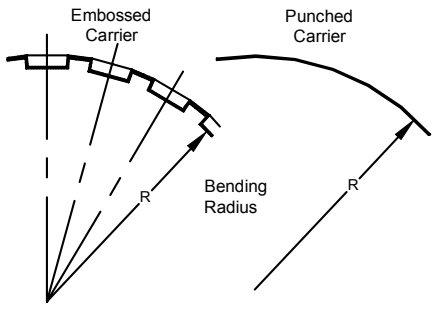
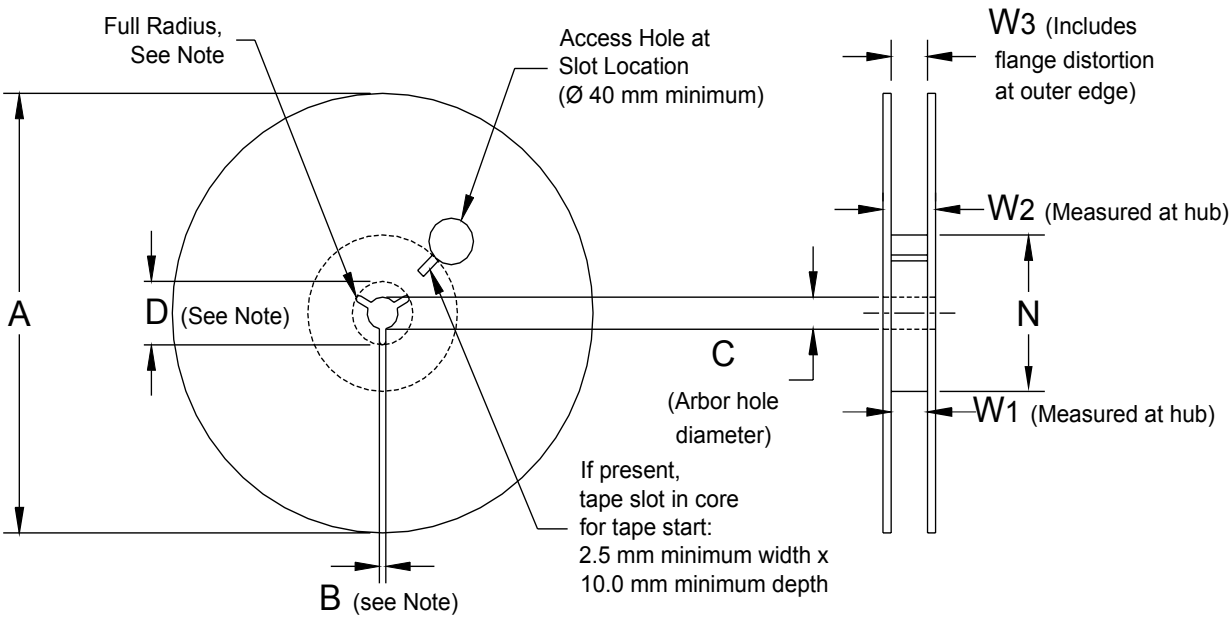


Figure 5 – Reel Dimensions



Note: Drive spokes optional; if used, dimensions B and D shall apply.

Table 5 – Reel Dimensions

Metric will govern

Constant Dimensions — Millimeters (Inches)				
Tape Size	A	B Minimum	C	D Minimum
8 mm	178 ±0.20 (7.008 ±0.008) or 330 ±0.20 (13.000 ±0.008)	1.5 (0.059)	13.0 +0.5/-0.2 (0.521 +0.02/-0.008)	20.2 (0.795)
12 mm				
16 mm				

Variable Dimensions — Millimeters (Inches)				
Tape Size	N Minimum	W_1	W_2 Maximum	W_3
8 mm	50 (1.969)	8.4 +1.5/-0.0 (0.331 +0.059/-0.0)	14.4 (0.567)	Shall accommodate tape width without interference
12 mm		12.4 +2.0/-0.0 (0.488 +0.078/-0.0)	18.4 (0.724)	
16 mm		16.4 +2.0/-0.0 (0.646 +0.078/-0.0)	22.4 (0.882)	

Figure 6 – Tape Leader & Trailer Dimensions

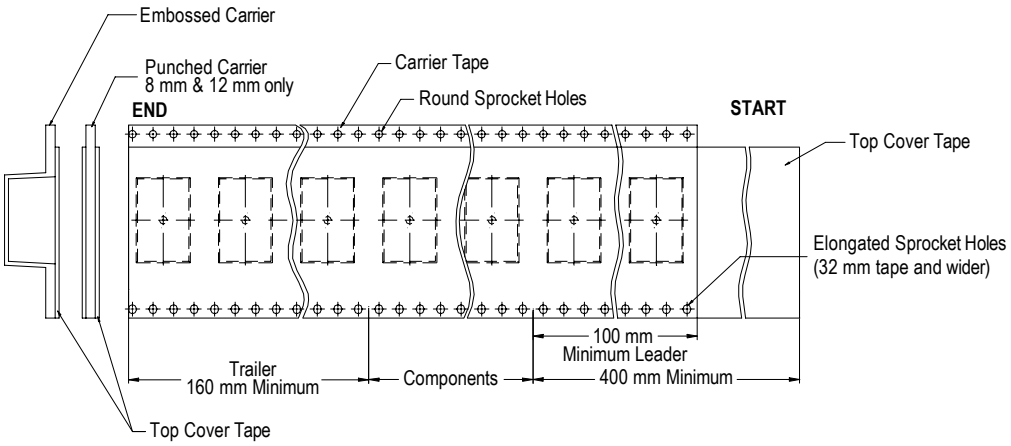
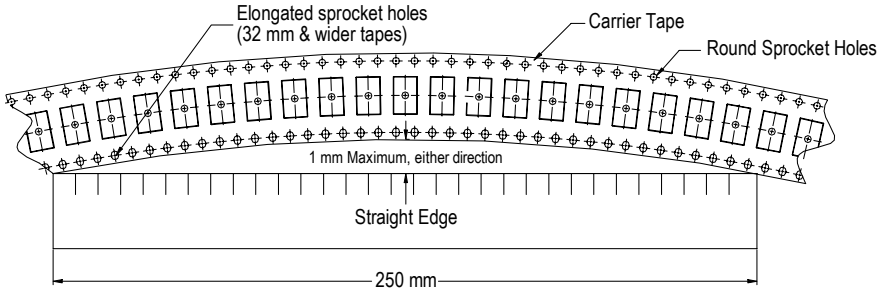


Figure 7 – Maximum Camber



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