

Standardized Information for Process/Product Change Notification (PCN)

Based on the JEDEC Standard JESD46 standard (latest release)

Not for publication unless permission is granted by LEM		1. PCN basic data	
1.1 Company		LEM International SA Route du Nant d'Avril 152 1217 Meyrin Switzerland	
1.2 PCN No.	PCN-058_2026_0-OMTB2616801&B2618801		
1.3 Title of PCN	Alternative potentiometers & capacitors		
1.4 Product Category	Electronic module - Current sensor		
1.5 Issue date	2026/08/24		
1.6 PCN revision history (optional)	1.7 Issue date of previous revision (optional)	1.8 Delta to previous revision (optional)	

Form provided by ZVEI - Revision 5.0

2. PCN Team		
2.1 Contact supplier		
2.1.1 Name	Saravanakkumar Arumugam - Product Life Cycle Coordinator	
2.1.2 Phone		
2.1.3 Email	Srm@lem.com	
2.2 Team supplier (optional)		
2.2.1 Name (optional)	2.2.2 Phone (optional)	2.2.3 Email (optional)
Stéphane Rollier - Product Life Cycle manager	0041227061449	sro@lem.com

3. Changes			
No.	3.0 Ident	3.1 Category	3.2 Type of change
#1	SEM-PA-16	PROCESS - ASSEMBLY	Change of direct material supplier

4. Description of change		
	Old	New
Change #1	Change 1a: Variable Resistor (1K Ohm 10% 0.5W(1/2W) 1(Elec)/1(Mech)Turns 3.5mm (6.8 X 6.8 X 5.5mm) Pin Thru-Hole Bulk) & Variable Resistor (100K Ohm 10% 0.5W(1/2W) 1(Elec)/1(Mech)Turns 2.77mm (6.6 X 6.99 X 4.7mm) Pin Thru-Hole Tube): TOCOS: Ref GF063WB102&104. Change 1b: CAPACITOR (Cap Tant Solid 1uF 35V B CASE 10%(3.5 X 2.8 X 1.9mm) Inward L SMD 3528-21 5 Ohm 125°C T/R): NEC ref TEESVB21V105K, Vishay ref 293D105X9035B2S610, AVX ref TPSB105K035R2000.	Change 1a: Alternative Variable Resistor: BOURNS: Ref 3362H-1-102LF&104LF Change 1b: Alternative CAPACITOR: YAGEO ref T494B105K035AT

4.1 Anticipated impact on form, fit, function, reliability or processability?	New components alternatives (potentiometers and capacitors). Data sheets of future components as enclosed (files called "3362 series BOURNS potentiometer data sheet" & "T494B105K035AT datasheet Yageo capacitor"). Comparison between current components and alternatives as per the files called "CompareReport GF063WB102 K potentiometer alternative", "CompareReport GF063WB104 K potentiometer alternative" and "CompareReport T494B105K035AT Capacitor alternative". No impact on form, fit, function, reliability, data sheet, process, quality and product safety.
4.2 Reference parts with customer number (optional)	

5. Reason / motivation for change	
5.1 Motivation	To secure supply chain, avoid shortages on deliveries.
5.2 Additional explanation (optional)	

6. Marking of parts / traceability of change	
6.1 Description	No change in the marking of the parts. Traceability ensured by datecode.

7. Timing / schedule		
7.1 Date of qualification results		
7.2 Last order date (optional)		
7.3 Last delivery date (optional)		
7.4 Intended start of delivery	2026/11/19	For change 1a: 26.02.2027 For change 1b: 19.11.2026
7.5 Qualification samples available?		
7.6 Customer feedback required until	2026/10/01	

8. Qualification / validation			
8.1 Description (e.g. qual. plan/report, AEC-Q...)	NA		
8.2 Qualification report and qualification results	not applicable ▼	issue date	

9. Input to customer for risk assessment process

10. Attachments (e.g. new datasheet, additional documentation, pictures, process flow, sample plan, ...)

11. Affected parts									
11.1 Current						11.2 New (if applicable)			
11.1.1 Customer Part No.	11.1.2 Supplier Part Name	11.1.3 Supplier Part No. (optional)	11.1.4 Package Name	11.1.5 Part Description (optional)	11.1.6 Additional Part Information (optional)	11.2.2 Supplier Part Name	11.2.3 Supplier Part No. (optional)	11.2.4 Package Name	11.2.6 Additional Part Information (optional)
	Change 1a:								
	HTA 250-S/SP3C								
	HAL 200-S/SP8								
	HAL 600-S								

	HTA 1000-S/SP16								
	HAL 100-S								
	HTA 800-S/SP2								
	HAL 400-S/SP10								
	HTA 200-S								
	HTA 100-S								
	HTA 400-S								
	HTA 1000-S/SP20								
	HAL 160-S/SP2								
	HAL 400-S/SP9								
	HAL 150-S								
	HAL 300-S/SP9								
	HTA 500-S/SP7								
	HTA 600-S								
	HAL 200-S								
	HAL 300-S/SP6								
	HTA 500-S								
	HTA 100-S/SP5C								
	HAL 100-S/SP4								
	HAL 400-S								
	HTA 100-S/SP5								
	HTA 500-S/SP4								
	HAL 500-S								
	HTA 300-S								
	HTA 500-S/SP2								
	HTA 1000-S								
	HTA 1000-S/SP9								
	HAL 50-S								
	HAL 50-S/SP1								
	HAL 100-S/SP10								
	HAL 750-S/SP1								
	HTA 250-S/SP3								
	HAL 300-S								
	Change 1b:								
	HAL 200-S/SP8								
	HAL 600-S								
	HAL 100-S								
	HTA 800-S/SP2								
	HTA 200-S								
	HTA 100-S								
	HTA 400-S								
	HAL 160-S/SP2								
	HAL 400-S/SP9								
	HAL 150-S								
	HAL 300-S/SP9								
	HTA 500-S/SP7								
	HTA 600-S								
	HAL 200-S								
	HAL 300-S/SP6								
	HAL 100-S/SP4								
	HAL 400-S								
	HAL 500-S								
	HTA 1000-S								
	HAL 50-S								
	HAL 50-S/SP1								
	HAL 100-S/SP10								
	HAL 750-S/SP1								
	HTA 250-S/SP3								
	HAL 300-S								

Customer Feedback/Approval Form

Form provided by ZVEI - Revision 5.0

Title of PCN:			
Alternative potentiometers & capacitors			
Customer PCN No.		Supplier PCN No.	PCN-058_2026_0-OMTB2616801&B2618801
Please check the appropriate box below:			

1. feedback to be provided within 3 weeks after the reception of the PCN.

☐	1. Feedback	date:	
☐	We agree with this proposed change for the parts as listed in chapter '11. Affected parts'. Approval letter will be sent in written form.		
☐	We agree with this proposed change schedule and will start with the PCN process. Approval letter will be sent in written form after evaluation.		
☐	We disapprove because:		
☐	Remark:		

2. feedback to be provided within 6 weeks after the reception of the PCN.

☐	2. Feedback	date:	
☐	We acknowledge qualification / validation as assigned in chapter 8 of the PCN.		
☐	We need more information:		
☐	We need the following samples:		
☐	Estimated closing date for PCN:		

	Final Feedback/Approval	date:	
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□	
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Sender:	
Company:	
Name:	
Address/Location:	
Signature:	
Date:	

Please return to: [your Sales partner]	
Name:	Saravanakkumar Arumugam - Product Life Cycle Coordinator
Address/Location:	
Phone:	
Fax:	
Email:	Srm@lem.com

In case LEM does not receive any feedback within 6 weeks at the latest after PCN notification, LEM will assume:

- Customer acceptance to the change
- No need for samples
- No additional need

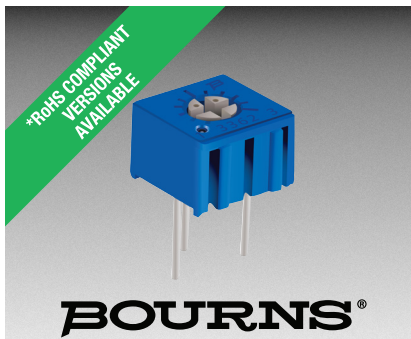
1. feedback to be provided within 3 weeks after the reception of the PCN.
2. feedback to be provided within 6 weeks after the reception of the PCN.

In case LEM does not receive any feedback within 6 weeks at the latest after PCN notification, LEM will assume:

- Customer acceptance to the change
- No need for samples
- No additional need

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Features

- Single-Turn / Cermet / Industrial / Sealed
- Miniature package
- Rotor designed for automatic machine adjust interface
- Withstands harsh environments and immersion cleaning processes
- Tape and reel packaging available

- RoHS compliant* version available
- For trimmer applications/processing guidelines, [click here](#)

3362 – 1/4 " Square Trimpot® Trimming Potentiometer

Additional Information

Click these links for more information:



Electrical Characteristics

Standard Resistance Range	10 ohms to 2 megohms (see standard resistance table)
Resistance Tolerance	±10 % std.
Absolute Minimum Resistance	1 % or 2 ohms (whichever is greater)
Contact Resistance Variation	1 % or 3 ohms max. (whichever is greater)
Adjustability	
Voltage Divider	±0.05 %
Rheostat	±0.15 %
Resolution	Infinite
Insulation Resistance	500 VDC 1,000 megohms min.
Dielectric Strength	
Sea Level	900 VAC
80,000 Feet	350 VAC
Adjustment Angle	240 ° nom.

Environmental Characteristics

Power Rating (300 volts max.)	
70 °C	0.50 watt
125 °C	0 watt
Temperature Range	-55 °C to +125 °C
Temperature Coefficient	±100 PPM/°C
Seal Test	85 °C
Humidity	MIL-STD-202 Method 103 96 hours (2 % ΔTR; 10 Megohms IR)
Vibration	30 G (1 % ΔTR; 1 % ΔVR)
Shock	100 G (1 % ΔTR; 1 % ΔVR)
Load Life	1,000 hours 0.5 watt @ 70 °C (3 % ΔTR; 3 % or 3 ohms, whichever is greater, CRV)
Rotational Life	200 cycles (4 % ΔTR; 3 % or 3 ohms, whichever is greater, CRV)



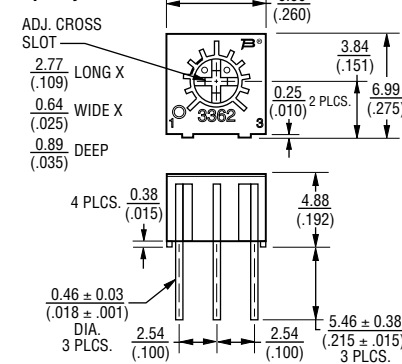
WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

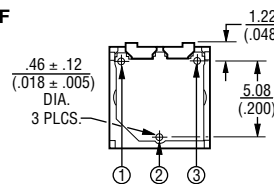
Product Dimensions

Common Dimensions

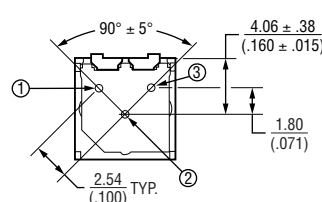
Top Adjust



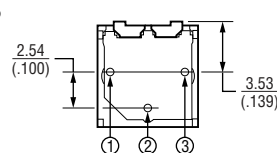
3362F



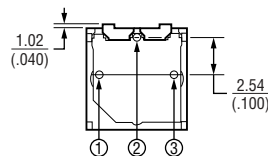
3362H



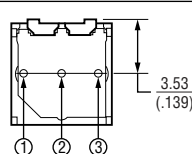
3362P



3362R



3362U



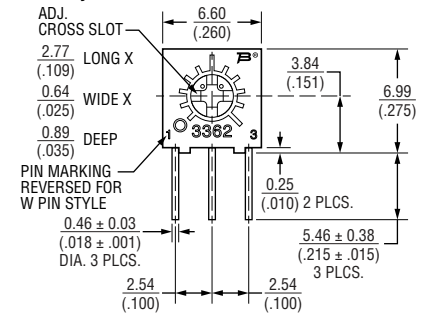
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

TOLERANCES: ± $\frac{0.25}{(.010)}$ EXCEPT WHERE NOTED

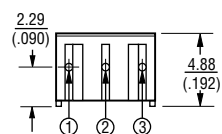
*RoHS Directive 2015/863, Mar. 31, 2015 and Annex "Trimpot" is a trademark of Bourns, Inc.

Common Dimensions

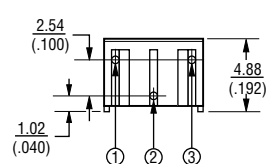
Side Adjust



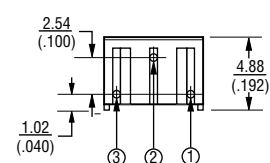
3362M



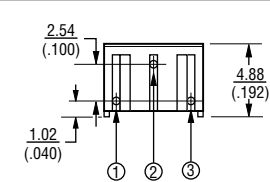
3362S



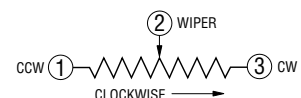
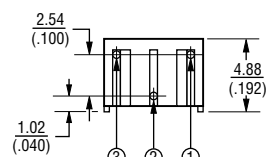
3362W



3362X



3362Z



3362 – 1/4 " Square Trimpot® Trimming Potentiometer

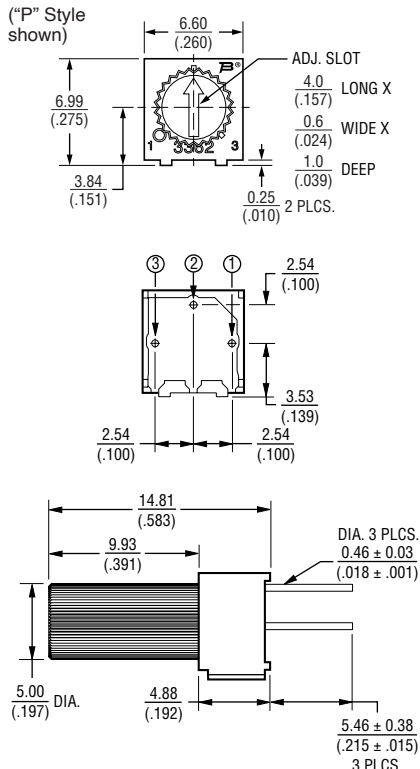
BOURNS®

Physical Characteristics

Mechanical Angle 270 ° nom.
Torque..... 3.0 oz-in. max.
Stop Strength..... 7.0 oz-in. min.
Terminals Solderable pins
Weight 0.02 oz.
Marking..... Resistance code,
terminal numbers, manufacturer's
model number, style
and date code
Wiper 50 % (Actual TR) ±10 %
Flammability U.L. 94V-0
Standard Packaging 50 pcs. per tube
Adjustment Tool H-90
Storage Condition
..... 40 °C max. / 70 % R.H. max.

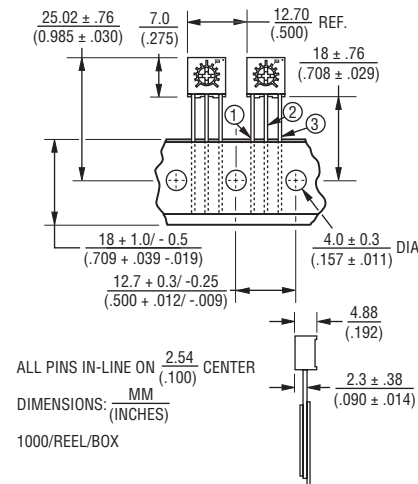
Product Dimensions

Top adjust models 3362F, H, P, R and U are available with a knob for finger adjustment. Add suffix letter "T" to order code.

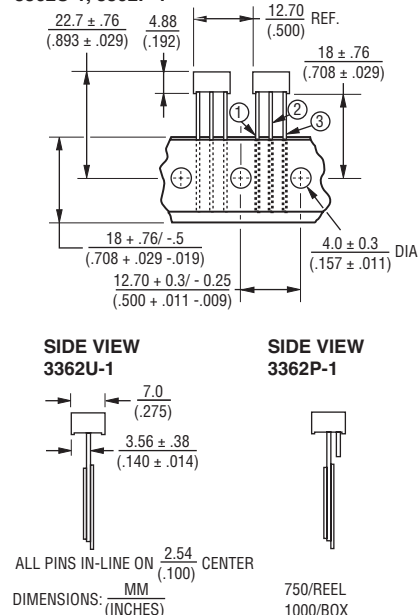


Packaging Specifications

SIDE ADJUST 3362M-1



TOP ADJUST 3362U-1, 3362P-1



Meets EIA Specification 468.

REV. 03/25

"Trimpot" is a trademark of Bourns, Inc.
Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.
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How To Order

3362 P - 1 - 502 T LF

Model _____
Style _____
Standard or Modified _____
Product Indicator _____
-1 = Standard Product
Resistance Code _____
Optional Suffix Letter _____
T = Knob*
Packaging Designator _____
Blank = Tube (Standard)
R = Tape and Reel
A = Ammo Pack
(M, U and P Pin Styles Only)
(M, U and P Pin Styles Only)
Tape and reel material meets Antistatic ANSI/ESD 5541-2003 packaging standards.
Terminations _____
LF = 100 % Tin-plated (RoHS compliant)
Blank = 90 % Tin / 10 % Lead-plated (Standard)

*Knob option is available only in standard Tube packaging for terminal styles F, H, P, R and U.
Consult factory for other available options.

Standard Resistance Table

Resistance (Ohms)	Resistance Code
10	100
20	200
50	500
100	101
200	201
500	501
1,000	102
2,000	202
5,000	502
10,000	103
20,000	203
25,000	253
50,000	503
100,000	104
200,000	204
250,000	254
500,000	504
1,000,000	105
2,000,000	205

Popular distribution resistance values listed in **boldface**. Special resistances available.

BOURNS®

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EMEA: Tel: +36 88 885 877

Email: euocus@bourns.com

www.bourns.com

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Bourns® products are not recommended, authorized or intended for use in applications where failure or malfunction may result in personal injury, death, or severe property or environmental damage, such as without limitation nuclear, life-critical medical and certain automotive and aviation applications. Except as set forth in the bullet points below or unless expressly and specifically approved in writing on a case-by-case basis by an authorized Bourns' representative, use of any Bourns® products in such unauthorized high-risk applications is at the user's sole risk.

- Bourns considers implantable/invasive devices and devices/procedures designed as life-supporting or life-sustaining by the U.S. Food and Drug Administration or equivalent organizations outside of the United States as "life-critical" medical applications. Bourns expressly identifies those Bourns® standard products that are suitable for use in typical medical applications that are not life-critical in its publication entitled "Bourns Medical Grade Component Guide."
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Web Page: <https://www.bourns.com/legal/disclaimers-terms-and-policies>

PDF: <https://www.bourns.com/docs/Legal/disclaimer.pdf>

Overview

The KEMET T494 is a lower ESR version of the popular T491, designed specifically for today's highly automated surface mount processes and equipment. The T494 combines KEMET's proven solid tantalum technology, acclaimed and respected throughout the world, with the latest in materials, processes and automation, resulting in unsurpassed total performance and value. This product meets or exceeds the requirements of EIA standard 535BAAC. The T494 is classified as MSL (Moisture Sensitivity Level) 1 under J STD 020: unlimited floorlife

time at $\leq 30^{\circ}\text{C}/85\% \text{ RH}$. The T494 standard terminations are available in 100% matte tin and provide excellent wetting characteristics and compatibility with today's surface mount solder systems. Tin/lead (Sn/Pb) terminations are available upon request for any part number. Gold-plated terminations are also available for use with conductive epoxy attachment processes. Standard packaging of these devices is tape-and-reel in accordance with EIA 481. This system provides perfect compatibility with all tape-fed placement units.

Benefits

- Meets or exceeds EIA Standard 535BAAC
- Taped and reeled per EIA 481
- Symmetrical, compliant terminations
- Optional gold-plated terminations
- Laser-marked case
- 100% surge current test on C, D, E, U, V, and X sizes
- Halogen-free epoxy
- Capacitance values of 0.1 to 1,000 μF
- Tolerances of $\pm 10\%$ and $\pm 20\%$
- Voltage rating of 2.5 – 50 VDC
- Extended range values
- Low profile case sizes
- RoHS compliant and lead-free terminations
- Operating temperature range of -55°C to $+125^{\circ}\text{C}$



Applications

Typical applications include decoupling and filtering in many end applications, such as DC/DC converters, portable electronics, telecommunications, and control units.

Environmental Compliance

RoHS compliant (6/6) according to Directive 2002/95/EC when ordered with 100% Sn solder, Gold-plated or Non-magnetic 100% Sn solder.

- Halogen-free
- Epoxy compliant with UL94 V-0
- Molded Epoxy complies for outgassing testing under ASTM E 595.

K-SIM

For a detailed analysis of specific part numbers, please visit ksim.kemet.com to access KEMET's K-SIM software. KEMET K-SIM is designed to simulate behavior of components with respect to frequency, ambient temperature, and DC bias levels.

Ordering Information

T	494	T	336	M	004	A	T	
Capacitor Class	Series	Case Size	Capacitance Code (pF)	Capacitance Tolerance	Rated Voltage (VDC)	Failure Rate/Design	Termination Finish	Packaging (C-Spec)
T = Tantalum	Industrial – Low ESR	A, B, C, D, E, S, T, U, V, X	First two digits represent significant figures. Third digit specifies number of zeros.	K = ±10% M = ±20%	2R5 = 2.5 003 = 3 004 = 4 006 = 6.3 010 = 10 016 = 16 020 = 20 025 = 25 035 = 35 050 = 50	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) N = Non-magnetic 100% tin (Sn) M = Non-magnetic (SnPb)	Blank = 7" reel 7280 = 13" reel

Performance Characteristics

Item	Performance Characteristics
Operating Temperature	–55°C to 125°C
Rated Capacitance Range	0.1 – 1,000 µF at 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

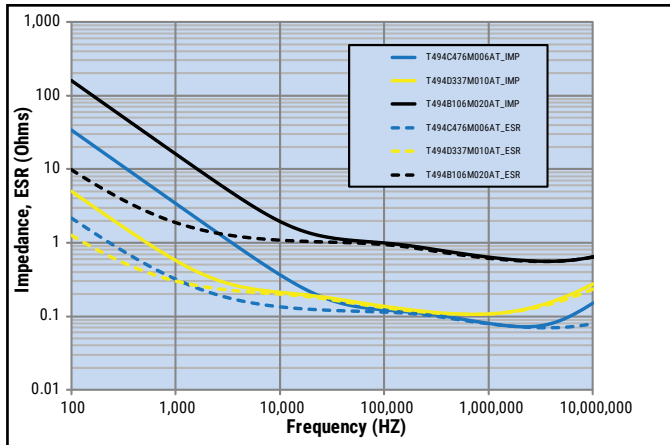
Qualification

Test	Condition	Characteristics			
Endurance	85°C at rated voltage, 2,000 hours 125°C at 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 at 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, -55°C 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.	Δ C/C	+25°C	-55°C	+85°C
		DF	IL*	±10%	±10%
		DCL	IL	IL	1.5 x IL
Surge Voltage	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		

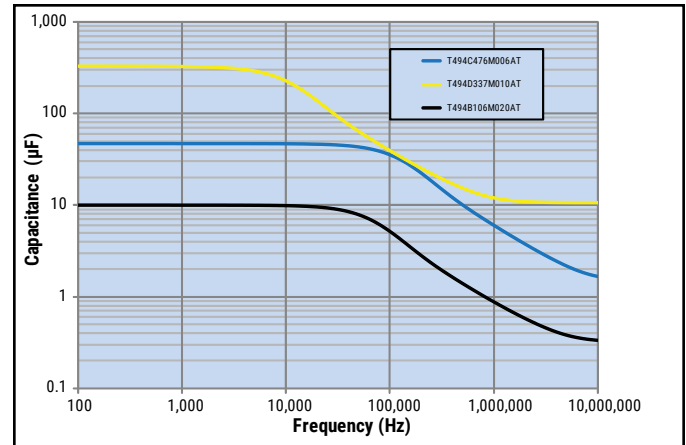
*IL = Initial limit

Electrical Characteristics

ESR vs. Frequency

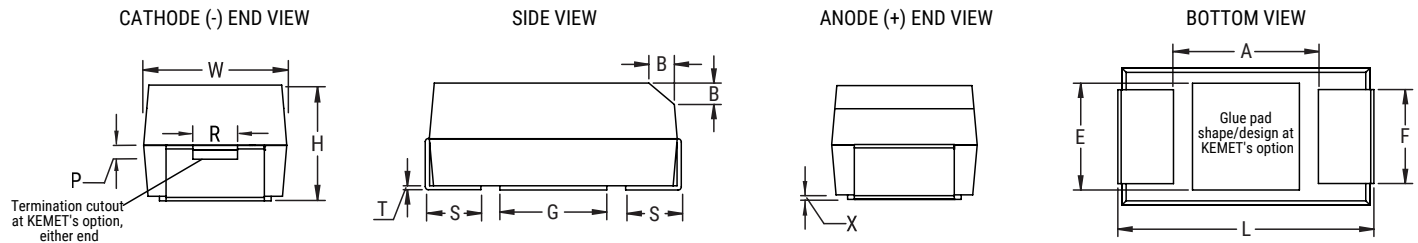


Capacitance vs. Frequency



Dimensions – Millimeters (Inches)

Metric will govern



Case Size		Component												
KEMET	EIA	L	W	H	F ±0.1 ±(0.004)	S	B ±0.15 (Ref) ±0.006	X (Ref)	P (Ref)	R (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
A	3216-18	3.2 ±0.2 (0.126 ±0.008)	1.6 ±0.2 (0.063 ±0.008)	1.6 ±0.2 (0.063 ±0.008)	1.2 (0.047)	0.80 (0.032) +0.2 (0.008) /-0.3 (0.011)	0.4 (0.016)	0.10 ±0.10 (0.004 ±0.004)	0.4 (0.016)	0.4 (0.016)	0.13 (0.005)	1.2 (0.047)	1.1 (0.043)	1.3 (0.051)
B	3528-21	3.5 ±0.2 (0.138 ±0.008)	2.8 ±0.2 (0.110 ±0.008)	1.9 ±0.2 (0.075 ±0.008)	2.2 (0.087)	0.80 (0.032) +0.1 (0.004) /-0.3 (0.011)	0.4 (0.016)	0.10 ±0.10 (0.004 ±0.004)	0.5 (0.020)	1.0 (0.039)	0.13 (0.005)	1.9 (0.075)	1.8 (0.071)	2.2 (0.087)
C	6032-28	6.0 ±0.3 (0.236 ±0.012)	3.2 ±0.3 (0.126 ±0.012)	2.5 ±0.3 (0.098 ±0.012)	2.2 (0.087)	1.30 (0.051) ±0.3 (0.011)	0.5 (0.020)	0.10 ±0.10 (0.004 ±0.004)	0.9 (0.035)	1.0 (0.039)	0.13 (0.005)	2.9 (0.114)	2.8 (0.110)	2.4 (0.094)
D	7343-31	7.3 ±0.3 (0.287 ±0.012)	4.3 ±0.3 (0.169 ±0.012)	2.8 ±0.3 (0.110 ±0.012)	2.4 (0.094)	1.30 (0.051) ±0.3 (0.011)	0.5 (0.020)	0.10 ±0.10 (0.004 ±0.004)	0.9 (0.035)	1.0 (0.039)	0.13 (0.005)	3.6 (0.142)	3.5 (0.138)	3.5 (0.138)
X	7343-43	7.3 ±0.3 (0.287 ±0.012)	4.3 ±0.3 (0.169 ±0.012)	4.0 ±0.3 (0.157 ±0.012)	2.4 (0.094)	1.30 (0.051) ±0.3 (0.011)	0.5 (0.020)	0.10 ±0.10 (0.004 ±0.004)	1.7 (0.067)	1.0 (0.039)	0.13 (0.005)	3.6 (0.142)	3.5 (0.138)	3.5 (0.138)
E	7360-38	7.3 ±0.3 (0.287 ±0.012)	6.0 ±0.3 (0.236 ±0.012)	3.6 ±0.2 (0.142 ±0.008)	4.1 (0.161)	1.30 (0.051) ±0.3 (0.011)	0.5 (0.020)	0.10 ±0.10 (0.004 ±0.004)	N/A	N/A	0.13 (0.005)	3.6 (0.142)	3.5 (0.138)	3.5 (0.138)
S	3216-12	3.2 ±0.2 (0.126 ±0.008)	1.6 ±0.2 (0.063 ±0.008)	1.1 ±0.1 (0.043 ±0.004)	1.2 (0.047)	0.80 (0.032) +0.2 (0.008) /-0.3 (0.011)	N/A	0.05 (0.002)	N/A	N/A	0.13 (0.005)	1.2 (0.047)	1.1 (0.043)	1.3 (0.051)
T	3528-12	3.5 ±0.2 (0.138 ±0.008)	2.8 ±0.2 (0.110 ±0.008)	1.1 ±0.1 (0.043 ±0.004)	2.2 (0.087)	0.80 (0.032) +0.1 (0.004) /-0.3 (0.011)	N/A	0.05 (0.002)	N/A	N/A	0.13 (0.005)	1.9 (0.075)	1.8 (0.071)	2.2 (0.087)
U	6032-15	6.0 ±0.3 (0.236 ±0.012)	3.2 ±0.2 (0.110 ±0.008)	1.4 ±0.1 (0.055 ±0.004)	2.2 (0.087)	1.30 (0.051) ±0.3 (0.011)	N/A	0.05 (0.002)	N/A	N/A	0.13 (0.005)	2.9 (0.114)	2.8 (0.110)	2.4 (0.094)
V	7343-20	7.3 ±0.3 (0.287 ±0.012)	4.3 ±0.3 (0.169 ±0.012)	1.8 ±0.2 (0.071 ±0.008)	2.4 (0.094)	1.30 (0.051) ±0.3 (0.011)	N/A	0.05 (0.002)	N/A	N/A	0.13 (0.005)	3.6 (0.142)	3.5 (0.138)	3.5 (0.138)

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

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 (rms)			Maximum Operating Temp	MSL
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
2.5	100	T/3528-12	T494T107(1)2R5A(2)	2.5	24.0	3.5	141	127	56	125	1
2.5	220	D/7343-31	T494D227(1)2R5A(2)	5.5	8.0	0.2	866	779	346	125	1
3	33	A/3216-18	T494A336(1)004A(2)	1.0	6.0	2.0	194	175	78	125	1
4	3.3	A/3216-18	T494A335(1)004A(2)	0.5	6.0	4.0	137	123	55	125	1
4	4.7	A/3216-18	T494A475(1)004A(2)	0.5	6.0	3.5	146	131	58	125	1
4	6.8	A/3216-18	T494A685(1)004A(2)	0.5	6.0	3.0	158	142	63	125	1
4	6.8	S/3216-12	T494S685(1)004A(2)	0.5	6.0	7.0	93	84	37	125	1
4	10	B/3528-21	T494B106(1)004A(2)	0.5	6.0	1.2	266	239	106	125	1
4	10	A/3216-18	T494A106(1)004A(2)	0.5	6.0	2.0	194	175	78	125	1
4	10	S/3216-12	T494S106(1)004A(2)	0.5	6.0	9.0	82	74	33	125	1
4	15	B/3528-21	T494B156(1)004A(2)	0.6	6.0	1.2	266	239	106	125	1
4	15	A/3216-18	T494A156(1)004A(2)	0.6	6.0	1.5	224	202	90	125	1
4	15	T/3528-12	T494T156(1)004A(2)	0.6	6.0	2.0	187	168	75	125	1
4	15	S/3216-12	T494S156(M)004A(2)	0.6	10.0	9.0	82	74	33	125	1
4	22	C/6032-28	T494C226(1)004A(2)	0.9	6.0	0.5	469	422	188	125	1
4	22	B/3528-21	T494B226(1)004A(2)	0.9	6.0	0.6	376	338	150	125	1
4	22	A/3216-18	T494A226(1)004A(2)	0.9	6.0	1.5	224	202	90	125	1
4	22	S/3216-12	T494S226(M)004A(2)	0.9	10.0	8.0	87	78	35	125	1
4	22	T/3528-12	T494T226(1)004A(2)	0.9	6.0	2.5	167	150	67	125	1
4	33	C/6032-28	T494C336(1)004A(2)	1.3	6.0	0.5	469	422	188	125	1
4	33	U/6032-15	T494U336(1)004A(2)	1.3	6.0	0.6	387	348	155	125	1
4	33	B/3528-21	T494B336(1)004A(2)	1.3	6.0	0.5	412	371	165	125	1
4	33	A/3216-18	T494A336(1)004A(2)	1.3	6.0	3.0	158	142	63	125	1
4	33	T/3528-12	T494T336(M)004A(2)	1.3	8.0	3.5	141	127	56	125	1
4	47	C/6032-28	T494C476(1)004A(2)	1.9	6.0	0.5	469	422	188	125	1
4	47	U/6032-15	T494U476(1)004A(2)	1.9	6.0	0.6	387	348	155	125	1
4	47	B/3528-21	T494B476(1)004A(2)	1.9	6.0	0.5	412	371	165	125	1
4	47	A/3216-18	T494A476(M)004A(2)	1.9	12.0	2.0	194	175	78	125	1
4	47	T/3528-12	T494T476(M)004A(2)	1.9	12.0	4.0	132	119	53	125	1
4	68	D/7343-31	T494D686(1)004A(2)	2.7	6.0	0.20	866	779	346	125	1
4	68	C/6032-28	T494C686(1)004A(2)	2.7	6.0	0.25	663	597	265	125	1
4	68	U/6032-15	T494U686(1)004A(2)	2.7	6.0	0.60	387	348	155	125	1
4	68	B/3528-21	T494B686(1)004A(2)	2.7	6.0	2.00	206	185	82	125	1
4	68	A/3216-18	T494A686(1)004A(2)	2.7	30.0	3.00	158	142	63	125	1
4	100	D/7343-31	T494D107(1)004A(2)	4.0	8.0	0.20	866	779	346	125	1
4	100	C/6032-28	T494C107(1)004A(2)	4.0	8.0	0.20	742	668	297	125	1
4	100	U/6032-15	T494U107(1)004A(2)	4.0	10.0	1.00	300	270	120	125	1
4	100	B/3528-21	T494B107(M)004A(2)	4.0	8.0	0.65	362	326	145	125	1
4	100	A/3216-18	T494A107(M)004A(2)	4.0	30.0	3.00	158	142	63	125	1
4	100	T/3528-12	T494T107(M)004A(2)	4.0	30.0	4.50	125	113	50	125	1
4	150	D/7343-31	T494D157(1)004A(2)	6.0	8.0	0.15	1,000	900	400	125	1
4	150	V/7343-20	T494V157(1)004A(2)	6.0	8.0	0.20	791	712	316	125	1
4	150	C/6032-28	T494C157(1)004A(2)	6.0	8.0	0.30	606	545	242	125	1
4	150	B/3528-21	T494B157(1)004A(2)	6.0	12.0	1.00	292	263	117	125	1
4	220	V/7343-20	T494V227(1)004A(2)	8.8	8.0	0.30	645	581	258	125	1
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL

(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), N = Non-Magnetic 100% Tin (Sn) or M = Non-Magnetic (SnPb). 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.

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
4	220	B/3528-21	T494B227(1)004A(2)	8.8	8.0	0.40	461	415	184	125	1
4	330	D/7343-31	T494D337(1)004A(2)	13.2	8.0	0.15	1,000	900	400	125	1
4	330	C/6032-28	T494C337(1)004A(2)	13.2	10.0	0.09	1,106	995	442	125	1
4	330	V/7343-20	T494V337(1)004A(2)	13.2	12.0	0.30	645	581	258	125	1
4	470	X/7343-43	T494X477(1)004A(2)	18.8	8.0	0.15	1,049	944	420	125	1
4	470	D/7343-31	T494D477(1)004A(2)	18.8	8.0	0.15	1,000	900	400	125	1
4	680	X/7343-43	T494X687(M)004A(2)	27.2	12.0	0.10	1,285	1157	514	125	1
4	680	D/7343-31	T494D687(M)004A(2)	27.2	12.0	0.15	1,000	900	400	125	1
4	1000	X/7343-43	T494X108(1)004A(2)	40.0	12.0	0.10	1,285	1157	514	125	1
4	1000	E/7360-38	T494E108(M)004A(2)	40.0	15.0	0.08	1,581	1423	632	125	1
6.3	2.2	A/3216-18	T494A225(1)006A(2)	0.5	6.0	6.0	112	101	45	125	1
6.3	3.3	A/3216-18	T494A335(1)006A(2)	0.5	6.0	6.0	112	101	45	125	1
6.3	4.7	A/3216-18	T494A475(1)006A(2)	0.5	6.0	3.5	146	131	58	125	1
6.3	4.7	S/3216-12	T494S475(1)006A(2)	0.5	6.0	8.0	87	78	35	125	1
6.3	6.8	B/3528-21	T494B685(1)006A(2)	0.5	6.0	1.2	266	239	106	125	1
6.3	6.8	A/3216-18	T494A685(1)006A(2)	0.5	6.0	2.0	194	175	78	125	1
6.3	6.8	S/3216-12	T494S685(1)006A(2)	0.5	6.0	9.0	82	74	33	125	1
6.3	10	B/3528-21	T494B106(1)006A(2)	0.6	6.0	1.0	292	263	117	125	1
6.3	10	A/3216-18	T494A106(1)006A(2)	0.6	6.0	2.0	194	175	78	125	1
6.3	10	T/3528-12	T494T106(1)006A(2)	0.6	6.0	1.2	242	218	97	125	1
6.3	10	S/3216-12	T494S106(M)006A(2)	0.6	10.0	9.0	82	74	33	125	1
6.3	15	C/6032-28	T494C156(1)006A(2)	0.9	6.0	0.6	428	385	171	125	1
6.3	15	B/3528-21	T494B156(1)006A(2)	0.9	6.0	0.7	348	313	139	125	1
6.3	15	A/3216-18	T494A156(1)006A(2)	0.9	6.0	2.0	194	175	78	125	1
6.3	15	T/3528-12	T494T156(1)006A(2)	0.9	6.0	2.5	167	150	67	125	1
6.3	15	S/3216-12	T494S156(M)006A(2)	0.9	10.0	10.0	77	69	31	125	1
6.3	22	C/6032-28	T494C226(1)006A(2)	1.4	6.0	0.5	469	422	188	125	1
6.3	22	U/6032-15	T494U226(1)006A(2)	1.4	6.0	0.8	335	302	134	125	1
6.3	22	B/3528-21	T494B226(1)006A(2)	1.4	6.0	0.6	376	338	150	125	1
6.3	22	A/3216-18	T494A226(1)006A(2)	1.4	6.0	3.0	158	142	63	125	1
6.3	22	T/3528-12	T494T226(M)006A(2)	1.4	8.0	3.5	141	127	56	125	1
6.3	33	C/6032-28	T494C336(1)006A(2)	2.1	6.0	0.3	606	545	242	125	1
6.3	33	U/6032-15	T494U336(1)006A(2)	2.1	6.0	0.6	387	348	155	125	1
6.3	33	B/3528-21	T494B336(1)006A(2)	2.1	6.0	0.6	376	338	150	125	1
6.3	33	A/3216-18	T494A336(1)006A(2)	2.1	12.0	2.0	194	175	78	125	1
6.3	33	T/3528-12	T494T336(M)006A(2)	2.1	12.0	4.0	132	119	53	125	1
6.3	47	D/7343-31	T494D476(1)006A(2)	3.0	6.0	0.22	826	743	330	125	1
6.3	47	C/6032-28	T494C476(1)006A(2)	3.0	6.0	0.25	663	597	265	125	1
6.3	47	U/6032-15	T494U476(1)006A(2)	3.0	6.0	0.60	387	348	155	125	1
6.3	47	B/3528-21	T494B476(1)006A(2)	3.0	6.0	0.50	412	371	165	125	1
6.3	47	A/3216-18	T494A476(M)006A(2)	3.0	12.0	2.50	173	156	69	125	1
6.3	47	T/3528-12	T494T476(1)006A(2)	3.0	24.0	4.00	132	119	53	125	1
6.3	68	D/7343-31	T494D686(1)006A(2)	4.3	6.0	0.20	866	779	346	125	1
6.3	68	C/6032-28	T494C686(1)006A(2)	4.3	6.0	0.20	742	668	297	125	1
6.3	68	U/6032-15	T494U686(1)006A(2)	4.3	10.0	1.00	300	270	120	125	1
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL

(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), N = Non-Magnetic 100% Tin (Sn) or M = Non-Magnetic (SnPb). 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.

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
6.3	68	B/3528-21	T494B686(M)006A(2)	4.3	8.0	0.65	362	326	145	125	1
6.3	68	A/3216-18	T494A686(1)006A(2)	4.3	30.0	3.00	158	142	63	125	1
6.3	100	D/7343-31	T494D107(1)006A(2)	6.3	8.0	0.15	1,000	900	400	125	1
6.3	100	V/7343-20	T494V107(1)006A(2)	6.3	8.0	0.20	791	712	316	125	1
6.3	100	C/6032-28	T494C107(1)006A(2)	6.3	8.0	0.30	606	545	242	125	1
6.3	100	U/6032-15	T494U107(M)006A(2)	6.3	10.0	1.20	274	247	110	125	1
6.3	100	B/3528-21	T494B107(1)006A(2)	6.3	15.0	1.50	238	214	95	125	1
6.3	150	B/3528-21	T494B157(1)006A(2)	9.5	15.0	2.25	194	175	78	125	1
6.3	150	D/7343-31	T494D157(1)006A(2)	9.5	8.0	0.15	1,000	900	400	125	1
6.3	150	C/6032-28	T494C157(M)006A(2)	9.5	8.0	0.30	606	545	242	125	1
6.3	150	V/7343-20	T494V157(1)006A(2)	9.5	8.0	0.30	645	581	258	125	1
6.3	220	X/7343-43	T494X227(1)006A(2)	13.9	8.0	0.15	1,049	944	420	125	1
6.3	220	D/7343-31	T494D227(1)006A(2)	13.9	8.0	0.15	1,000	900	400	125	1
6.3	220	C/6032-28	T494C227(M)006A(2)	13.9	10.0	0.30	606	545	242	125	1
6.3	220	V/7343-20	T494V227(M)006A(2)	13.9	12.0	0.30	645	581	258	125	1
6.3	330	X/7343-43	T494X337(1)006A(2)	20.8	8.0	0.15	1,049	944	420	125	1
6.3	330	D/7343-31	T494D337(1)006A(2)	20.8	8.0	0.15	1,000	900	400	125	1
6.3	330	E/7360-38	T494E337(1)006A(2)	20.8	8.0	0.25	894	805	358	125	1
6.3	470	X/7343-43	T494X477(1)006A(2)	29.6	10.0	0.10	1,285	1157	514	125	1
6.3	470	D/7343-31	T494D477(M)006A(2)	29.6	12.0	0.15	1,000	900	400	125	1
6.3	470	E/7360-38	T494E477(1)006A(2)	29.6	10.0	0.20	1,000	900	400	125	1
6.3	680	E/7360-38	T494E687(M)006A(2)	42.8	12.0	0.10	1,414	1273	566	125	1
6.3	680	X/7343-43	T494X687(1)006A(2)	42.8	12.0	0.10	1,285	1157	514	125	1
10	1.5	A/3216-18	T494A155(1)010A(2)	0.5	6.0	6.0	112	101	45	125	1
10	2.2	B/3528-21	T494B225(1)010A(2)	0.5	6.0	1.5	238	214	95	125	1
10	2.2	A/3216-18	T494A225(1)010A(2)	0.5	6.0	6.0	112	101	45	125	1
10	3.3	A/3216-18	T494A335(1)010A(2)	0.5	6.0	4.0	137	123	55	125	1
10	3.3	S/3216-12	T494S335(1)010A(2)	0.5	6.0	9.0	82	74	33	125	1
10	4.7	B/3528-21	T494B475(1)010A(2)	0.5	6.0	1.5	238	214	95	125	1
10	4.7	A/3216-18	T494A475(1)010A(2)	0.5	6.0	3.0	158	142	63	125	1
10	4.7	S/3216-12	T494S475(1)010A(2)	0.5	6.0	9.0	82	74	33	125	1
10	6.8	B/3528-21	T494B685(1)010A(2)	0.7	6.0	1.2	266	239	106	125	1
10	6.8	A/3216-18	T494A685(1)010A(2)	0.7	6.0	3.0	158	142	63	125	1
10	6.8	T/3528-12	T494T685(1)010A(2)	0.7	6.0	2.0	187	168	75	125	1
10	6.8	S/3216-12	T494S685(M)010A(2)	0.7	10.0	9.0	82	74	33	125	1
10	10	C/6032-28	T494C106(1)010A(2)	1.0	6.0	0.6	428	385	171	125	1
10	10	B/3528-21	T494B106(1)010A(2)	1.0	6.0	0.8	326	293	130	125	1
10	10	A/3216-18	T494A106(1)010A(2)	1.0	6.0	1.8	204	184	82	125	1
10	10	T/3528-12	T494T106(1)010A(2)	1.0	6.0	3.5	141	127	56	125	1
10	10	S/3216-12	T494S106(M)010A(2)	1.0	10.0	12.0	71	64	28	125	1
10	15	C/6032-28	T494C156(1)010A(2)	1.5	6.0	0.5	469	422	188	125	1
10	15	U/6032-15	T494U156(1)010A(2)	1.5	6.0	0.8	335	302	134	125	1
10	15	B/3528-21	T494B156(1)010A(2)	1.5	6.0	0.7	348	313	139	125	1
10	15	A/3216-18	T494A156(1)010A(2)	1.5	6.0	3.2	153	138	61	125	1
10	15	T/3528-12	T494T156(M)010A(2)	1.5	8.0	3.5	141	127	56	125	1
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL

(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), N = Non-Magnetic 100% Tin (Sn) or M = Non-Magnetic (SnPb). 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.

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
10	22	D/7343-31	T494D226(1)010A(2)	2.2	6.0	0.4	612	551	245	125	1
10	22	C/6032-28	T494C226(1)010A(2)	2.2	6.0	0.4	524	472	210	125	1
10	22	U/6032-15	T494U226(1)010A(2)	2.2	6.0	0.8	335	302	134	125	1
10	22	B/3528-21	T494B226(1)010A(2)	2.2	6.0	0.7	348	313	139	125	1
10	22	A/3216-18	T494A226(1)010A(2)	2.2	10.0	4.5	129	116	52	125	1
10	22	T/3528-12	T494T226(M)010A(2)	2.2	12.0	6.0	108	97	43	125	1
10	33	D/7343-31	T494D336(1)010A(2)	3.3	6.0	0.25	775	698	310	125	1
10	33	V/7343-20	T494V336(1)010A(2)	3.3	6.0	0.30	645	581	258	125	1
10	33	C/6032-28	T494C336(1)010A(2)	3.3	6.0	0.30	606	545	242	125	1
10	33	U/6032-15	T494U336(1)010A(2)	3.3	6.0	0.60	387	348	155	125	1
10	33	T/3528-12	T494T336(1)010A(2)	3.3	24.0	3.75	137	123	55	125	1
10	33	B/3528-21	T494B336(1)010A(2)	3.3	6.0	1.40	246	221	98	125	1
10	33	A/3216-18	T494A336(1)010A(2)	3.3	15.0	4.00	137	123	55	125	1
10	47	D/7343-31	T494D476(1)010A(2)	4.7	6.0	0.22	826	743	330	125	1
10	47	V/7343-20	T494V476(1)010A(2)	4.7	6.0	0.30	645	581	258	125	1
10	47	C/6032-28	T494C476(1)010A(2)	4.7	6.0	0.30	606	545	242	125	1
10	47	U/6032-15	T494U476(1)010A(2)	4.7	10.0	1.20	274	247	110	125	1
10	47	B/3528-21	T494B476(1)010A(2)	4.7	8.0	0.65	362	326	145	125	1
10	68	D/7343-31	T494D686(1)010A(2)	6.8	6.0	0.20	866	779	346	125	1
10	68	C/6032-28	T494C686(1)010A(2)	6.8	6.0	0.30	606	545	242	125	1
10	68	V/7343-20	T494V686(1)010A(2)	6.8	6.0	0.30	645	581	258	125	1
10	68	U/6032-15	T494U686(M)010A(2)	6.8	10.0	1.20	274	247	110	125	1
10	68	B/3528-21	T494B686(M)010A(2)	6.8	10.0	1.50	238	214	95	125	1
10	100	B/3528-21	T494B107(1)010A(2)	10.0	15.0	1.0	292	263	117	125	1
10	100	D/7343-31	T494D107(1)010A(2)	10.0	8.0	0.15	1,000	900	400	125	1
10	100	C/6032-28	T494C107(1)010A(2)	10.0	8.0	0.20	742	668	297	125	1
10	100	V/7343-20	T494V107(1)010A(2)	10.0	8.0	0.40	559	503	224	125	1
10	150	X/7343-43	T494X157(1)010A(2)	15.0	8.0	0.15	1,049	944	420	125	1
10	150	D/7343-31	T494D157(1)010A(2)	15.0	8.0	0.15	1,000	900	400	125	1
10	150	C/6032-28	T494C157(1)010A(2)	15.0	10.0	0.70	396	356	158	125	1
10	150	V/7343-20	T494V157(M)010A(2)	15.0	8.0	0.30	645	581	258	125	1
10	220	X/7343-43	T494X227(1)010A(2)	22.0	8.0	0.15	1,049	944	420	125	1
10	220	D/7343-31	T494D227(1)010A(2)	22.0	8.0	0.15	1,000	900	400	125	1
10	330	X/7343-43	T494X337(1)010A(2)	33.0	10.0	0.10	1,285	1157	514	125	1
10	330	D/7343-31	T494D337(1)010A(2)	33.0	10.0	0.15	1,000	900	400	125	1
10	330	E/7360-38	T494E337(1)010A(2)	33.0	10.0	0.25	894	805	358	125	1
10	470	X/7343-43	T494X477(1)010A(2)	47.0	10.0	0.10	1,285	1157	514	125	1
10	470	E/7360-38	T494E477(M)010A(2)	47.0	12.0	0.10	1,414	1273	566	125	1
16	1	A/3216-18	T494A105(1)016A(2)	0.5	4.0	6.0	112	101	45	125	1
16	1.5	A/3216-18	T494A155(1)016A(2)	0.5	6.0	6.0	112	101	45	125	1
16	2.2	A/3216-18	T494A225(1)016A(2)	0.5	6.0	4.0	137	123	55	125	1
16	2.2	S/3216-12	T494S225(1)016A(2)	0.5	6.0	10.0	77	69	31	125	1
16	3.3	B/3528-21	T494B335(1)016A(2)	0.5	6.0	2.0	206	185	82	125	1
16	3.3	A/3216-18	T494A335(1)016A(2)	0.5	6.0	4.0	137	123	55	125	1
16	4.7	B/3528-21	T494B475(1)016A(2)	0.8	6.0	1.5	238	214	95	125	1
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL

(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), N = Non-Magnetic 100% Tin (Sn) or M = Non-Magnetic (SnPb). 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.

Rated Voltage	Rated Cap	Case Code/Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
16	4.7	A/3216-18	T494A475(1)016A(2)	0.8	6.0	3.0	158	142	63	125	1
16	4.7	T/3528-12	T494T475(1)016A(2)	0.8	6.0	3.0	153	138	61	125	1
16	6.8	C/6032-28	T494C685(1)016A(2)	1.1	6.0	0.8	371	334	148	125	1
16	6.8	B/3528-21	T494B685(1)016A(2)	1.1	6.0	1.2	266	239	106	125	1
16	6.8	A/3216-18	T494A685(1)016A(2)	1.1	6.0	3.0	158	142	63	125	1
16	10	C/6032-28	T494C106(1)016A(2)	1.6	6.0	0.6	428	385	171	125	1
16	10	U/6032-15	T494U106(1)016A(2)	1.6	6.0	1.0	300	270	120	125	1
16	10	B/3528-21	T494B106(1)016A(2)	1.6	6.0	0.8	326	293	130	125	1
16	10	A/3216-18	T494A106(1)016A(2)	1.6	8.0	3.0	158	142	63	125	1
16	10	T/3528-12	T494T106(1)016A(2)	1.6	8.0	6.0	108	97	43	125	1
16	15	C/6032-28	T494C156(1)016A(2)	2.4	6.0	0.4	524	472	210	125	1
16	15	U/6032-15	T494U156(1)016A(2)	2.4	6.0	0.8	335	302	134	125	1
16	15	B/3528-21	T494B156(1)016A(2)	2.4	6.0	0.8	326	293	130	125	1
16	22	D/7343-31	T494D226(1)016A(2)	3.5	6.0	0.25	775	698	310	125	1
16	22	C/6032-28	T494C226(1)016A(2)	3.5	6.0	0.35	561	505	224	125	1
16	22	U/6032-15	T494U226(1)016A(2)	3.5	10.0	1.80	224	202	90	125	1
16	22	B/3528-21	T494B226(1)016A(2)	3.5	6.0	1.00	292	263	117	125	1
16	33	D/7343-31	T494D336(1)016A(2)	5.3	6.0	0.25	775	698	310	125	1
16	33	C/6032-28	T494C336(1)016A(2)	5.3	6.0	0.30	606	545	242	125	1
16	33	U/6032-15	T494U336(1)016A(2)	5.3	12.0	2.20	202	182	81	125	1
16	33	B/3528-21	T494B336(1)016A(2)	5.3	8.0	1.20	266	239	106	125	1
16	47	D/7343-31	T494D476(1)016A(2)	7.5	6.0	0.2	866	779	346	125	1
16	47	V/7343-20	T494V476(1)016A(2)	7.5	6.0	0.3	645	581	258	125	1
16	47	C/6032-28	T494C476(1)016A(2)	7.5	6.0	0.5	469	422	188	125	1
16	68	D/7343-31	T494D686(1)016A(2)	10.9	6.0	0.15	1,000	900	400	125	1
16	68	V/7343-20	T494V686(1)016A(2)	10.9	6.0	0.5	500	450	200	125	1
16	68	C/6032-28	T494C686(1)016A(2)	10.9	12.0	1.0	332	299	133	125	1
16	100	X/7343-43	T494X107(1)016A(2)	16.0	8.0	0.15	1,049	944	420	125	1
16	100	D/7343-31	T494D107(1)016A(2)	16.0	8.0	0.15	1,000	900	400	125	1
16	100	V/7343-20	T494V107(1)016A(2)	16.0	12.0	0.5	500	450	200	125	1
16	100	C/6032-28	T494C107(1)016A(2)	16.0	10.0	0.75	383	345	153	125	1
16	150	X/7343-43	T494X157(1)016A(2)	24.0	8.0	0.15	1,049	944	420	125	1
16	150	D/7343-31	T494D157(1)016A(2)	24.0	12.0	0.4	612	551	245	125	1
16	220	D/7343-31	T494D227(1)016A(2)	35.2	15.0	0.68	470	423	188	125	1
16	220	X/7343-43	T494X227(1)016A(2)	35.2	10.0	0.4	642	578	257	125	1
16	220	E/7360-38	T494E227(1)016A(2)	35.2	7.2	0.5	632	569	253	125	1
20	0.68	A/3216-18	T494A684(1)020A(2)	0.5	4.0	8.0	97	87	39	125	1
20	1	A/3216-18	T494A105(1)020A(2)	0.5	4.0	5.5	117	105	47	125	1
20	1	S/3216-12	T494S105(1)020A(2)	0.5	6.0	10.0	77	69	31	125	1
20	1.5	A/3216-18	T494A155(1)020A(2)	0.5	6.0	4.5	129	116	52	125	1
20	1.5	S/3216-12	T494S155(1)020A(2)	0.5	6.0	9.0	82	74	33	125	1
20	2.2	B/3528-21	T494B225(1)020A(2)	0.5	6.0	1.5	238	214	95	125	1
20	2.2	A/3216-18	T494A225(1)020A(2)	0.5	6.0	4.0	137	123	55	125	1
20	3.3	B/3528-21	T494B335(1)020A(2)	0.7	6.0	1.3	256	230	102	125	1
20	3.3	A/3216-18	T494A335(1)020A(2)	0.7	6.0	4.0	137	123	55	125	1
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL

(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), N = Non-Magnetic 100% Tin (Sn) or M = Non-Magnetic (SnPb). 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.

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
20	3.3	T/3528-12	T494T335(1)020A(2)	0.7	6.0	4.0	132	119	53	125	1
20	4.7	C/6032-28	T494C475(1)020A(2)	0.9	6.0	0.6	428	385	171	125	1
20	4.7	B/3528-21	T494B475(1)020A(2)	0.9	6.0	1.0	292	263	117	125	1
20	4.7	A/3216-18	T494A475(1)020A(2)	0.9	6.0	3.0	158	142	63	125	1
20	6.8	C/6032-28	T494C685(1)020A(2)	1.4	6.0	0.6	428	385	171	125	1
20	6.8	U/6032-15	T494U685(1)020A(2)	1.4	6.0	1.4	254	229	102	125	1
20	6.8	B/3528-21	T494B685(1)020A(2)	1.4	6.0	1.0	292	263	117	125	1
20	6.8	A/3216-18	T494A685(M)020A(2)	1.4	8.0	3.0	158	142	63	125	1
20	10	C/6032-28	T494C106(1)020A(2)	2.0	6.0	0.5	469	422	188	125	1
20	10	U/6032-15	T494U106(1)020A(2)	2.0	6.0	0.8	335	302	134	125	1
20	10	B/3528-21	T494B106(1)020A(2)	2.0	6.0	1.0	292	263	117	125	1
20	10	A/3216-18	T494A106(1)020A(2)	2.0	10.0	3.0	158	142	63	125	1
20	15	D/7343-31	T494D156(1)020A(2)	3.0	6.0	0.35	655	590	262	125	1
20	15	C/6032-28	T494C156(1)020A(2)	3.0	6.0	0.40	524	472	210	125	1
20	22	D/7343-31	T494D226(1)020A(2)	4.4	6.0	0.3	707	636	283	125	1
20	22	V/7343-20	T494V226(1)020A(2)	4.4	6.0	0.4	559	503	224	125	1
20	22	C/6032-28	T494C226(1)020A(2)	4.4	6.0	0.4	524	472	210	125	1
20	22	B/3528-21	T494B226(1)020A(2)	4.4	8.0	3.0	168	151	67	125	1
20	33	D/7343-31	T494D336(1)020A(2)	6.6	6.0	0.25	775	698	310	125	1
20	33	C/6032-28	T494C336(M)020A(2)	6.6	6.0	0.40	524	472	210	125	1
20	33	V/7343-20	T494V336(1)020A(2)	6.6	8.0	0.40	559	503	224	125	1
20	33	B/3528-21	T494B336(M)020A(2)	6.6	10.0	3.00	168	151	67	125	1
20	47	C/6032-28	T494C476(M)020A(2)	9.4	10.0	0.80	371	334	148	125	1
20	47	D/7343-31	T494D476(1)020A(2)	9.4	6.0	0.20	866	779	346	125	1
20	68	X/7343-43	T494X686(1)020A(2)	13.6	6.0	0.20	908	817	363	125	1
20	68	D/7343-31	T494D686(1)020A(2)	13.6	8.0	0.20	866	779	346	125	1
20	68	C/6032-28	T494C686(1)020A(2)	13.6	8.0	0.38	542	488	217	125	1
20	100	D/7343-31	T494D107(1)020A(2)	20.0	6.0	0.68	471	424	188	125	1
20	100	X/7343-43	T494X107(1)020A(2)	20.0	8.0	0.15	1,049	944	420	125	1
20	100	E/7360-38	T494E107(1)020A(2)	20.0	8.0	0.30	816	734	326	125	1
20	150	X/7343-43	T494X157(1)020A(2)	30.0	10.0	0.30	742	668	297	125	1
25	0.33	A/3216-18	T494A334(1)025A(2)	0.5	4.0	10.0	87	78	35	125	1
25	0.47	A/3216-18	T494A474(1)025A(2)	0.5	4.0	9.0	91	82	36	125	1
25	0.68	A/3216-18	T494A684(1)025A(2)	0.5	4.0	6.0	112	101	45	125	1
25	1	B/3528-21	T494B105(1)025A(2)	0.5	4.0	2.0	206	185	82	125	1
25	1	A/3216-18	T494A105(1)025A(2)	0.5	4.0	4.0	137	123	55	125	1
25	1.5	B/3528-21	T494B155(1)025A(2)	0.5	6.0	1.5	238	214	95	125	1
25	1.5	A/3216-18	T494A155(1)025A(2)	0.5	6.0	3.0	158	142	63	125	1
25	2.2	C/6032-28	T494C225(1)025A(2)	0.6	6.0	2.2	224	202	90	125	1
25	2.2	B/3528-21	T494B225(1)025A(2)	0.6	6.0	1.2	266	239	106	125	1
25	2.2	A/3216-18	T494A225(1)025A(2)	0.6	6.0	3.0	158	142	63	125	1
25	3.3	C/6032-28	T494C335(1)025A(2)	0.8	6.0	1.2	303	273	121	125	1
25	3.3	B/3528-21	T494B335(1)025A(2)	0.8	6.0	2.0	206	185	82	125	1
25	3.3	A/3216-18	T494A335(1)025A(2)	0.8	6.0	3.0	158	142	63	125	1
25	4.7	C/6032-28	T494C475(1)025A(2)	1.2	6.0	0.6	428	385	171	125	1
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL

(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), N = Non-Magnetic 100% Tin (Sn) or M = Non-Magnetic (SnPb). 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.

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
25	4.7	B/3528-21	T494B475(1)025A(2)	1.2	6.0	1.0	292	263	117	125	1
25	4.7	A/3216-18	T494A475(M)025A(2)	1.2	8.0	3.0	158	142	63	125	1
25	6.8	C/6032-28	T494C685(1)025A(2)	1.7	6.0	0.6	428	385	171	125	1
25	6.8	B/3528-21	T494B685(1)025A(2)	1.7	8.0	2.0	206	185	82	125	1
25	10	D/7343-31	T494D106(1)025A(2)	2.5	6.0	0.4	612	551	245	125	1
25	10	C/6032-28	T494C106(1)025A(2)	2.5	6.0	0.6	428	385	171	125	1
25	10	B/3528-21	T494B106(1)025A(2)	2.5	8.0	3.0	168	151	67	125	1
25	15	D/7343-31	T494D156(1)025A(2)	3.8	6.0	0.35	655	590	262	125	1
25	15	C/6032-28	T494C156(1)025A(2)	3.8	6.0	0.90	350	315	140	125	1
25	15	B/3528-21	T494B156(1)025A(2)	3.8	8.0	3.00	168	151	67	125	1
25	22	D/7343-31	T494D226(1)025A(2)	5.5	6.0	0.3	707	636	283	125	1
25	22	C/6032-28	T494C226(1)025A(2)	5.5	6.0	1.0	332	299	133	125	1
25	22	V/7343-20	T494V226(1)025A(2)	5.5	6.0	0.5	500	450	200	125	1
25	33	X/7343-43	T494X336(1)025A(2)	8.3	6.0	0.3	742	668	297	125	1
25	33	D/7343-31	T494D336(1)025A(2)	8.3	6.0	0.4	612	551	245	125	1
25	33	C/6032-28	T494C336(1)025A(2)	8.3	10.0	1.0	332	299	133	125	1
25	47	X/7343-43	T494X476(1)025A(2)	11.8	6.0	0.3	742	668	297	125	1
25	47	D/7343-31	T494D476(1)025A(2)	11.8	10.0	0.2	866	779	346	125	1
25	68	X/7343-43	T494X686(M)025A(2)	17.0	8.0	0.3	742	668	297	125	1
25	68	D/7343-31	T494D686(M)025A(2)	17.0	10.0	0.5	548	493	219	125	1
25	100	X/7343-43	T494X107(1)025A(2)	25.0	8.0	0.25	812	731	325	125	1
35	0.1	A/3216-18	T494A104(1)035A(2)	0.5	4.0	10.0	87	78	35	125	1
35	0.15	A/3216-18	T494A154(1)035A(2)	0.5	4.0	6.0	112	101	45	125	1
35	0.22	A/3216-18	T494A224(1)035A(2)	0.5	4.0	6.0	112	101	45	125	1
35	0.33	A/3216-18	T494A334(1)035A(2)	0.5	4.0	6.0	112	101	45	125	1
35	0.47	B/3528-21	T494B474(1)035A(2)	0.5	4.0	2.5	184	166	74	125	1
35	0.47	A/3216-18	T494A474(1)035A(2)	0.5	4.0	4.0	137	123	55	125	1
35	0.68	B/3528-21	T494B684(1)035A(2)	0.5	4.0	2.5	184	166	74	125	1
35	0.68	A/3216-18	T494A684(1)035A(2)	0.5	4.0	6.0	112	101	45	125	1
35	1	B/3528-21	T494B105(1)035A(2)	0.5	4.0	2.0	206	185	82	125	1
35	1	A/3216-18	T494A105(1)035A(2)	0.5	4.0	6.0	112	101	45	125	1
35	1.5	A/3216-18	T494A155(1)035A(2)	0.5	6.0	4.0	137	123	55	125	1
35	1.5	C/6032-28	T494C155(1)035A(2)	0.5	6.0	2.5	210	189	84	125	1
35	1.5	B/3528-21	T494B155(1)035A(2)	0.5	6.0	3.0	168	151	67	125	1
35	2.2	A/3216-18	T494A225(1)035A(2)	0.8	6.0	3.0	158	142	63	125	1
35	2.2	C/6032-28	T494C225(1)035A(2)	0.8	6.0	1.5	271	244	108	125	1
35	2.2	B/3528-21	T494B225(1)035A(2)	0.8	6.0	2.5	184	166	74	125	1
35	3.3	C/6032-28	T494C335(1)035A(2)	1.2	6.0	0.8	371	334	148	125	1
35	3.3	B/3528-21	T494B335(1)035A(2)	1.2	6.0	1.3	256	230	102	125	1
35	4.7	B/3528-21	T494B475(1)035A(2)	1.6	6.0	1.5	238	214	95	125	1
35	4.7	D/7343-31	T494D475(1)035A(2)	1.6	6.0	0.7	463	417	185	125	1
35	4.7	C/6032-28	T494C475(1)035A(2)	1.6	6.0	0.7	396	356	158	125	1
35	6.8	D/7343-31	T494D685(1)035A(2)	2.4	6.0	0.5	548	493	219	125	1
35	6.8	C/6032-28	T494C685(1)035A(2)	2.4	6.0	0.9	350	315	140	125	1
35	10	D/7343-31	T494D106(1)035A(2)	3.5	6.0	0.4	612	551	245	125	1
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL

(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), N = Non-Magnetic 100% Tin (Sn) or M = Non-Magnetic (SnPb). 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.

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
35	10	C/6032-28	T494C106(1)035A(2)	3.5	6.0	1.2	303	273	121	125	1
35	10	V/7343-20	T494V106(1)035A(2)	3.5	6.0	0.8	395	356	158	125	1
35	15	X/7343-43	T494X156(1)035A(2)	5.3	6.0	0.30	742	668	297	125	1
35	15	D/7343-31	T494D156(1)035A(2)	5.3	6.0	0.35	655	590	262	125	1
35	22	X/7343-43	T494X226(1)035A(2)	7.7	6.0	0.3	742	668	297	125	1
35	22	D/7343-31	T494D226(1)035A(2)	7.7	6.0	0.4	612	551	245	125	1
35	33	D/7343-31	T494D336(1)035A(2)	11.6	6.0	0.6	500	450	200	125	1
35	33	X/7343-43	T494X336(1)035A(2)	11.6	6.0	0.3	524	472	210	125	1
35	47	X/7343-43	T494X476(1)035A(2)	16.5	8.0	0.5	574	517	230	125	1
35	47	E/7360-38	T494E476(1)035A(2)	16.5	10.0	0.3	816	734	326	125	1
50	0.1	A/3216-18	T494A104(1)050A(2)	0.5	4.0	10.0	87	78	35	125	1
50	0.15	A/3216-18	T494A154(1)050A(2)	0.5	4.0	10.0	87	78	35	125	1
50	0.22	A/3216-18	T494A224(1)050A(2)	0.5	4.0	12.0	79	71	32	125	1
50	0.22	B/3528-21	T494B224(1)050A(2)	0.5	4.0	10.0	92	83	37	125	1
50	0.33	A/3216-18	T494A334(1)050A(2)	0.5	4.0	9.0	91	82	36	125	1
50	0.33	B/3528-21	T494B334(1)050A(2)	0.5	4.0	2.5	184	166	74	125	1
50	0.47	A/3216-18	T494A474(1)050A(2)	0.5	4.0	6.0	112	101	45	125	1
50	0.47	C/6032-28	T494C474(1)050A(2)	0.5	4.0	1.8	247	222	99	125	1
50	0.47	B/3528-21	T494B474(1)050A(2)	0.5	4.0	2.0	206	185	82	125	1
50	0.68	A/3216-18	T494A684(1)050A(2)	0.5	4.0	5.0	122	110	49	125	1
50	0.68	C/6032-28	T494C684(1)050A(2)	0.5	4.0	1.6	262	236	105	125	1
50	0.68	B/3528-21	T494B684(1)050A(2)	0.5	4.0	3.0	168	151	67	125	1
50	1	A/3216-18	T494A105(1)050A(2)	0.5	4.0	5.0	122	110	49	125	1
50	1	C/6032-28	T494C105(1)050A(2)	0.5	4.0	1.6	262	236	105	125	1
50	1	B/3528-21	T494B105(1)050A(2)	0.5	6.0	4.0	146	131	58	125	1
50	1	V/7343-20	T494V105(M)050A(2)	0.5	4.0	4.0	177	159	71	125	1
50	1.5	D/7343-31	T494D155(1)050A(2)	0.8	6.0	1.0	387	348	155	125	1
50	1.5	C/6032-28	T494C155(1)050A(2)	0.8	6.0	1.5	271	244	108	125	1
50	2.2	D/7343-31	T494D225(1)050A(2)	1.1	6.0	0.8	433	390	173	125	1
50	2.2	C/6032-28	T494C225(1)050A(2)	1.1	6.0	1.5	271	244	108	125	1
50	3.3	D/7343-31	T494D335(1)050A(2)	1.7	6.0	0.8	433	390	173	125	1
50	4.7	D/7343-31	T494D475(1)050A(2)	2.4	6.0	0.6	500	450	200	125	1
50	6.8	X/7343-43	T494X685(1)050A(2)	3.4	6.0	0.5	574	517	230	125	1
50	6.8	D/7343-31	T494D685(1)050A(2)	3.4	6.0	0.7	463	417	185	125	1
50	10	X/7343-43	T494X106(1)050A(2)	5.0	6.0	0.4	642	578	257	125	1
50	10	D/7343-31	T494D106(1)050A(2)	5.0	6.0	0.7	463	417	185	125	1
50	15	X/7343-43	T494X156(1)050A(2)	7.5	6.0	0.4	642	578	257	125	1
50	22	X/7343-43	T494X226(1)050A(2)	11.0	10.0	0.5	574	517	230	125	1
VDC at 85°C	µF	KEMET/EIA	(See below for part options)	µA at 25°C Max/5 Min	% at 25°C 120 Hz Max	Ω at 25°C 100 kHz Max	mA at 25°C 100 kHz	mA at 85°C 100 kHz	mA at 125°C 100 kHz	°C	Reflow Temp ≤ 260°C
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	ESR	Maximum Allowable Ripple Current (rms)			Maximum Operating Temp	MSL

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

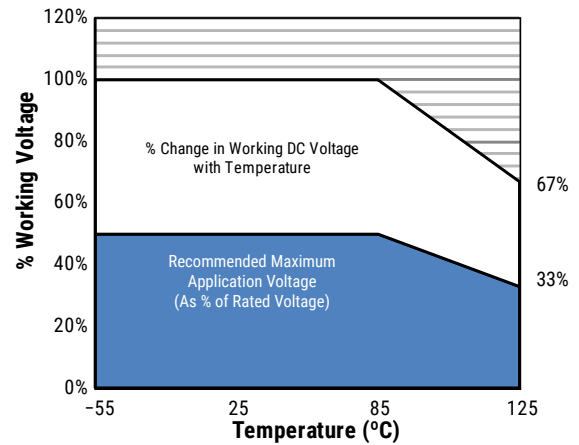
(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn)-Plated, G = Gold-plated, H = Standard Solder coated (SnPb 5% Pb minimum), N = Non-Magnetic 100% Tin (Sn) or M = Non-Magnetic (SnPb). Designates termination finish.

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.

Temperature Compensation Multipliers for Maximum Ripple Current		
$T \leq 25^\circ\text{C}$	$T \leq 85^\circ\text{C}$	$T \leq 125^\circ\text{C}$
1.00	0.90	0.40

T = Environmental Temperature

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

KEMET Case Code	EIA Case Code	Maximum Power Dissipation (P_{max}) mWatts at 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

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

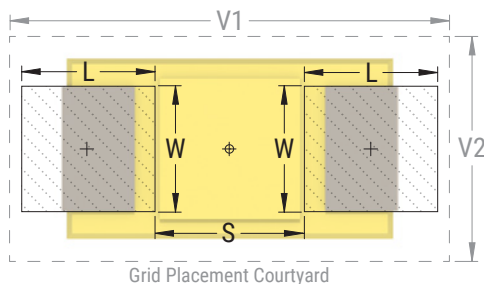
KEMET	Metric Size Code	Density Level A: Maximum (Most) Land Protrusion (mm)					Density Level B: Median (Nominal) Land Protrusion (mm)					Density Level C: Minimum (Least) Land Protrusion (mm)				
Case	EIA	W	L	S	V1	V2	W	L	S	V1	V2	W	L	S	V1	V2
A	3216-18	1.35	2.20	0.62	6.02	2.80	1.23	1.80	0.82	4.92	2.30	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	6032-28	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
S ²	3216-12	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
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
U	6032-15	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
V	7343-21	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 density 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.



Soldering Process

The KEMET 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.

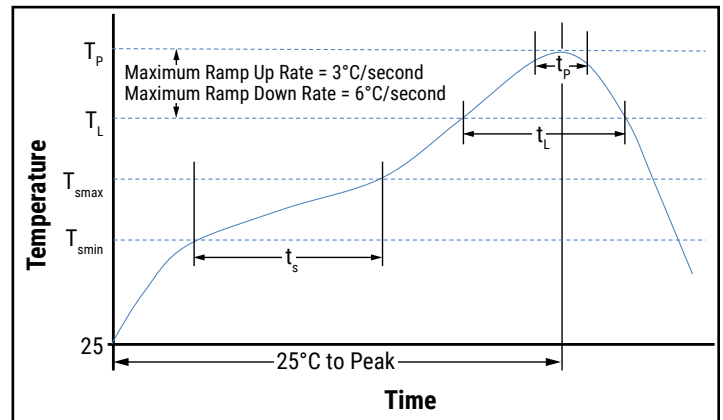
During typical reflow operations, a slight darkening of the gold-colored epoxy may be observed. This slight darkening is normal and not harmful to the product. Marking permanency is not affected by this change.

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/second maximum	3°C/second 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/second maximum	6°C/second 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.

* For Case Size height > 2.5 mm

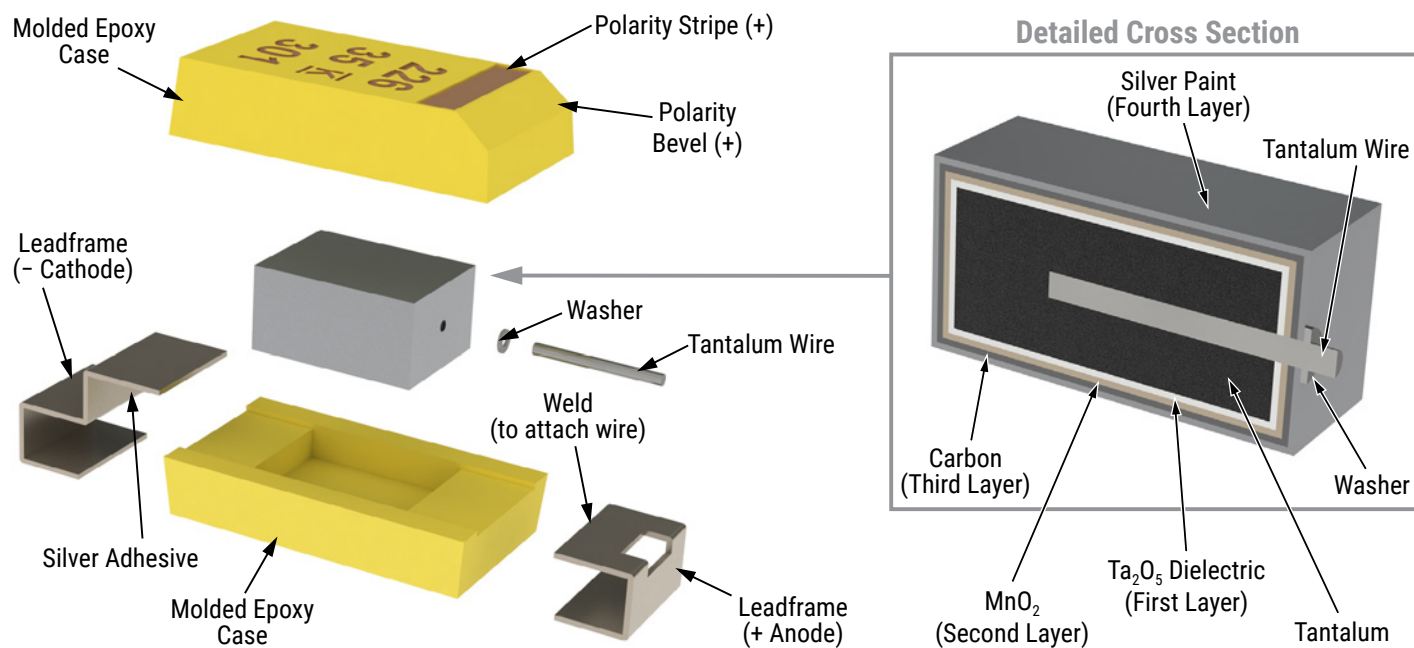
** For Case Size height ≤ 2.5 mm



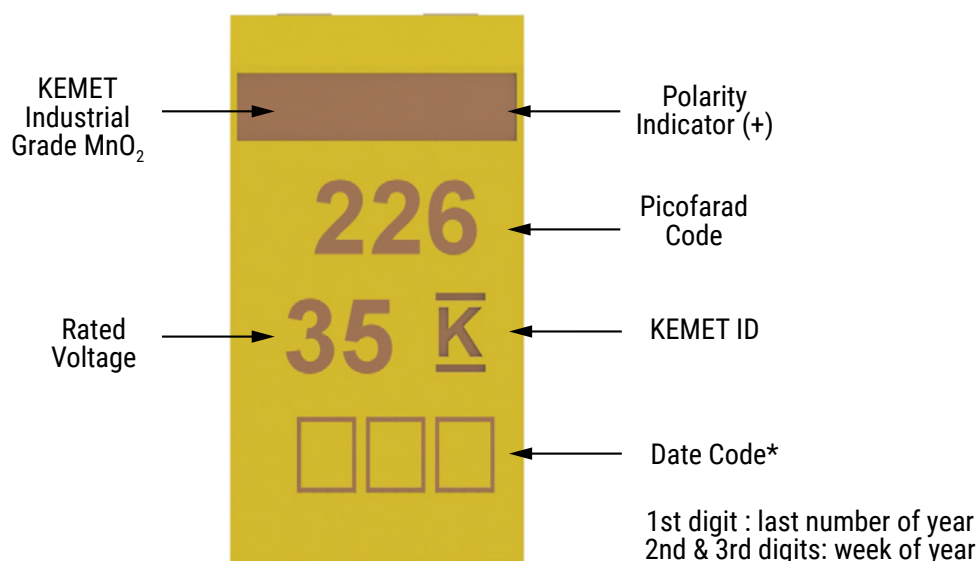
Storage

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 40°C 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



Tape & Reel Packaging Information

KEMET's molded 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.

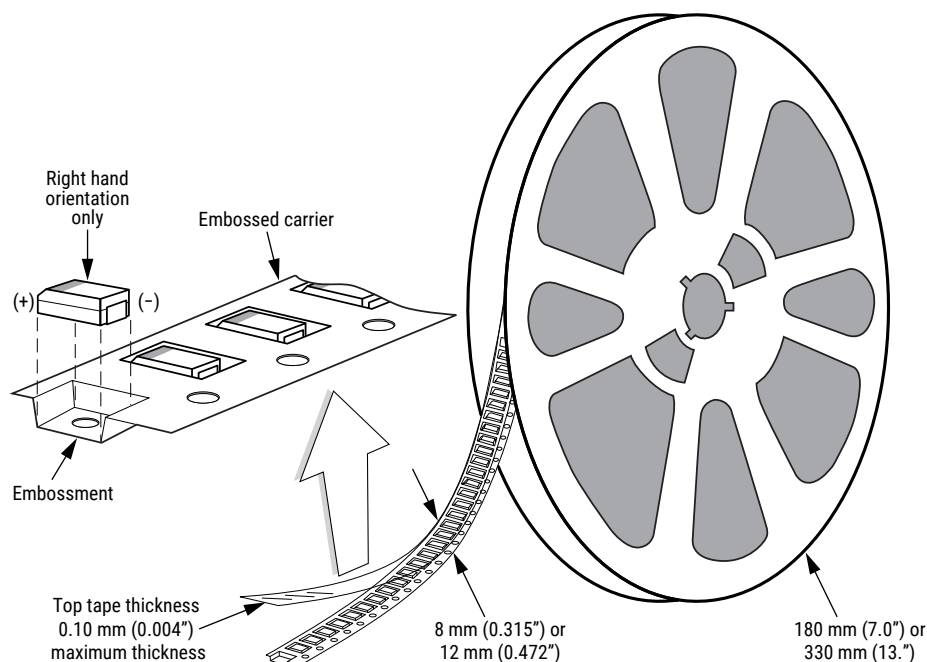


Table 3 – Packaging Quantity

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	2,500	8,000
U	6032-15	12	1,000	5,000
L	6032-19	12	1,000	3,000
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
O	7360-43	12	250	1,000

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

Figure 1 – Embossed (Plastic) Carrier Tape Dimensions

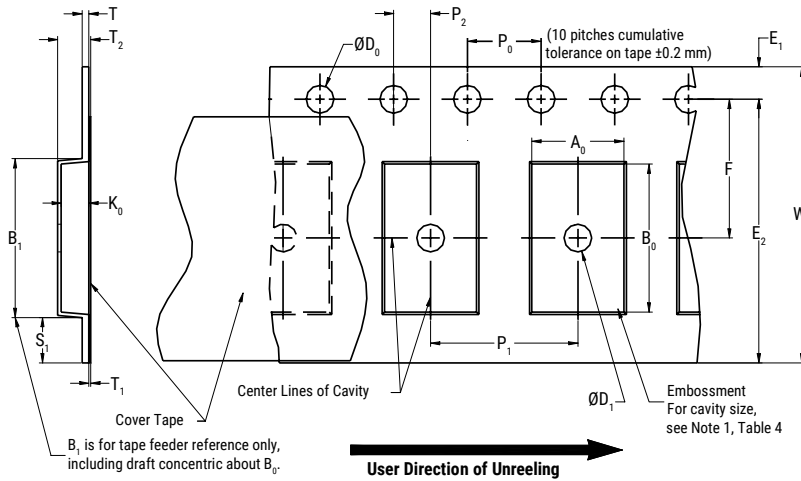


Table 4 – Embossed (Plastic) Carrier Tape Dimensions

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)			

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)	4.0 ±0.10 (0.157 ±0.004)	2.5 (0.098)	8.3 (0.327)	Note 5	
12 mm	Single (4 mm) and Double (8 mm)	8.2 (0.323)	10.25 (0.404)	5.5 ±0.05 (0.217 ±0.002)	8.0 ±0.10 (0.315 ±0.004)	4.6 (0.181)	12.3 (0.484)		

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 S₁ < 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. B₁ dimension is a reference dimension for tape feeder clearance only.
5. The cavity defined by A₀, B₀ and K₀ 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 (see Figure 2).
 - (d) lateral movement of the component is restricted to 0.5 mm maximum for 8 mm and 12 mm wide tape (see Figure 3).
 - (e) see Addendum in EIA Standard 481-D for standards relating to more precise taping requirements.

Packaging Information 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 to 1.0 newton (10 to 100 gf)
12 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.

- 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

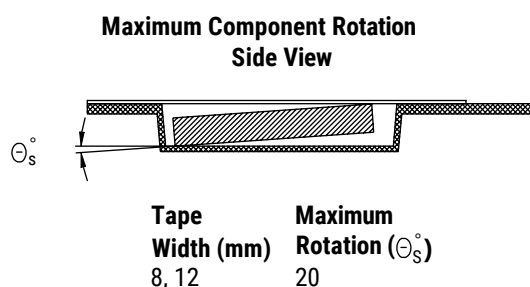
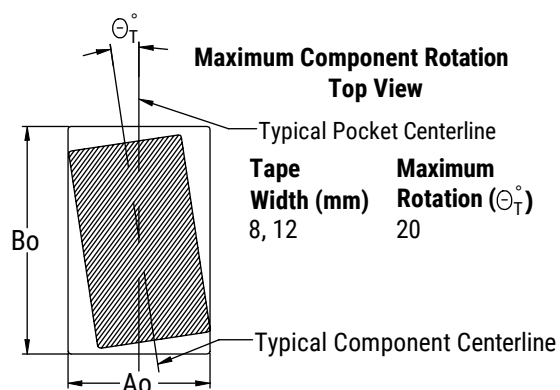


Figure 3 – Maximum Lateral Movement

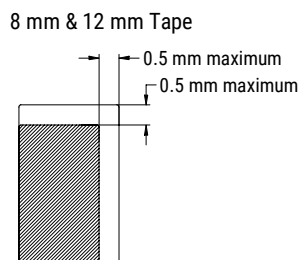


Figure 4 – Bending Radius

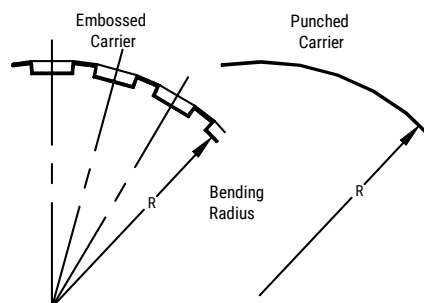
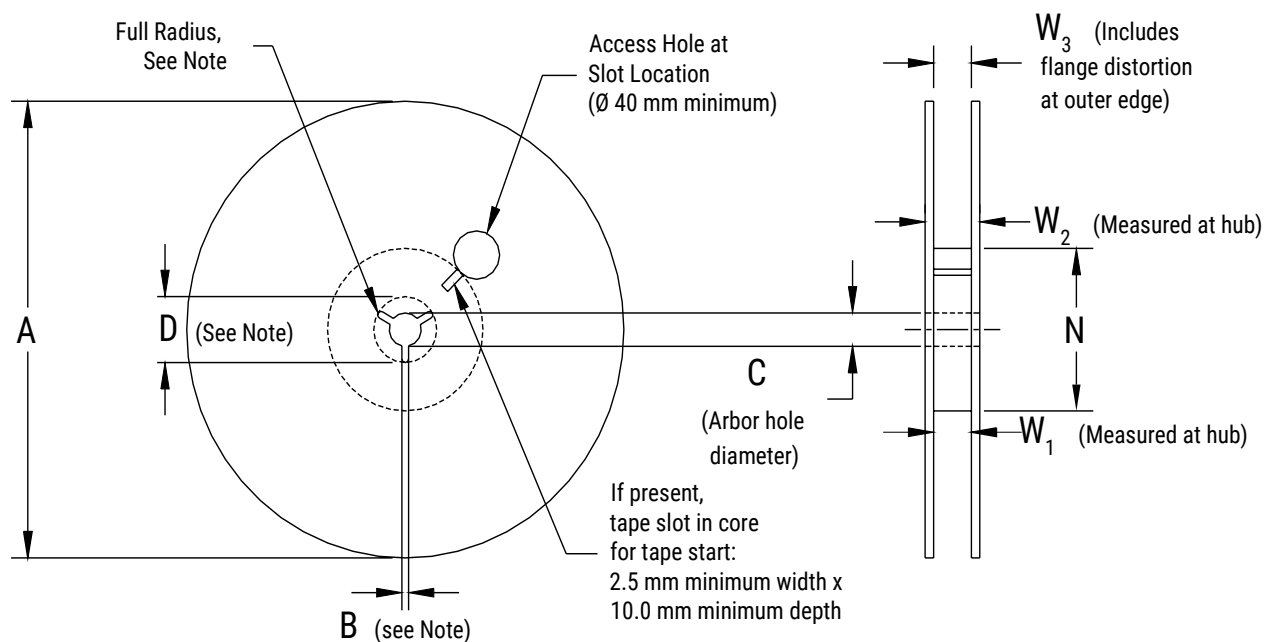


Figure 5 – Reel Dimensions



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				
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)	

Figure 6 – Tape Leader & Trailer Dimensions

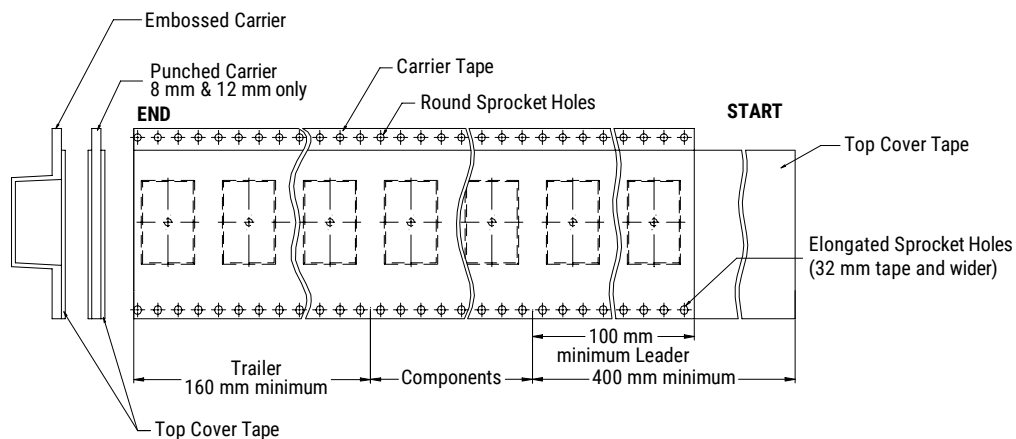
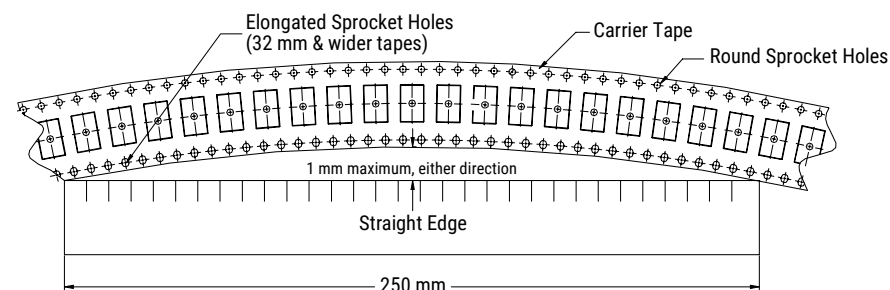


Figure 7 – Maximum Camber



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