TANTALUM CHIP CAPACITORS



PRODUCT DESCRIPTION

KEMET's family of solid tantalum chip capacitors is designed and manufactured with the demanding requirements of surface mount technology in mind.

These devices extend the advantages of solid tantalum technology to today's surface mount circuit applications. Complementing multilayer ceramic chip convenience with capacitance ratings through 1500 μF , tantalum chip capacitors permit circuit designers to take full advantage of the benefits of surface mount technology.

T491 Series — Industrial

The leading choice in today's surface mount designs is the KEMET T491 Series. This product meets or exceeds the requirements of EIA standard 535BAAC. The physical outline and dimensions of this series conform to this global standard.

Five low profile case sizes are available in the T491 family. The R/2012-12, S/3216-12 and T/3528-12 case sizes have a maximum height of 1.2 mm. The U/6032-15 size has a maximum height of 1.5 mm, and the V/7343-20 has a maximum height of 2.0 mm.

This product was designed specifically for today's highly automated surface mount processes and equipment. This series uses the same proven solid tantalum KEMET technology acclaimed and respected throughout the world. Added to this is the latest in materials, processes and automation which result in a component unsurpassed worldwide in total performance and value.

The standard terminations are 100% matte tin and provide excellent wetting characteristics and compatibility with today's surface mount solder systems. Tin-Lead (SnPb) terminations are available upon request for any part number. Gold-plated terminations are also available for use with conductive epoxy attachment processes. The symmetrical terminations offer total compliancy to provide the thermal and mechanical stress relief required in today's technology. Lead frame attachments to the tantalum pellet are made via a microprocessor-controlled welding operation, and a high temperature silver epoxy adhesive system.

Standard packaging of these devices is tape and reel in accordance with EIA 481-1. This system provides perfect compatibility with all tape-fed placement units.

T492 Series — Military

KEMET is approved to MIL-PRF-55365/8 (CWR11), Weibull failure rate "B" level or 0.1% failures per 1,000 hours, "C" level or 0.01% failures per 1,000 hours, and "D" level or 0.001% failures per 1,000 hours. This CWR11 product — designated as KEMET's T492 Series — is a precision-molded device, with compliant leadframe terminations and indelible laser marking. This is the military version of the global IEC/EIA standard represented by KEMET's T491 Series. Tape and reeling per EIA 481-1 is standard.

T493 Series — Military - COTS

The T493 series is designed for the COTS (Commercial-Off-The-Shelf) requirements of military/aerospace applications. This series is a surface mount tantalum product offering various leadframe surface finishes, Weibull grading and surge current testing options. The full part number includes a code defining the terminations, the Weibull reliability, surge test conditions, and the ESR range. The possible terminations include gold plated, hot solder dipped, solder plated, and solder fused. Reliability grading of B level (0.1%/kHours) and C level (0.01%/kHours) are available. Surge current testing options include: 10 cycles at 25°C, or 10-cycles at -55°C and +85°C. Both standard and low ESR options are available. All lots of this series are conditioned with MIL-PRF-55365 Group A testing.

T494 Series — Low ESR. Industrial Grade

The T494 is a low ESR series that is available in all the same case sizes and CV ratings as the popular T491 series. The T494 offers low ESR performance with the economy of an industrial grade device. This series is targeted for output filtering and other applications that may benefit from improved efficiency due to low ESR.

T495 Series — Low ESR, Surge Robust

The low ESR, surge robust T495 series is an important member of KEMET's tantalum chip family. Designed primarily for output filtering in switch-mode power supplies and DC-to-DC converters, the standard CV T495 values are also an excellent choice for battery-to-ground input filter applications.

This series builds upon proven technology used for industrial grade tantalum chip capacitors to offer several important advantages: very low ESR, high ripple current capability, excellent capacitance stability, plus improved ability to withstand high inrush currents. These benefits are achieved through a combination of proprietary design, material, and process parameters, as well as high-stress, low impedance electrical conditioning performed prior to screening. Capacitance values range from $4.7\mu F$ to $1000\mu F$, in voltage ratings from 2.5 to 50 volts.

T496 Series — Fused

KEMET also offers a "fail-safe" fused solid tantalum chip capacitor. The built-in fuse element provides excellent protection from damaging short circuit conditions in applications where high fault currents exist. Protection from costly circuit damage due to reversed installation is offered with this device. Package sizes include the EIA standard 3528-12, 6032-15, 7343-31, and 7343-43 case size. Capacitance values range from 0.15 μF to 470.0 μF , in voltage ratings from 4 to 50. Standard capacitance tolerances include $\pm 20\%$ and $\pm 10\%$. Tape and reeling per EIA 481-1 is standard.



TANTALUM CHIP CAPACITORS

PRODUCT DESCRIPTION

T498 SERIES - High Temperature (150° C)

The T498 Series is a high temperature version of KEMET's solid tantalum chip family that offers optimal performance in applications with operating temperatures of up to 150° C. Advancements in materials and testing have allowed for the introduction of this series which delivers a reliability level of 0.5% per 1000 hours at rated voltage at rated temperature. This series is available in five standard EIA case sizes with RoHS-Compliant/100% matte tin finish lead terminations as standard. Other termination options include 90Sn/10Pb finishes and gold for conductive adhesive attachment processes. Capacitance values range from .47µF to 220µF, in voltage ratings from 4 to 50 volts.

T510 Series — High Capacitance - Low ESR

The ultra-low ESR T510 Series is a breakthrough in solid tantalum capacitor technology. KEMET's T510 Series offers low ESR in the popular EIA 7343-43 and 7360-38 case sizes. The ultra-low ESR and high ripple current capability make the T510 an ideal choice for SMPS filtering and power decoupling of today's high speed microprocessors.

KEMET has developed an innovative construction platform that incorporates multiple capacitor elements, in parallel, inside a single package. This unique assembly, combined with KEMET's superior processing technology, provides the best combination of high CV, low ESR, and small size in a user friendly, molded, surface mount package.

T520 SERIES — Conductive Polymer

The Kemet Organic Capacitor (KO-CAP) is a Tantalum capacitor, with a Ta anode and ${\rm Ta}_2{\rm O}_5$ dielectric. However, a conductive, organic, polymer replaces the MnO2 as the cathode plate of the capacitor. This results in very low ESR and improved cap retention at high frequency. The KO-CAP also exhibits a benign failure mode, which eliminates the ignition failures that can occur in standard MnO2 Tantalum types. Note also that KO-CAPs may be operated at voltages up to 90% of rated voltage for

part types with rated voltage \leq 10 volts and up to 80% of rated voltage for part types > 10 volts with equivalent or better reliability than standard tantalums operated at 50% of rated voltage.

The T520 series captures the best features of multilayer ceramic caps (low ESR and high frequency cap retention), aluminum electrolytics (benign failure mode), and proven solid tantalum technology (volumetric efficiency, surface mount capability, and no wearout mechanism). The KO-CAP can reduce component counts, eliminate through-hole assembly by replacing cumbersome leaded aluminum capacitors, and offer a more cost effective solution to high-cost high-cap ceramic capacitors. These benefits allow the designer to save both board space and money. See pages 42-52 for complete details.

T525 SERIES — High Temperature Conductive Polymer

The T525 Series is a version of KEMET's Tantalum Polymer Capacitor rated up to 125°C. This part type was introduced as Lead (Pb) Free and offers the same advantages as the T520 KO-CAP. This includes low ESR, high frequency capacitance retention and benign failure mode.

T530 SERIES — Conductive Polymer High Capacitance — Ultra Low ESR

KEMET is offering a multiple anode tantalum chip capacitor with a polymer material replacing the MnO2 offering non-ignition, self-healing, 125°C performance capability with higher conductivity material that lowers the ESR. Packaged as multiple anodes to reduce the depth that the signal must penetrate, this parallel arrangement reduces the ESR further still to achieve the highest capacitance and lowest ESR of any other type of SMT capacitor with typical ESR values as low as 5 milliohms. With the reduced ESR, the enhanced capacitance retention in higher frequencies results in the lowest total capacitance solution and provides for the most economical solution in high power applications.



TANTALUM MnO, COMPONENT PERFORMANCE CHARACTERISTICS

Introduction

KEMET solid tantalum capacitors are identified by the initial "T," followed by a unique "Series" number; for example, T491, T492, etc. Each Series denotes a general physical form and type of encapsulation, as well as limits on dimensions and certain electrical characteristics under standard conditions of 25°C, 50% relative humidity, and one atmosphere pressure. Specific requirements are set forth in the respective Product Series in this catalog. All series are 100% screened for leakage, capacitance, dissipation factor, and ESR. All Series are inspected to electrical limits using a minimum .1% AQL sampling plan, according to the Military Standard MIL-STD-105, even after 100% testing. This sampling plan, to the best of KEMET Electronics' knowledge, meets or exceeds the generally accepted industry standard for similar products. KEMET capacitors may also be supplied, with prior agreement, to meet specifications with requirements differing from those of KEMET catalogs.

ELECTRICAL

1. General Application Class

Solid tantalum capacitors are usually applied in circuits where the AC component is small compared to the DC component. Typical uses known to KEMET Electronics include blocking, by-passing, decoupling, and filtering. They are also used in timing circuits. General purpose devices are recommended to have an external series resistance of $0.1\Omega/\text{volt}$ to reduce the failure due to surge current. Newer devices designed for power applications (T495, T5XX), are built to eliminate this series resistance requirement. Because tantalum capacitors can experience scintillation (self-healing) in their life, the circuit impedence should not exceed $100 \text{K}\Omega$ or this will circumvent the scintillation and degrade leakage.

2. Operating Temperature Range

• -55 °C to +125 °C

Voltage derating is specified in Section 5. Performance characteristics over this temperature range are presented within the following sections.

3. Non-Operating Temperature Range • −55 °C to +125 °C

Tantalum capacitors do not lose capacitance from the "de-forming" effect as do liquid-electrolytic capacitors. Storage at high temperature may cause a small, temporary increase in leakage current (measured under standard conditions), but the original value is usually restored within a few minutes after application of rated voltage.

Tantalum chips are not hermetically sealed, therefore they do exhibit reversible changes in parameters with respect to relative humidity (RH). Capacitance increases with increasing humidity. The limiting change, reached upon establishment

of equilibrium with the environment, is approximately -5% to +12% over the range from 25% to 95% RH, referred to the standard 50% RH. The amount of change is dependent upon size (capacitance and voltage rating, ie: CV product); small sizes might change no more than ±5%. Equilibrium at such extremes is seldom attained by plastic-cased capacitors, and the change in capacitance is consequently less. The rate of response to humidity changes increases with increasing temperature. Dissipation factor and ESR also increase with increasing RH.

DC leakage current may rise upon exposure to a combination of high temperature and high humidity, but is normally restored by voltage conditioning under standard conditions. The increase will be greater than that experienced under temperature influence alone because of conduction through absorbed water.

Tantalum chips may be affected by absorption of water on external insulating surfaces. The water film may also attract a layer of dust from the air, increasing the effect. The most sensitive parameter is leakage current.

4. Capacitance

• 0.1 μF to 1000 μF

Refer to part number tables for available capacitance ratings and tolerances by series.

Capacitance is measured at 120 Hz, up to 1.0 volt rms maximum and up to 2.5 volts DC maximum, at +25°C.DC bias causes only a small reduction in capacitance, up to about 2% when full rated voltage is applied. DC bias is not commonly used at room temperature, but is more commonly used at elevated temperatures. Capacitance decreases with increasing frequency.

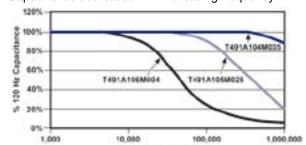


FIGURE 1 Typical Effect of Frequency upon Capacitance

Capacitance increases with increasing temperature.

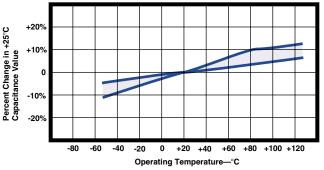


FIGURE 2 Typical Effect of Temperature upon Capacitance



TANTALUM MnO, COMPONENT PERFORMANCE CHARACTERISTICS (con't.)

TABLE 1 Maximum Capacitance Change with Temperature (ref: 25 ℃)

Ambient Temperature			
-55°C +85°C +125°C			
-10%	+10%	*+12% or +15%to20%	

^{*+12%} is standard. +15% and 20% apply to certain extended CV values as noted in part number tables.

5. Working DC Voltage (WVDC)

• 3 to 50 volts

Refer to part number tables for available voltage ratings by series.

These voltages are the maximum recommended peak DC operating voltages from -55° C to $+85^{\circ}$ C for continuous duty. These voltages are derated linearly above $+85^{\circ}$ C to 2/3 rated voltage for operation at $+125^{\circ}$ C (See Figure 3). For added reliability it is recommended to operate at a 50% derating of the working voltage for tantalum capacitors with MnO₂ as a cathode. See page 39 for working DC Voltage of high temperature T498 product.

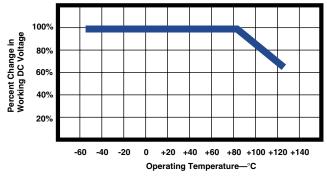


FIGURE 3 Working DC Voltage Change with Temperature

6. Surge Voltage

TABLE 2 Surge Voltage Ratings at +25°C, +85°C & +125°C

Rated Working Volts @ +25°C & +85°C	Surge Voltage @ +25°C & +85°C	Derated DC Volts @ +125°C	Surge Voltage @ +125°C
3	4	2	2.4
4	5.2	2.7	3.2
6	8	4	5
10	13	7	8
16	20	10	12
20	26	13	16
25	33	17	20
35	46	23	28
50	65	33	40

Surge voltage tests are performed at +25°C, +85°C and +125°C with the applicable surge voltage. The surge voltage is applied for 1000 cycles of 30 seconds at voltage through a 33 ohm series resistor and 30 seconds off voltage with the capacitor discharged through a 33 ohm resistor. Upon completing the test, the capacitors are allowed to stabilize at room temperature. Capacitance, DCL and DF are then tested:

- a. Capacitance within ± 5% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit
- d. ESR within initial limit

7. Reverse Voltage and Polarity

TABLE 3 Reverse Voltage Ratings

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

Solid tantalum capacitors are polarized 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 and a beveled edge. A small degree of transient reverse voltage is permissible for short periods per Table 3. The capacitors should not be operated continuously in reverse mode, even within these limits.

8. DC Leakage Current (DCL)

Refer to part number tables for maximum leakage current limits.

DC leakage current is the current that, after a oneto five-minute charging period, flows through a capacitor when voltage is applied. Leakage is measured at +25°C with full rated DC voltage applied to the capacitor through a 1000 ohm resistor in series with the capacitor.

DC leakage current increases with increasing temperature.

TABLE 4 Leakage Limit Multipliers at Specified Temperatures (ref: 25 ℃ limits)

Ambient Temperature		
-55°C +85°C +125°C		
N/A	10X	12X



TANTALUM MnO₂ COMPONENT PERFORMANCE CHARACTERISTICS (con't.)

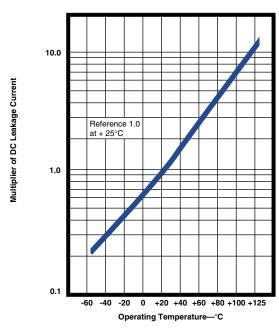


FIGURE 4 Typical Effect of Temperature upon DC Leakage Current

DC leakage current decreases with decreasing applied voltage.

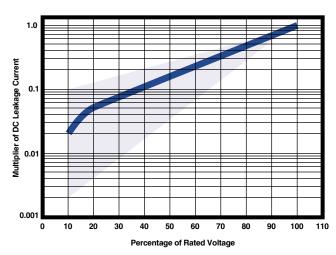


FIGURE 5 Typical Effect of Applied Voltage on DC Leakage Current.

9. Dissipation Factor (DF)

Refer to part number tables for maximum DF limits.

Dissipation factor is measured at 120 Hz, up to 1.0 volt rms maximum, and up to 2.0 volts DC maximum at +25°C. The application of DC bias causes a small reduction in DF, about 0.2% when full rated voltage is applied. DF increases with increasing frequency.

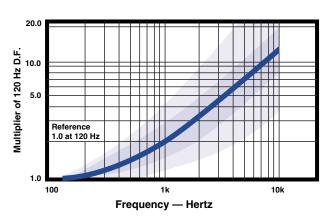


FIGURE 6 Typical Effect of Frequency upon Dissipation

Dissipation factor is a very useful low frequency (120 Hz) measurement of the resistive component of a capacitor. It is the ratio of the equivalent series resistance (ESR) to the capacitive reactance, (X_c) and is usually expressed as a percentage. It is directly proportional to both capacitance and frequency. Dissipation factor loses its importance at higher frequencies, (above about 1 kHz), where impedance (Z) and equivalent series resistance (ESR) are the normal parameters of concern.

 $\begin{array}{cccc} DF = R = 2\pi f CR & DF = & Dissipation Factor \\ X_c & R = & Equivalent Series \\ Resistance (Ohms) & \\ X_c = & Capacitive Reactance \\ (Ohms) & \\ f = & Frequency (Hertz) \\ C = & Series Capacitance \\ (Farads) & \\ \end{array}$

DF is also referred to as $\tan \delta$ or "loss tangent." The "Quality Factor," "Q," is the reciprocal of DF.

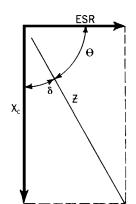
DF decreases with temperature above +25°C and may also increase at lower temperatures. Unfortunately, one general limit for DF cannot be specified for all capacitance/voltage combinations, nor can response to temperature be simply stated. DC bias is not commonly used at room temperature, but is more commonly used at elevated temperatures.

Equivalent Series Resistance (ESR) and Impedance (Z)

Equivalent Series Resistance (ESR) is the preferred high-frequency statement of the resistance unavoidably appearing in these capacitors. ESR is not a pure resistance, and it decreases with increasing frequency.

Total impedance of the capacitor is the vector sum of capacitive reactance (X_c) and ESR, below resonance; above resonance total impedance is the vector sum of inductive reactance (X_L) and ESR.

TANTALUM MnO₂ COMPONENT PERFORMANCE CHARACTERISTICS (con't.)



 $X_{\rm C} = \frac{1 \text{ ohm}}{2\pi fC}$

where:

f = frequency, HertzC = capacitance, Farad

FIGURE 7a Total Impedance of the Capacitor Below Resonance

 $X_L = 2\pi f L$ where: f = frequency, Hertz L = inductance, Henries

FIGURE 7b Total Impedance of the Capacitor Above Resonance

To understand the many elements of a capacitor, see Figure 8.

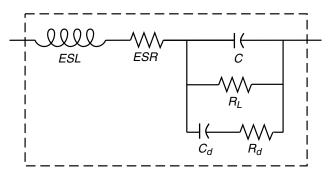


FIGURE 8 The Real Capacitor

A capacitor is a complex impedance consisting of many series and parallel elements, each adding to the complexity of the measurement system.

ESL — Represents lead wire and construction inductance. In most instances (especially in solid tantalum and monolithic ceramic capacitors) it is insignificant at the basic measurement frequencies of 120 and 1000 Hz.

ESR — Represents the actual ohmic series resistance in series with the capacitance. Lead wires and capacitor electrodes are contributing sources.

 $R_{\scriptscriptstyle L}$ — Capacitor Leakage Resistance. Typically it can reach 50,000 megohms in a tantalum capacitor. It can exceed 10¹² ohms in monolithic ceramics and in film capacitors.

R_d — The dielectric loss contributed by dielectric absorption and molecular polarization. It becomes very significant in high frequency measurements and applications. Its value varies with frequency.

 $\rm C_{\scriptscriptstyle d}$ — The inherent dielectric absorption of the solid tantalum capacitor which typically equates to 1-2% of the applied voltage.

As frequency increases, $X_{\rm c}$ continues to decrease according to its equation above. There is unavoidable inductance as well as resistance in all capacitors, and at some point in frequency, the reactance ceases to be capacitive and becomes inductive. This frequency is called the self-resonant point. In solid tantalum capacitors, the resonance is damped by the ESR, and a smooth, rather than abrupt, transition from capacitive to inductive reactance follows.

Typical ESR/Z frequency response curves are shown in Figures 9a and 9b. These curves are for selected ratings and represent typical T491 Series performance. Maximum limits for 100 kHz ESR are listed in the part number tables for each series. Note that the T494 Series offers low ESR and the T495 Series is specially designed for very low ESR performance. Refer to page 31 for more information. See also KEMET's T510 Series low ESR ratings on page 40.

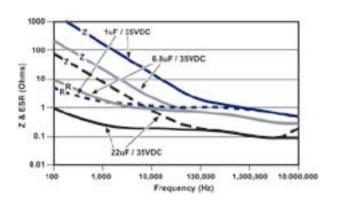


FIGURE 9a ESR & Impedance (Z) vs Frequency



TANTALUM MnO₂ COMPONENT PERFORMANCE CHARACTERISTICS (con't.)

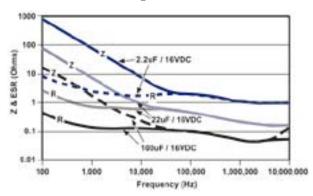
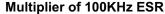
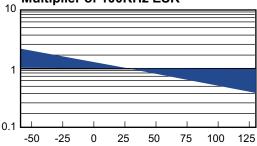


FIGURE 9b ESR & Impedance (z) vs Frequency

ESR and Z are also affected by temperature. At 100 kHz, ESR decreases with increasing temperature. The amount of change is influenced by the size of the capacitor and is generally more pronounced on smaller ratings.





Temperature - Degrees Centigrade

FIGURE 10 Typical Effect of Temperature on 100 kHz ESR

11. AC Power Dissipation

Power dissipation is a function of capacitor size and materials. Maximum power ratings have been established for all case sizes to prevent overheating. In actual use, the capacitor's ability to dissipate the heat generated at any given power level may be affected by a variety of circuit factors. These include board density, pad size, heat sinks and air circulation.

TABLE 5 Tantalum Chip Power Dissipation Ratings

0 0-	ماء.	Marrian Darray Disables
Case Co	ae	Maximum Power Dissipation
KEMET	EIA	mW @ +25°C w/+20°C Rise
R	2012-12	25
S	3216-12	60
Т	3528-12	70
U	6032-15	90
V	7343-20	125
Α	3216-18	75
В	3528-21	85
С	3062-28	110
D	7343-31	150
X	7343-43	165
E	7260-38	200
T530D	7343-31	255
T510X, T530X	7343-43	270
T510E, T530E	7260-38	285

12. AC Operation

Permissible AC ripple voltage and current are related to equivalent series resistance (ESR) and power dissipation capability.

Permissible AC ripple voltage which may be applied is limited by three criteria:

- a. The positive peak AC voltage plus the DC bias voltage, if any, must not exceed the DC voltage rating of the capacitor.
- b. The negative peak AC voltage, in combination with the bias voltage, if any, must not exceed the permissible reverse voltage ratings presented in Table 3.
- c. The power dissipated in the ESR of the capacitor must not exceed the appropriate value specified in Table 5.

Actual power dissipated may be calculated from the following:

$$P = I^{2} R$$

Substituting $I = \underline{E}$, $P = \underline{E^{2}R}$
 Z

where:

I = rms ripple current (amperes)

E = rms ripple voltage (volts)

P = power (watts)

Z = impedance at specified frequency (ohms)

R = equivalent series resistance at specified frequency (ohms)

Using P max from Table 5, maximum allowable rms ripple current or voltage may be determined as follows:

as follows:

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

These values should be derated at elevated temperatures as follows:

Temperature	Derating Factor
85°C	.9
125°C	.4

ENVIRONMENTAL

13. Temperature Stability

TABLE 6 Temperature Stability Limits

Step			Leakage	Dissipation
No.	Temp.	△ Capacitance	Current	Factor
1	+25°C	within specified	within original	within original
		tolerance	limit	limit
2	-55°C	within ± 10%	N/A	within original
		of initial value		limit**
3	+25°C	within ± 5%	within original	within original
		of initial value	limit	limit**
4	+ 85°C	within ± 10%	within 10X	within original
		of initial value	original limit	limit***
5	+125°C	*within ± 12%or	within 12X	within original
		20% of initial	original limit	limit***
		value	-	
6	+25°C	within ± 5%	within original	within original
		of initial value	limit	limit

 $^{^{\}star}\text{+}12\%$ is standard. +15% or +20% applies to certain CV values as noted in part number table.

^{**}within 1.5x initial limit for extended CV values.

^{***}within 1.15x initial limit for extended CV values.



TANTALUM MnO, COMPONENT PERFORMANCE CHARACTERISTICS (con't.)

Mounted capacitors withstand extreme temperature testing at a succession of continuous steps at $+25^{\circ}\text{C}$, -55°C , $+25^{\circ}\text{C}$, $+85^{\circ}\text{C}$, $+125^{\circ}\text{C}$, $+25^{\circ}\text{C}$, in the order stated. Capacitors shall be brought to thermal stability at each test temperature. Capacitance, DF and DCL are measured at each test temperature except that DCL is not measured at -55°C . DC bias of $2.0\pm~0.5$ is recommended for the capacitance and D F requirements.

14. Thermal Shock

• Mil-Std-202, Method 107, Condition B

Minimum temperature -55°C, mounted

Post Test Performance:

- a. Capacitance within ±5% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit
- d. ESR within initial limit

15. Moisture Resistance

• Mil-Std-202, Method 106

Steps 7a and 7b excluded, rated voltage, 42 cycles, mounted

Post Test Performance:

- a. Capacitance within ±10% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit
- d. ESR within initial limit
- JEDEC J-STD-20C meets MSL1 for Pb-free assembly

16. Electrostatic Discharge (ESD)

 Human Body Model 2,000 ±50 volts, 1,500 ±5% ohms, 40 nanosecond pulse each polarity, 1 pulse each polarity, 5 seconds between pulses, +25°C.

Charged Device Model
 200 ± 5 volts, 0 ohms, 40 nanosecond pulse, each polarity, 9 pulses each polarity,
 5 seconds between pulses, +25°C.

Product subjected to above test condition demonstrate *no sensitivity* to electrostatic discharge.

17. Long Term Stability

Within the general class of electrolytic capacitors, solid tantalum capacitors offer unusual stability of the three important parameters: capacitance, dissipation factor and leakage current. These solid-state devices are not subject to the effects of electrolysis, deforming or drying-out associated with liquid-electrolyte capacitors.

When stabilized for measurement at standard conditions, capacitance will typically change less than $\pm 3\%$ during a 10,000 hour life test $+85^{\circ}$ C.

The same comparative change has been observed in shelf tests at +25°C extending for 50,000 hours. (Some of this change may stem from instrument or fixture error.)

Dissipation factor exhibits no typical trend. Data from 10,000 hour life test at +85°C show that initial limits (at standard conditions) are not exceeded at the conclusion of these tests.

Leakage current is more variable than capacitance or DF; in fact, leakage current typically exhibits a logarithmic dependence in several respects. Military Specifications permit leakage current (measured at standard conditions) to rise by a factor of four over 10,000 hour life tests. Typical behavior shows a lower rate of change, which may be negative or positive. Initial leakage currents are frequently so low (less than 0.1 nanoampere in the smallest CV capacitors) that changes of several orders of magnitude have no discernable effect on the usual circuit designs.

18. Failure Mode

Capacitor failure may be induced by exceeding 50% of rated voltage of the capacitor with forward DC voltage, reverse DC voltage, power dissipation, or temperature. As with any practical device, these capacitors also possess an inherent, although low, failure rate when operated at less than 50% of the rated voltage of the capacitor.

The dominant failure mode is by short-circuit. Minor parametric drifts are of no consequence in circuits suitable for solid tantalum capacitors. Catastrophic failure occurs as an avalanche in DC leakage current over a short (millisecond) time span. The failed capacitor, while called "short-circuited", may exhibit a DC resistance of 10 to 10⁴ ohm.

If a failed capacitor is in an unprotected low-impedance circuit, continued flow of current through the capacitor may obviously produce severe overheating. The over-heated capacitor may damage the circuit board or nearby components. Protection against such occurrence is obtained by current-limiting devices or fuses provided by the circuit design. KEMET's T496 series offers a built-in fuse to convert the normal short circuit failure mode to an open circuit.

Fortunately, the inherent failure rate of KEMET solid tantalum capacitors is low, and this failure rate may be further improved by circuit design. Statistical failure rates are provided for military capacitors. Relating circuit conditions to failure rate is aided by the guides in the section following.



TANTALUM MnO, COMPONENT PERFORMANCE CHARACTERISTICS (con't.)

RELIABILITY

19. Reliability Prediction

Solid tantalum capacitors exhibit no degradation failure mode during shelf storage and show a constantly decreasing failure rate (i.e., absence of any wear out mechanism) during life tests. This failure rate is dependent upon three important application conditions; DC Voltage, ambient temperature, and circuit impedance. Additional effects are attributable to the capacitance of the device and atmospheric and mechanical exposure of the assembled circuit. The 1000 multiplier at the end converts the failure rate to parts-perbillion piece-hours. A prediction of the failure rate can be made using these application conditions and the formulas and tables listed in MIL-HDBK-217F (Notice 2).

<u>Base Multiplier:</u> The first multiplier is the base multiplier (2) established for the capacitor type. For "CWR-Chips" or surface mount components the base multiplier is 0.00005, and for "CSR-Leaded" devices, the base multiplier is 0.00040.

Temperature: The temperature factor is given as (3). From this formula, it can be seen that the unity factor, or 1, is derived at an ambient temperature of +25°C (+298°K), and that at temperatures below this the multiplier is decreasing and at temperatures above this the multiplier is increasing.

Voltage: The multiplier for application voltage (4) is a two step process: first, the application voltage is compared to 60% of rated voltage, and then this ratio is raised to an exponential power of 17 and added to unity. Consider applications of 50%, 60%, 70%, 80% and 90% of rated voltage. The multipliers for these applications would be 1.045, 2.00, 14.7, 134, and 986, respectively. From these results it is evident why manufacturers recommend application voltages not to exceed 50% rated voltages.

<u>Capacitance:</u> There is a factor (5) applied to the capacitance (in μ F) which effectively increases the failure rate for increasing capacitance (increases in effective area resulting in increases in possible faults).

<u>Series Resistance</u>: The series resistance is only concerned with the resistance per application bias (ohms per volt) external to the capacitor, and does not include the ESR as a factor.

Environmental: The environmental factor is determined by the harshness of the ambient conditions beyond temperature. An explanation of these ratings is included in the MIL specification and are too extensive to be covered here. In most cases, this factor is set to ground benign or $G_{\rm B}$, with the resulting factor equal to "1".

(1)
$$\lambda_{V} = \lambda_{b} \pi_{T} \pi_{C} \pi_{V} \pi_{SR} \pi_{Q} \pi_{E} \times 1000$$

(2) $\lambda_{b} = 0.00005_{CWR} \text{ or } 0.0004_{CSR}$

(3) $\pi_{T} = \exp \left[\frac{-0.15}{8.617 \cdot 10^{-5}} \left(\frac{1}{T_{Amb}} - \frac{1}{298} \right) \right]$

(4) $S = \frac{\text{Application-Voltage}}{\text{Rated-Voltage}} \qquad \pi_{V} = \left(\frac{S}{0.6} \right)^{17} + 1$

(5) $\pi_{C} = 1.0 \cdot C^{.023}$

(6) $\pi_{SR} = \text{Lookup Table} \qquad \pi_{E} = \text{Lookup Table}$

(7) $\pi_{Q} = \sqrt{\frac{\text{Pcs. Fail}}{\text{Pcs. Tested x Hrs. Tested}}} \times 100,000$

FIGURE 11a. MIL-HDBK-217F Notice 2 formulas.

CR (ΩV)	π sr
>0.8	0.66
0.6-0.8	1.0
0.4-0.6	1.3
0.2-0.4	2.0
0.1-0.2	2.7
<0.1	3.3

FIGURE 11b. Table for circuit resistance multipiers.

Quality Factor: All of these multipliers are applied to the established or base failure rate of the part. The T492 Series is qualified under U.S. military specification MIL-PRF-55365. Failure rates as low as 0.001% kHr are available under this test program.

For series not covered by military specifications, an internal sampling program is operated by KEMET Quality Assurance whereby parts are put on life test at rated voltage for 2000 hours. The confidence level chosen for the reporting data is 60%. (The cost of sampling each batch would be prohibitive, and no claim is made to guarantee the failure rate of each batch.) With this testing and each new qualification test for new parts, the average failure rate for all commercial Series lies between 0.1% and 1.0% per thousand-piece-hours.

FIT Calculator

All of these factors are gathered into a Windows based software, available free from the KEMET web site (www.kemet.com). The "FIT Calculator" software does all the calculations and look-ups based on information entered or selected by the operator. A manual may also be downloaded from the same web page to explain the controls and displays The manual as well as a help screen also detail the environmental conditions.

TANTALUM MnO, COMPONENT PERFORMANCE CHARACTERISTICS (con't.)

20. Surge Current

All conventional reliability testing is conducted under steady-state DC voltage. Experience indicates that AC ripple, within the limits prescribed, has little effect on failure rate. Heavy surge currents are possible in some applications, however. Circuit impedance may be very low (below the recommended 0.1 ohm/volt) or there may be driving inductance to cause voltage "ringing." Surge current may appear during turn-on of equipment, for example. Failure rate under current-surge conditions may not be predictable from conventional life test data.

Capacitors are capable of withstanding a 4 ± 1 second charge of rated voltage ($\pm 2\%$) through a total circuit resistance (excluding the capacitor) of 1 ± 0.2 ohms at $+25^{\circ}$ C, followed by a 4 ± 1 second discharge to a voltage below 1% of the rated voltage. This cycle is repeated consecutively three (3) times. Post test performance:

- a. Capacitance within ±5% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit

100% production surge current testing is performed on all Tantalum Chip series for case sizes C, D, E, X, U, V. The total test circuit resistance is ≤ 0.5 ohms. The applied voltage is 75% of rated voltage for all series except the T495 and T510 which are surged at 100% of rated voltage. Four surge cycles are applied. Parts not capable of surviving this test are removed at subsequent electrical screening. See T493 Series on page 22 for specific surge options.

21. Storage Life Test

- 2,000 hours, +125°C, Unbiased, Mounted Post Test Performance:
- a. Capacitance within ±10% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit
- d. ESR within initial limit
- e. Physical no degradation of function

22. Standard Life Test

- 2,000 hours, +85°C, Rated Voltage, Mounted Post Test Performance:
- 1 Ost Test I enormance.
- a. Capacitance within ±10% of initial value
- b. DC Leakage within 125% of initial limit
- c. Dissipation Factor within initial limit
- d. ESR within initial limit
- e. Physical no degradation of function

23. High Temperature Life Test

 2,000 hours, +125°C, 2/3 Rated Voltage, Mounted

Post Test Performance:

- a. Capacitance within ±10% of initial value
- b. DC Leakage within 125% of initial limit
- c. Dissipation Factor within initial limit
- d. ESR within initial limit
- e. Physical no degradation of function

MECHANICAL

24. Resistance to Solvents

• Mil-Std-202, Method 215

Post Test Performance:

- a. Capacitance within $\pm 10\%$ of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor --- within initial limit
- d. Physical no degradation of case, terminals or marking.

25. Fungus

• Mil-Std-810, Method 508

26. Flammability

• UL94 VO Classification

Encapsulant materials meet this classification.

27. Resistance to Soldering Heat

- Wave Solder
 - +260 ±5°C, 10 Seconds
- Infrared Reflow
 - +230 ±5°C, 30 Seconds
- Vapor Phase Reflow
 - +215 ±5°C, 2 minutes

Post Test Performance:

- a. Capacitance within ±10% of Initial Value
- b. DC Leakage within Initial Limit
- c. Dissipation Factor within Initial Limit

28. Solderability

- Mil-Std-202, Method 208
- ANSI/J-STD-002, Test B

Applies to Solder and Tin Coated terminations only. Does not apply to optional gold-plated terminations.

29. Vibration

 Mil-Std-202, Method 204, Condition D, 10 Hz to 2.000 Hz. 20G Peak

Post Test Performance:

- a. Capacitance within ± 10% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit

30. Shock

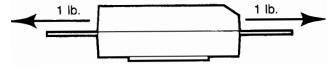
 Mil-Std-202, Method 213, Condition I, 100 G Peak

Post Test Performance:

- a. Capacitance within ±10% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit

31. Terminal Strength

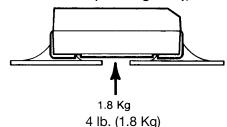
- Pull Force
 - One Pound (454 grams), 30 Seconds





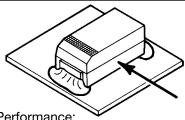
TANTALUM MnO₂ COMPONENT PERFORMANCE CHARACTERISTICS (con't.)

- Tensile Force
 - Four Pounds (1.8 kilograms), 60 Seconds



Shear Force
 Table 8 Maximum Shear Loads

Case Code		Maximum Shear Loads	
KEMET	EIA	Kilograms	Pounds
R	2012-12	2.4	5.3
S	3216-12	3.2	7.0
Т	3528-12	3.6	8.0
U	6032-15	4.5	10.0
V	7343-20	5.0	11.0
А	3216-18	3.2	7.0
В	3528-21	3.6	8.0
С	6032-28	4.5	10.0
D	7343-31	5.0	11.0
Х	7343-43	5.0	11.0
E	7260-38	5.0	11.0



- Post Test Performance:
 - a. Capacitance within ±5% of initial value
 - b. DC Leakage within initial limit
 - c. Dissipation Factor within initial limit

APPLICATIONS

32. Handling

Automatic handling of encapsulated components is enhanced by the molded case which provides compatibility with all types of high speed pick and place equipment. Manual handling of these devices presents no unique problems. Care should be taken with your fingers, however, to avoid touching the solder-coated terminations as body oils, acids and salts will degrade the solderability of these terminations. Finger cots should be used whenever manually handling all solderable surfaces.

33. Termination Coating

KEMET's standard termination finish is 100% Sn (Excluding the T492/3 series. Refer to specific lead frame options available on T493 Series). Standard terminations can be ordered with a "T" suffix in the lead material designator of the KEMET part number. Components ordered with the "T" suffix are Pb-Free/RoHS compliant and are backward and forward compatible with SnPb

and Pb-Free soldering processes.

90Sn/10Pb terminations are also available and can be ordered with an "H" suffix.

KEMET's "S" suffix remains an active termination designator for current designs but is not recommended for new designs. Parts ordered with an "S" suffix are not guaranteed to be Pb-Free or RoHS compliant. Refer to www.kemet.com for information on Pb-Free transition.

For conductive adhesive attachment processes, a gold termination finish is available for most series and case sizes. Refer to the specific series for details.

34. Recommended Mounting Pad Geometries

Proper mounting pad geometries are essential for successful solder connections. These dimensions are highly process sensitive and should be designed to maximize the integrity of the solder joint, and to minimize component rework due to unacceptable solder joints.

Figure 12 illustrates pad geometry. Tables 9 & 10 provide recommended pad dimensions for both wave and reflow soldering techniques. These dimensions are intended to be a starting point for circuit board designers, to be fine tuned, if necessary, based upon the peculiarities of the soldering process and/or circuit board design.

Contact KEMET for Engineering Bulletin Number F-2100 entitled "Surface Mount Mounting Pad Dimensions and Considerations" for further details on this subject.

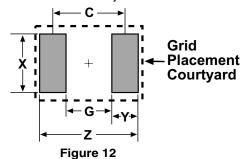


Table 9 - Land Pattern Dimensions for Reflow Solder

	Pad Dimensions - mm				
KEMET/EIA Size Code	Z	G	х	Y (ref)	C (ref)
R/2012-12	3.90	0.80	1.80	1.55	2.35
A/3216-18, S/3216-12	4.70	0.80	1.50	1.95	2.75
B/3528-21, T/3528-12	5.00	1.10	2.50	1.95	3.05
C/6032-28, U/6032-15	7.60	2.50	2.50	2.55	5.05
D/7343-31, V/7343-20, X/7343-43	8.90	3.80	2.70	2.55	6.35
E/7260-38	8.90	3.80	4.40	2.55	6.35

Table 10 - Land Pattern Dimensions for Wave Solder

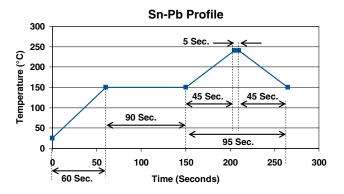
tuble 10 Lund 1 attern billionsions for wave colder					
	Pad Dimensions - mm			ım	
KEMET/EIA Size Code	z	G	х	Y (ref)	C (ref)
R/2012-12	4.30	0.80	1.26	1.75	2.55
A/3216-18, S/3216-12	5.10	0.80	1.10	2.15	2.95
B/3528-21, T/3528-12	5.40	1.10	1.80	2.15	3.25
C/6032-28, U/6032-15	8.00	2.50	1.80	2.75	5.25
D/7343-31, V/7343-20, X/7343-43	9.70	3.80	2.70	2.95	6.75
E/7260-38	9.70	3.80	4.40	2.95	6.75

TANTALUM MnO, COMPONENT PERFORMANCE CHARACTERISTICS (con't.)

35. Soldering

KEMET's families of surface mount tantalum capacitors are compatible with wave (single or dual) soldering and IR or vapor phase reflow techniques. Solder-coated terminations have excellent wetting characteristics for high integrity solder fillets. Preheating of these components is recommended to avoid extreme thermal stress. Figure 13 represents recommended maximum solder temperature / time combinations for these devices.

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



Pb-Free Profile 260°C Peak Temperature (3 passes)

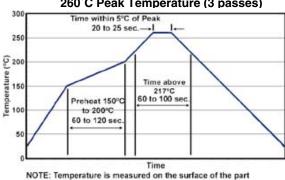


FIGURE 13 Time/Temperature Soldering Profile

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. The iron should be removed. "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 is not harmful to the product. Marking permanency is not affected by this change.

36. Washing

Standard washing techniques and solvents are compatible with all KEMET surface mount tantalum capacitors. Solvents such as Freon TMC and TMS, Trichlorethane, methylene chloride, prelete, and isopropyl alcohol are not harmful to these components.

If ultrasonic agitation is utilized in the cleaning process, care should be taken to minimize energy levels and exposure times to avoid damage to the terminations.

KEMET tantalum chips are also compatible with newer aqueous and semi-aqueous processes. Please follow the recommendations for cleaning as defined by the solder vendor.

37. Encapsulations

Under normal circumstances, potting or encapsulation of KEMET tantalum chips is not required.

38. Storage Environment

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 degrees C, and maximum storage humidity not exceed 60% relative humidity. In addition, temperature fluctuations should be minimized to avoid condensation on the parts, and atmospheres should be free of chlorine and sulfur bearing compounds. For optimized solderability, chip stock should be used promptly, preferably within 3 years of receipt.

39. Component Weights • T49x, T510 Series

Series	Case Size	Typical Weight (mg)
T49x	A/3216-18	32
T49x	B/3528-21	60
T49x	C/6032-28	130
T49x	D/7343-31	320
T49x	X/7343-43	500
T49x	E/7360-38	600
T49x	R/2012-12	10
T49x	S/3216-12	21
T49x	T/3528-12	34
T49x	U/6032-15	70
T49x	V/7343-20	206
T510	D/7343-31	338
T510	X/7343-43	510
TE10	E/7260 20	645

T491 SERIES - Precision Molded Chip

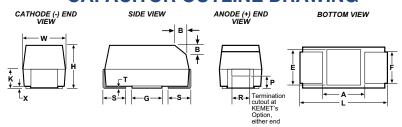


FEATURES

- Meets or Exceeds EIA Standard 535BAAC
- Taped and Reeled per EIA 481-1
- Symmetrical, Compliant Terminations Optional Gold-plated Terminations
- Laser-marked Case
- 100% Surge current test on C, D, E, U, V, X sizes
- Halogen Free Epoxy
- Capacitance: 0.1 µF to 1000 µF

- Tolerance: ±10%, ±20%
- Voltage: 2.5-50 VDC
- Extended Range Values
- Low Profile Case Sizes
- RoHS Compliance & Lead Free Terminations (See www.kemet.com for transition information)
- Operating Temperature: -55°C to +125°C

CAPACITOR OUTLINE DRAWING



STANDARD T491 DIMENSIONS

Millimeters (inches)

CASE	SIZE						ONENT								
KEMET	EIA	L*	W*	H*	$\mathbf{K}^{\star} \stackrel{\pm 0.20}{\pm (.008)}$	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)
Α	3216-18	3.2 ± 0.2 (.126 ± .008)	1.6 ±0.2 (.063 ±.008)	1.6 ± 0.2 (.063 ± .008)	0.9 (.035)	1.2 (.047)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.4 (.016)	0.4 (.016)	0.13 (.005)	1.4 (.055)	1.1 (.043)	1.3 (.051)
В	3528-21	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.9 ± 0.2 (.075 ± .008)	1.1 (.043)	2.2 (.087)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.5 (.020)	1.0	0.13 (.005)	2.1 (.083)	1.8	2.2 (.087)
С	6032-28	6.0 ± 0.3 (.236 ± .012)	3.2 ± 0.3 (.126 ± .012)	2.5 ± 0.3 (.098 ± .012)	1.4 (.055)	2.2 (.087)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.1 (.122)	2.8 (.110)	2.4 (.094)
D	7343-31	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.8 ± 0.3 (.110 ± .012)	1.5 (.059)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
Х	7343-43	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	4.0 ± 0.3 (.157 ± .012)	2.3 (.091)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	1.7 (.067)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
Е	7260-38	7.3 ± 0.3 (.287 ± .012)	6.0 ± 0.3 (.236 ± .012)	3.6 ± 0.2 (.142 ± .008)	2.3 (.091)	4.1 (.161)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

Notes: 1. Metric dimensions govern.

2. (Ref) - Dimensions provided for reference only.

* Mil-C-55365/8 Specified Dimensions

LOW PROFILE T491 DIMENSIONS

Millimeters (inches)

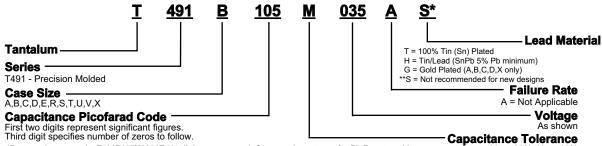
CASE	SIZE		COMPONENT											
KEMET	EIA	L	w	H Max.	K Min.	F ± 0.1	S ± 0.3	X (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)		
R	2012-12	2.0 ± 0.2	1.3 ± 0.2	1.2	0.3	0.9	0.5	0.05	0.13	0.8	0.5	0.8		
		$(.079 \pm .008)$	(.051 ± .008)	(.047)	(.012)	(.035)	(.020)	(.002)	(.005)	(.031)	(.020)	(.031)		
s	3216-12	3.2 ± 0.2	1.6 ± 0.2	1.2	0.3	1.2	0.8	0.05	0.13	1.4	1.1	1.3		
		$(.126 \pm .008)$	$(.063 \pm .008)$	(.047)	(.012)	(.047)	(.031)	(.002)	(.005)	(.055)	(.043)	(.051)		
Ιτ	3528-12	3.5 ± 0.2	2.8 ± 0.2	1.2	0.3	2.2	0.8	0.05	0.13	2.1	1.8	2.2		
l '		$(.138 \pm .008)$	$(.110 \pm .008)$	(.047)	(.012)	(.087)	(.031)	(.002)	(.005)	(.083)	(.071)	(.087)		
U	6032-15	6.0 ± 0.3	3.2 ± 0.3)	1.5	0.5	2.2	1.3	0.05	0.13	3.1	2.8	2.4		
ľ		$(.236 \pm .012)$	(.126 ± .012)	(.059)	(.020)	(.087)	(.051)	(.002)	(.005)	(.122)	(.110)	(.094)		
V	7343-20	7.3 ± 0.3	4.3 ± 0.3	2.0	0.9	2.4	1.3	0.05	0.13	3.8	3.5	3.5		
		$(.287 \pm .012)$	$(.169 \pm .012)$	(.079)	(.035)	(.094)	(.051)	(.002)	(.005)	(.150)	(.138)	(.138)		

Notes: 1. Metric dimensions govern.

2. (Ref) - Dimensions provided for reference only.

3. No dimensions provided for B, P or R because low profile cases do not have a bevel or a notch.

T491 ORDERING INFORMATION



*Part number example: T491B105M035AT (14 digits - no spaces). See www.kemet.com for Pb Free transition.
** "S" Termination codes are converting from 90Sn/10 Pb to 100% tin finishes. Orders including "S" suffix termination codes do not quarantee Pb-free product.



T491 SERIES—Precision Molded Chip

T491 TANTALUM CHIP CAPACITANCE VALUES Case Size by Capacitance and Voltage

Capaci	tance		Rated Voltage @ +85°C 2.5 3 4 6 10 16 20 25 35								
μF	Code	2.5	3	4	6	10	16	20	25	35	50
0.10	104									Α	Α
0.15	154									Α	A/B
0.22	224									Α	В
0.33	334								Α	Α	В
0.47	474								Α	A/B	B/C
0.68	684							Α	Α	A/B	B/C
1.0	105						Α	R/S/A	A/B	A/B	V/C
1.5	155					Α	А	S/A	A/B	B/C	C/D
2.2	225				R/A	A/B	R/S/A	A/B	B/C	B/C	C/D
3.3	335			Α	А	R/S/A	A/B	T/A/B	B/C	B/C	D
4.7	475			А	S/A	A/B R/S	A/B/T	A/B/C	A/B/C	C/D	D
6.8	685			S/A	R/S A/B	S/T A/B	A/B/C	U/A/B/C	B/C	C/D	D/X
10.0	106			R/S A/B	R/S/T A/B	S/T/A B/C	B/C/U T/A	U/B/C	C/D	V/C/D	D/X
15.0	156			S/T A/B	S/T A/B/C	T/U A/B/C	U/B/C	C/D	C/D	D/X	Х
22.0	226			S/T A/B/C	U/T A/B/C	T/U A/B/C	U/B C/D	V/C/D	V/C/D	D/X	
33.0	336		Α	T/U A/B/C	T/U A/B/C	U/V B/C/D	U/C/D	V/C/D	D/X	Х	
47.0	476			T/U A/B/C	T/U/A B/C/D	U/V B/C/D	V/C/D	C/D	D/X	X/E	
68.0	686			U/A B/C/D	U/B C/D	U/V B/C/D	V/D	D/X	Х		
100.0	107	Т		T/U/A B/C/D	U/V B/C/D	V/C/D	V/D/X	X/E			
150.0	157			V/B C/D	V/C/D	V/C D/X	D/X	Х			
220.0	227			V/B	V/C D/X	V/D/X	X/E				
330.0	337			V/C/D	D/X/E	D/X/E					
470.0	477			D/X	D/X/E	X/E					
680.0	687			D/X	E						
1000.0	108			X/E							

T491 SERIES - Precision Molded Chip



Capaci- tance	Case Size	KEMET Part Number	DC Leakage µA @ 25°C	DF % @ +25°C 120 Hz	ESR Ω @ +25°C 100 kHz	Capaci- tance	Case Size	KEMET Part Number	DC Leakage μA @ 25°C	DF % @ +25°C 120 Hz	ESR Ω @ +25°C 100 kHz
μF			Max	Max	Max	μF			Max	Max	Max
400.0	_	/olt Rating at +85°C (1.7 Vo			2.0	1		Volt Rating at +85°C (4 Vo			
100.0 220.0	T D	T491T107(1)2R5A(2) T491D227(1)2R5A(2)	2.5 5.5	24.0 8.0	3.9 0.3	15.0 15.0	C B	T491C156(1)006A(2) T491B156(1)006A(2)	0.9 0.9	6.0 6.0	1.8 3.5
220.0		/olt Rating at +85°C (2 Vol			0.5	#15.0	A	T491A156(1)006A(2)	0.9	6.0	3.5
#33.0	*A	T491A336(1)003A(2)	1.0	6.0	4.0	#15.0	T	T491T156(1)006A(2)	0.9	6.0	5.0
		olt Rating at +85°C (2.7 Vo				#15.0 22.0	*S C	T491S156(1)006A(2) T491C226(1)006A(2)	0.9 1.4	15.0 6.0	10.0 1.8
3.3 4.7	A A	T491A335(1)004A(2) T491A475(1)004A(2)	0.5 0.5	6.0 6.0	8.0 8.0	22.0	Ŭ	T491U226(1)006A(2)	1.4	6.0	1.8
6.8	A	T491A685(1)004A(2)	0.5	6.0	6.0	22.0	В	T491B226(1)006A(2)	1.4	6.0	3.5
6.8	S	T491S685(1)004A(2)	0.5	6.0	15.0	#22.0 #22.0	A T	T491A226(1)006A(2) T491T226(1)006A(2)	1.4 1.4	6.0 8.0	4.0 5.0
10.0 10.0	B A	T491B106(1)004A(2) T491A106(1)004A(2)	0.5 0.5	6.0 6.0	3.5 6.0	33.0	Ċ	T491C336(1)006A(2)	2.0	6.0	1.8
#10.0	*S	T491S106(1)004A(2)	0.5	6.0	15.0	33.0	U	T491U336(1)006A(2)	2.0	6.0	1.8
#10.0	*R	T491R106(1)004A(2)	0.5	8.0	10.0	#33.0 #33.0	B A	T491B336(1)006A(2) T491A336(1)006A(2)	2.0 2.0	6.0 12.0	3.0 2.5
15.0 15.0	B A	T491B156(1)004A(2) T491A156(1)004A(2)	0.6 0.6	6.0 6.0	3.5 4.0	#33.0	*T	T491T336(1)006A(2)	2.0	12.0	6.0
15.0	T	T491T156(1)004A(2)	0.6	6.0	5.0	47.0	D	T491D476(1)006A(2)	2.9	6.0	0.8
#15.0	*S	T491S156(1)004A(2)	0.6	10.0	15.0	47.0 #47.0	C	T491C476(1)006A(2) T491U476(1)006A(2)	2.9 2.9	6.0 6.0	1.6 1.8
22.0 22.0	СВ	T491C226(1)004A(2) T491B226(1)004A(2)	0.9 0.9	6.0 6.0	1.8 3.5	#47.0	В	T491B476(1)006A(2)	2.9	6.0	2.0
#22.0	A	T491A226(1)004A(2)	0.9	6.0	4.0	†47.0	*A	T491A476M006A(2)	3.0	12.0	3.5
#22.0	*T	T491T226(1)004A(2)	0.9	6.0	5.0	*47.0 68.0	*T D	T491T476(1)006A(2) T491D686(1)006A(2)	3.0 4.1	24.0 6.0	4.4 0.8
22.0 33.0	*S C	T491S226(1)004A(2) T491C336(1)004A(2)	0.9 1.3	10.0 6.0	10.0 1.8	#68.0	С	T491C686(1)006A(2)	4.1	6.0	1.2
33.0	Ü	T491U336(1)004A(2)	1.3	6.0	1.8	#68.0	*U	T491U686(1)006A(2)	4.1	10.0	1.8
33.0	В	T491B336(1)004A(2)	1.3	6.0	3.5	#68.0 #68.0	*B *A	T491B686(1)006A(2) T491A686(1)006A(2)	4.1 5.0	8.0 30.0	0.9 4.0
#33.0 #33.0	A *T	T491A336(1)004A(2) T491T336(1)004A(2)	1.3 1.3	6.0 8.0	4.0 5.0	100.0	D	T491D107(1)006A(2)	6.0	8.0	0.8
47.0	Ċ	T491C476(1)004A(2)	1.9	6.0	1.8	100.0	V	T491V107(1)006A(2)	6.0	8.0	0.7
47.0	U	T491U476(1)004A(2)	1.9	6.0	1.8	#100.0 #100.0	C *U	T491C107(1)006A(2) T491U107(1)006A(2)	6.0 6.0	8.0 10.0	0.9 1.8
#47.0 #47.0	B A	T491B476(1)004A(2) T491A476M004A(2)	1.9 1.9	6.0 12.0	3.0 2.5	#100.0	*B	T491B107(1)006A(2)	6.3	15.0	3.0
#47.0 #47.0	*T	T491T476M004A(2)	1.9	12.0	6.0	150.0	D	T491D157(1)006A(2)	9.0	8.0	0.7
68.0	D	T491D686(1)004A(2)	2.7	6.0	8.0	#150.0 #150.0	*C *V	T491C157(1)006A(2) T491V157(1)006A(2)	9.0 9.0	8.0 8.0	1.2 0.7
68.0 #68.0	C *U	T491C686(1)004A(2) T491U686(1)004A(2)	2.7 2.7	6.0 6.0	1.6 1.8	220.0	X	T491X227(1)006A(2)	13.2	8.0	0.7
#68.0	В	T491B686(1)004A(2)	2.7	6.0	3.5	#220.0	D	T491D227(1)006A(2)	13.2	8.0	0.7
#68.0	*A	T491A686(1)004A(2)	2.8	30.0	4.0	#220.0 #220.0	*C *V	T491C227M006A(2) T491V227(1)006A(2)	13.2 13.2	10.0 12.0	1.2 0.7
100.0 #100.0	D C	T491D107(1)004A(2) T491C107(1)004A(2)	4.0 4.0	8.0 8.0	0.8 1.2	330.0	*X	T491X337(1)006A(2)	19.8	8.0	0.4
#100.0	*U	T491U107(1)004A(2)	4.0	10.0	1.8	330.0	*D	T491D337(1)006A(2)	19.8	8.0	0.4
#100.0	*B	T491B107M004A(2)	4.0	8.0	0.9	330.0 470.0	*E *X	T491E337(1)006A(2) T491X477(1)006A(2)	20.8 28.2	8.0 10.0	0.5 0.4
†100.0 †100.0	*A *T	T491A107M004A(2) T491T107M004A(2)	4.0 4.0	30.0 30.0	4.0 5.0	470.0	*D	T491D477M006A(2)	28.2	12.0	0.4
150.0	D	T491D157(1)004A(2)	6.0	8.0	0.8	470.0	*E	T491E477(1)006A(2)	29.6	10.0	0.4
150.0	V	T491V157(1)004A(2)	6.0	8.0	0.7	680.0		T491E687M006A(2) Volt Rating at +85°C (7 Vo	40.8	12.0	0.5
#150.0 †150.0	*C *B	T491C157(1)004A(2) T491B157M004A(2)	6.0 6.0	8.0 12.0	1.2 2.0	1.5	A	T491A155(1)010A(2)	0.5	6.0	8.0
#220.0	*V	T491V227(1)004A(2)	8.8	8.0	0.7	2.2	В	T491B225(1)010A(2)	0.5	6.0	3.5
#220.0	*B	T491B227M004A(2)	8.8	18.0	0.5	2.2	A A	T491A225(1)010A(2)	0.5	6.0 6.0	8.0 6.0
330.0 †330.0	D *V	T491D337(1)004A(2) T491V337(1)004A(2)	13.2 13.2	8.0 12.0	0.7 0.7	3.3 3.3	S	T491A335(1)010A(2) T491S335(1)010A(2)	0.5 0.5	6.0	15.0
#330.0	*C	T491C337(1)004A(2)	13.2	10.0	0.9	#3.3	*R	T491R335(1)010A(2)	0.3	8.0	15.0
#470.0	X	T491X477(1)004A(2)	18.8	8.0	0.5	4.7 4.7	B A	T491B475(1)010A(2)	0.5 0.5	15.0 6.0	3.5 5.0
#470.0 #680.0	*D *X	T491D477(1)004A(2) T491X687M004A(2)	18.8 27.2	8.0 12.0	0.8 0.5	#4.7	S	T491A475(1)010A(2) T491S475(1)010A(2)	0.5	6.0	15.0
#680.0	*D	T491D687M004A(2)	27.2	12.0	0.5	#4.7	*R	T491R475(1)010A(2)	0.5	8.0	10.0
#1000.0	*X	T491X108(1)004A(2)	40.0	12.0	0.5	6.8 6.8	B A	T491B685(1)010A(2) T491A685(1)010A(2)	0.7 0.7	6.0 6.0	3.5 4.0
#1000.0	*E	T491E108M004A(2) Volt Rating at +85°C (4 Vo	40.0	15.0	0.2	6.8	Ť	T491T685(1)010A(2)	0.7	6.0	5.0
2.2	R	T491R225(1)006A(2)	0.5	6.0	25.0	#6.8	*S	T491S685(1)010A(2)	0.7	10.0	15.0
2.2	A	T491A225(1)006A(2)	0.5	6.0	8.0	10.0	C	T491C106(1)010A(2)	1.0	6.0	1.8
3.3	A	T491A335(1)006A(2)	0.5	6.0	8.0	10.0 #10.0	B A	T491B106(1)010A(2) T491A106(1)010A(2)	1.0 1.0	6.0 6.0	3.5 4.0
4.7 4.7	A S	T491A475(1)006A(2) T491S475(1)006A(2)	0.5 0.5	6.0 6.0	6.0 15.0	#10.0	Т	T491T106(1)010A(2)	1.0	6.0	5.0
6.8	В	T491B685(1)006A(2)	0.5	6.0	3.5	#10.0	*S C	T491S106(1)010A(2) T491C156(1)010A(2)	1.0	10.0 6.0	15.0 1.8
6.8	A	T491A685(1)006A(2)	0.5	6.0	6.0	15.0 15.0	Ü	T491U156(1)010A(2)	1.5 1.5	6.0	1.8
#6.8 #6.8	S *R	T491S685(1)006A(2) T491R685(1)006A(2)	0.5 0.5	6.0 8.0	15.0 15.0	15.0	В	T491B156(1)010A(2)	1.5	6.0	2.8
10.0	В	T491B106(1)006A(2)	0.6	6.0	3.5	#15.0 #15.0	*A *T	T491A156(1)010A(2)	1.5	8.0	6.0
10.0	Α	T491A106(1)006A(2)	0.6	6.0	4.0	#15.0	1	T491T156(1)010A(2)	1.5	8.0	5.0
10.0 #10.0	*S	T491T106(1)006A(2) T491S106(1)006A(2)	0.6 0.6	6.0 10.0	5.0 15.0						
#10.0	*R	T491R106(1)006A(2)	0.6	8.0	10.0						
	loto KEMI	ET Part Number insert M for +2									

To complete KEMET Part Number, insert M for ±20% tolerance or K for ±10% tolerance.

To complete KEMET Part Number, insert T, H, G, or S lead material designation as shown on page 15.

^{*}Extended Values

^{**6} Volt product equivalent to 6.3 volt product.

[#]Maximum Capacitance Change @ 125°C=+15%. †Maximum Capacitance Change @ 125°C=+20%.

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



T491 SERIES—Precision Molded Chip

10 Volt Rating at +85°C (7 Volt Rating at +125°C)	Capaci- tance µF	Case Size	KEMET Part Number	DC Leakage μΑ @ 25°C Max	DF % @ +25°C 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
### ### ### ### ### ### ### ### ### ##		10	Volt Rating at +85°C (7 Vol	t Rating at +1	25°C)	
#22.0 B T491B226(1)010A(2) 2.2 6.0 2.4 #22.0 "A T491A226M10DA(2) 2.2 10.0 6.0 (#22.0 "T T491Y226(1)010A(2) 3.3 6.0 0.8 (0.3 33.0 D T491D336(1)010A(2) 3.3 6.0 0.8 (0.7 4391V336(1)010A(2) 3.3 6.0 1.6 (0.7 4391V336(1)010A(2) 3.3 6.0 1.6 (0.8 #33.0 D T491D336(1)010A(2) 3.3 6.0 1.6 (0.8 #33.0 D T491D336(1)010A(2) 3.3 6.0 1.6 (0.8 #33.0 B T491B336(1)010A(2) 3.3 6.0 1.8 (0.9 #33.0 D T491D476(1)010A(2) 4.7 6.0 0.8 (0.9 #34.0 D T491D476(1)010A(2) 4.7 6.0 0.7 (0.9 #34.0 D T491D476(1)010A(2) 4.7 6.0 0.7 (0.9 #34.0 D T491D476(1)010A(2) 4.7 6.0 0.7 (0.9 #34.0 D T491D476(1)010A(2) 4.7 6.0 0.2 (0.9 #34.0 D T491D476(1)010A(2) 4.7 6.0 0.2 (0.9 #34.0 D T491D686(1)010A(2) 6.8 6.0 0.7 (0.9 #34.0 D T491D686(1)010A(2) 6.8 6.0 0.0 0.5 (0.9 #34.0 D T491D686(1)010A(2) 6.8 6.0 0.0 0.5 (0.9 #34.0 D T491D686(1)010A(2) 6.8 6.0 0.0 0.5 (0.9 #34.0 D T491D686(1)010A(2) 6.8 6.0	22.0			2.2		1.8
#22.0 "A T49IA226M010A(2) 2.2 10.0 6.0 #22.0 "T T49IT226(1)1010A(2) 3.3 6.0 0.8 33.0 D T49ID336(1)010A(2) 3.3 6.0 0.7 33.0 V T49IV336(1)010A(2) 3.3 6.0 1.6 #33.0 U T49IU336(1)010A(2) 3.3 6.0 1.8 #33.0 U T49IU336(1)010A(2) 4.7 6.0 0.8 #47.0 D T49ID476(1)010A(2) 4.7 6.0 0.7 #47.0 C T49IC476(1)010A(2) 4.7 6.0 0.7 #47.0 "U T49IU476(1)010A(2) 4.7 6.0 0.7 #47.0 "U T49IU476(1)010A(2) 4.7 6.0 0.7 #47.0 "U T49IU476(1)010A(2) 4.7 6.0 0.7 #47.0 "B T49IB476(1)010A(2) 4.7 6.0 0.7 #47.0 "B T49IB476(1)010A(2) 4.7 6.0 0.7 #68.0 D T49ID866(1)010A(2) 6.8 6.0 0.8 #68.0 U T49ID866(1)010A(2) 6.8 6.0 0.7 #68.0 "U T49IC866(1)010A(2) 6.8 6.0 0.7 #68.0 "U T49IU868(1)010A(2) 6.8 10.0 1.2 #68.0 "B T49IB866M010A(2) 6.8 10.0 3.0 #68.0 "U T49IU686(1)010A(2) 6.8 10.0 3.0 #68.0 "B T49IB686M010A(2) 6.8 10.0 3.0 #68.0 "B T49IB686M010A(2) 6.8 10.0 3.0 #69.0 "U T49IU7(1)010A(2) 10.0 8.0 0.7 #100.0 "C T49IC107(1)010A(2) 10.0 8.0 0.7 #150.0 "U T49IV157(1)010A(2) 15.0 8.0 0.7 #150.0 "U T49IV157(1)010A(2) 15.0 8.0 0.7 #150.0 "U T49IU517(1)010A(2) 15.0 8.0 0.7 #220.0 "U T49IU517(1)010A(2) 22.0 8.0 0.5 #330.0 "X T49IX27(1)010A(2) 22.0 8.0 0.5 #330.0 "D T49ID27(1)010A(2) 22.0 8.0 0.5 #330.0 "D T49ID27(1)010A(2) 20.0 8.0 0.5 #330.0 "D T49ID37M10A(2) 33.0 10.0 0.5 #330.0 "D T49ID36(1)016A(2) 0.5 6.0 8.0 0				I		
#22.0						
33.0						
33.0						
33.0 C T491C336(1)010A(2) 3.3 6.0 1.6 #33.0 B T491B336(1)010A(2) 3.3 6.0 1.8 #33.0 B T491B336(1)010A(2) 3.3 6.0 1.8 47.0 D T491D476(1)010A(2) 4.7 6.0 0.8 47.0 V T491V476(1)010A(2) 4.7 6.0 0.7 #447.0 C T491C476(1)010A(2) 4.7 6.0 1.2 #447.0 "B T491B476(1)010A(2) 4.7 6.0 1.2 #447.0 "B T491B476(1)010A(2) 4.7 6.0 1.2 #447.0 "B T491B486(1)010A(2) 4.7 8.0 1.0 68.0 D T491D686(1)010A(2) 6.8 6.0 0.8 68.0 V T491C866(1)010A(2) 6.8 6.0 0.7 #68.0 C T491C866(1)010A(2) 6.8 6.0 0.7 #68.0 "B T491B866(1)010A(2) 6.8 10.0 3.0 100.0 D T491D107(1)010A(2) 10.0 8.0 0.7 100.0 C T491C107(1)010A(2) 10.0 8.0 0.7 150.0 V T491V157(1)010A(2) 10.0 8.0 0.7 150.0 V T491V157(1)010A(2) 15.0 8.0 0.7 150.0 V T491V157(1)010A(2) 22.0 8.0 0.5 150.0 V T491V157(1)010A(2) 22.0 8.0 0.5 150.0 V T491V257(1)010A(2) 22.0 8.0 0.5 150.0 V T491D237(1)010A(2) 20.0 8.0 0.5 150.0 V T491D237(1)010A(2) 20.0 8.0 0.5 150.0 V T491D237(1)010A(2) 20.0 8.0 0.5 150.0 V T491D337(1)010A(2) 20.0 8.0 0.5 150.0 V T491D335(1)016A(2) 0.5 6.0 6.0 15						
#33.0 U T491U336(1)010A(2) 3.3 6.0 1.8 #33.0 B T491B336(1)010A(2) 3.3 6.0 1.8 47.0 D T491D476(1)010A(2) 4.7 6.0 0.8 47.0 V T491V476(1)010A(2) 4.7 6.0 0.7 #47.0 'U T491C476(1)010A(2) 4.7 6.0 0.7 #47.0 'U T491C476(1)010A(2) 4.7 10.0 2.2 #47.0 "B T491B36(1)010A(2) 4.7 10.0 2.2 #47.0 "B T491B476(1)010A(2) 4.7 8.0 1.0 68.0 D T491D686(1)010A(2) 6.8 6.0 0.8 68.0 V T491C866(1)010A(2) 6.8 6.0 0.7 #68.0 'U T491C866(1)010A(2) 6.8 6.0 0.7 #68.0 "U T491C866(1)010A(2) 6.8 10.0 1.8 #68.0 "U T491C866(1)010A(2) 6.8 10.0 1.8 #68.0 "B T491B868M010A(2) 6.8 10.0 3.0 100.0 D T491D107(1)010A(2) 10.0 8.0 0.7 #100.0 "C T491C107(1)010A(2) 10.0 8.0 0.7 #150.0 X T491V157(1)010A(2) 15.0 8.0 0.7 #150.0 X T491U57(1)010A(2) 15.0 8.0 0.7 #150.0 "V T491V57(1)010A(2) 15.0 8.0 0.7 #220.0 "D T491D27(1)010A(2) 15.0 8.0 0.7 #330.0 "V T491V37(1)010A(2) 22.0 8.0 0.5 #220.0 "D T491D27(1)010A(2) 22.0 8.0 0.5 #220.0 "V T491V37(1)010A(2) 33.0 10.0 0.5 #330.0 "E T491S37(1)010A(2) 33.0 10.0 0.5 #330.0 "X T491X37(1)010A(2) 33.0 10.0 0.5 #330.0 "X T491X37(1)010A(2) 33.0 10.0 0.5 #470.0 "X T491A37(1)010A(2) 33.0 10.0 0.5 #470.0 "X T491A37(1)010A(2) 33.0 10.0 0.5 #470.0 "X T491A37(1)010A(2) 0.5 6.0 6.0 6.0 1.5 A T491A35(1)016A(2) 0.5 6.0 6.0 6.0 4.7 T T491B37(1)016A(2) 0.5 6.0 6.0 6.0 4.7 T T491B37(1)016A(2) 0.5 6.0 6.0 6.0 4.7 T T491B35(1)016A(2) 0.5 6.0 6.0 6.0 4.7 T T491C35(1)016A(2) 0.5 6.0 6.0 6.0 4.7 T T491C36(1)016A(2) 0.5 6.0 6.0 6.0 4.7 T T491C36(1)016A(2) 0.5 6.0 6.0 6.0 4.7 T T491C36(1)016A(2) 0.5 6.0 6.0 6.0 4.0 T491C36(1)016A(2) 0.5 6.0 6.0 0.8 4.0 T491C36(1)016A(2) 0.5 6.0 6.0 0.8 4.0 T491C36(1)016A(2) 0.5 6.0 0.8 4.0 T491C36(1)016A(2) 0.5 6.0 0.8 4.0 T491C36(1)016A(2) 0.5						
47.0 D						
#47.0 V T491V476(1)010A(2) 4.7 6.0 0.7 #447.0 'U T491C476(1)010A(2) 4.7 10.0 2.2 #47.0 'U T491U476(1)010A(2) 4.7 10.0 2.2 #47.0 'B T491B476(1)010A(2) 4.7 8.0 1.0 68.0 D T491D886(1)010A(2) 6.8 6.0 0.8 68.0 V T491C886(1)010A(2) 6.8 6.0 0.7 #68.0 'U T491C886(1)010A(2) 6.8 10.0 1.8 #68.0 'U T491U686(1)010A(2) 6.8 10.0 1.8 #68.0 'U T491U686(1)010A(2) 6.8 10.0 3.0 #100.0 D T491D107(1)010A(2) 6.8 10.0 3.0 #100.0 'C T491C107(1)010A(2) 10.0 8.0 1.2 #100.0 'V T491V107(1)010A(2) 10.0 8.0 1.2 #100.0 'V T491V107(1)010A(2) 10.0 8.0 1.2 #100.0 V T491V107(1)010A(2) 10.0 8.0 0.7 #150.0 X T491X157(1)010A(2) 15.0 8.0 0.7 #150.0 D T491D157(1)010A(2) 15.0 8.0 0.7 #150.0 'V T491V107(1)010A(2) 15.0 8.0 0.7 #150.0 'V T491V27(1)010A(2) 15.0 8.0 0.7 #150.0 'V T491V27(1)010A(2) 15.0 8.0 0.7 #1220.0 'V T491V27(1)010A(2) 15.0 8.0 0.7 #220.0 'V T491V27(1)010A(2) 15.0 8.0 0.7 #220.0 'V T491V27(1)010A(2) 15.0 8.0 0.7 #220.0 'V T491V27(1)010A(2) 15.0 8.0 0.5 #220.0 'V T491V27(1)010A(2) 22.0 8.0 0.5 #220.0 'V T491V27(1)010A(2) 22.0 8.0 0.5 #330.0 'X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 'X T491X337(1)010A(2) 0.5 6.0 8.0 1.5 A T491A35(1)016A(2) 0.5 6.0 8.0 2.2 'S T491S25(1)016A(2) 0.5 6.0 8.0 4.7 A T491A75(1)016A(2) 0.5 6.0 15.0 8.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15					6.0	1.8
##47.0						
##47.0 *U T491U476(1)010A(2) 4.7 10.0 2.2 ##47.0 *B T491B476(1)010A(2) 4.7 8.0 1.0 68.0 D T491D686(1)010A(2) 6.8 6.0 0.8 68.0 V T491V686(1)010A(2) 6.8 6.0 0.7 #88.0 *U T491U686(1)010A(2) 6.8 10.0 1.8 #68.0 *U T491U686(1)010A(2) 6.8 10.0 1.8 #68.0 *B T491B686M010A(2) 6.8 10.0 3.0 100.0 D T491D107(1)010A(2) 10.0 8.0 0.7 #100.0 *C T491C107(1)010A(2) 10.0 8.0 1.2 #100.0 V T491V107(1)010A(2) 10.0 8.0 0.7 #150.0 X T491X157(1)010A(2) 15.0 8.0 0.7 #150.0 D T491D157(1)010A(2) 15.0 8.0 0.7 #150.0 *V T491V157(1)010A(2) 15.0 8.0 0.7 #150.0 *V T491V227(1)010A(2) 22.0 8.0 0.5 #220.0 *V T491V227(1)010A(2) 22.0 8.0 0.5 #220.0 *V T491V227(1)010A(2) 22.0 8.0 0.5 #220.0 *V T491V227(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491S37(1)010A(2) 33.0 10.0 0.5 #3330.0 *X T491X37(1)010A(2) 33.0 10.0 0.5 #3330.0 *X T491X37(1)010A(2) 33.0 10.0 0.5 #470.0 *X T491X37(1)010A(2) 33.0 10.0 0.5 #470.0 *X T491X37(1)010A(2) 47.0 12.0 0.5 #470.0 *X T491X37(1)010A(2) 33.0 10.0 0.5 #470.0 *X T491X37(1)010A(2) 33.0 10.0 0.5 *333.3 B T491B337(1)016A(2) 0.5 6.0 6.0 *2.2 *S T491C35(1)016A(2) 0.5 6.0 6.0 *2.2 *S T491C35(1)016A(2) 0.5 6.0 6.0 *4.7 B T491A35(1)016A(2) 0.5 6.0 6.0 *4.7 T A T491A35(1)016A(2) 0.5 6.0 6.0 *4.7 T A T491A35(1)016A(2) 0.5 6.0 6.0 *5.0 *6.8 C T491C685(1)016A(2) 0.5 6.0 6.0 *6.8 C T491C685(1)016A(2) 0.5 6.0 6.0 *6.8 C T491C685(1)016A(2) 0.5 6.0 6.0 *6.8 C T491C685(1)016A(2) 1.1 6.0 2.5 *6.8 C T491C685(1)016A(2) 1.6 6.0 1.8 *6.8 C T491C685(1)016A(2) 1.6 6.0 1.8 *6.8 C T491C685(1)016A(2) 1.6 6.0 1.8 *6.8 C T491C685(1)016A(2) 1.6 6.0 2.8 *6.8 B T491B35(1)016A(2) 3.6 6.0 3.5 *6.8 C T491C685(1)016A(2) 3.6 6.0 3.5 *6.8 C T491C685(1)016A(2) 3.6 6.0 3.5 *6.8 C T491C685(1)016A(2) 3.6 6.0 3.5 *6.0 C T491C166(1)016A(2) 3.6 6.0 3.8 *6.0 C T491C26(1)016A(2) 3.6 6.0 3.8 *70 C T4						
## ## ## ## ## ## ## ## ## ## ## ## ##						
68.0 D T491D686(1)010A(2) 6.8 6.0 0.8 68.0 V T491V686(1)010A(2) 6.8 6.0 0.7 #68.0 C T491C686(1)010A(2) 6.8 6.0 1.2 #68.0 *U T491C686(1)010A(2) 6.8 10.0 1.8 #68.0 *B T491B686M010A(2) 6.8 10.0 3.0 100.0 D T491D107(1)010A(2) 10.0 8.0 0.7 #101.0 C T491C107(1)010A(2) 10.0 8.0 0.7 #101.0 V T491V107(1)010A(2) 10.0 8.0 1.2 #100.0 V T491V107(1)010A(2) 10.0 8.0 0.7 150.0 X T491X157(1)010A(2) 15.0 8.0 0.7 #150.0 D T491D157(1)010A(2) 15.0 8.0 0.7 #150.0 D T491D157(1)010A(2) 15.0 8.0 0.7 #150.0 "C T491C157(1)010A(2) 15.0 8.0 0.7 #220.0 "V T491V227(1)010A(2) 22.0 8.0 0.5 #220.0 "D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 "D T491D227(1)010A(2) 22.0 8.0 0.5 #330.0 "D T491D337M010A(2) 33.0 10.0 0.5 #330.0 "T T491S337(1)010A(2) 33.0 10.0 0.5 #330.0 "X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 "X T491X337(1)010A(2) 33.0 10.0 0.5 #470.0 "X T491X477(1)010A(2) 47.0 10.0 0.2 #470.0 "E T491E437M010A(2) 47.0 10.0 0.5 #330.0 "X T491A155(1)016A(2) 0.5 6.0 8.0 2.2 "S T491E4357(1)016A(2) 0.5 6.0 8.0 2.2 "S T491E457M010A(2) 0.5 6.0 8.0 2.2 "S T491S225(1)016A(2) 0.5 6.0 8.0 2.2 "S T491S225(1)016A(2) 0.5 6.0 8.0 2.2 "S T491S225(1)016A(2) 0.5 6.0 5.0 4.0 10.0 4.7 T491A135(1)016A(2) 0.5 6.0 5.0 4.7 T491A135(1)016A(2) 0.5 6.0 5.0 6.0 6.0 4.7 T491A135(1)016A(2) 0.5 6.0 5.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6						
#88.0 V T491V686(1)010A(2) 6.8 6.0 1.2 #88.0 "U T491C686(1)010A(2) 6.8 6.0 1.2 #88.0 "U T491C686(1)010A(2) 6.8 10.0 3.0 #88.0 "B T491B686M010A(2) 6.8 10.0 3.0 100.0 D T491D107(1)010A(2) 10.0 8.0 0.7 #100.0 "C T491C107(1)010A(2) 10.0 8.0 0.7 #100.0 "C T491C107(1)010A(2) 10.0 8.0 0.7 #100.0 "C T491C107(1)010A(2) 10.0 8.0 0.7 #150.0 X T491X157(1)010A(2) 15.0 8.0 0.7 #150.0 D T491D157(1)010A(2) 15.0 8.0 0.7 #150.0 "C T491C157(1)010A(2) 15.0 8.0 0.7 #150.0 "C T491C157(1)010A(2) 15.0 8.0 0.7 #150.0 "V T491V157(1)010A(2) 15.0 8.0 0.5 #220.0 "D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 "D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 "D T491D337M010A(2) 33.0 10.0 0.5 #330.0 "D T491D337M010A(2) 33.0 10.0 0.5 #330.0 "E T491E337(1)010A(2) 33.0 10.0 0.5 #330.0 "E T491E337(1)010A(2) 47.0 10.0 0.5 #470.0 "E T491E337(1)010A(2) 47.0 10.0 0.5 #470.0 "E T491E35(1)016A(2) 0.5 6.0 6.0 6.0 15.0 #1470.0 "X T491X35(1)016A(2) 0.5 6.0 6.0 6.0 4.0 4.7 H391A35(1)016A(2) 0.5 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0						
#88.0 C T491C486(1)010A(2) 6.8 10.0 1.2 #88.0 "B T491B686(0)010A(2) 6.8 10.0 3.0 100.0 D T491D107(1)010A(2) 10.0 8.0 0.7 #100.0 "C T491C107(1)010A(2) 10.0 8.0 0.7 150.0 X T491X157(1)010A(2) 10.0 8.0 0.7 150.0 D T491D157(1)010A(2) 15.0 8.0 0.7 #150.0 D T491D157(1)010A(2) 15.0 8.0 0.7 #150.0 "C T491C157(1)010A(2) 15.0 8.0 0.7 #150.0 "C T491C157(1)010A(2) 15.0 8.0 0.7 #150.0 "V T491X157(1)010A(2) 15.0 8.0 0.7 #150.0 "C T491C157(1)010A(2) 15.0 8.0 0.7 #150.0 "V T491X157(1)010A(2) 15.0 8.0 0.7 #150.0 "V T491X157(1)010A(2) 15.0 8.0 0.7 #220.0 "V T491X227(1)010A(2) 22.0 8.0 0.5 #220.0 "D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 "D T491D237(1)010A(2) 22.0 8.0 0.5 #220.0 "V T491X37(1)010A(2) 22.0 12.0 0.7 #330.0 "D T491D337M010A(2) 33.0 10.0 0.5 #330.0 "E T491E337(1)010A(2) 33.0 10.0 0.5 #330.0 "E T491E337(1)010A(2) 33.0 10.0 0.5 #470.0 "E T491E477M010A(2) 47.0 10.0 0.5 #470.0 "E T491A37(1)010A(2) 47.0 10.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 1.0 A T491A105(1)016A(2) 0.5 6.0 8.0 2.2 "S T491S225(1)016A(2) 0.5 6.0 8.0 4.7 B T491B235(1)016A(2) 0.5 6.0 15.0 4.7 B T491B235(1)016A(2) 0.5 6.0 15.0 4.7 B T491B235(1)016A(2) 0.5 6.0 3.5 4.7 B T491B335(1)016A(2) 0.5 6.0 3.5 4.7 B T491B355(1)016A(2) 0.5 6.0 3.5 4.7 B T491B355(1)016A(2) 0.5 6.0 3.5 4.7 B T491B355(1)016A(2) 0.5 6.0 3.5 4.7 B T491B475(1)016A(2) 0.5 6.0 3.5 4.7 T T491T475(1)016A(2) 0.5 6.0 3.5 4.7 T T491T475(1)016A(2) 0.5 6.0 3.5 4.7 B T491B475(1)016A(2) 0.5 6.0 3.5 4.7 B T491B475(1)016A(2) 0.5 6.0 3.5 4.7 T T491T475(1)016A(2) 0.5 6.0 3.5 4.7 T T491T475(1)016A(2) 0.5 6.0 3.5 4.7 T T491T475(1)016A(2) 0.5 6.0 3.5 4.0 10.0 B T491B335(1)016A(2) 0.5 6.0 3.5 4.0 10.0 B T491B335(1)016A(2) 0.5 6.0 3.5 4.0 10.0 C T491C166(1)016A(2) 1.6 6.0 1.8 10.0 C T491C166(1)016A(2) 1.6 6.0 1.8 10.0 "T491U36(1)016A(2) 1.6 6.0 0 1.8 10.0 "T491U36(1)016A(2) 1.6 6.0 0 1.8						
#68.0 *B T491B686M010A(2) 6.8 10.0 3.0 100.0 D T491D107(1)010A(2) 10.0 8.0 0.7 #100.0 *C T491C107(1)010A(2) 10.0 8.0 1.2 #100.0 V T491V107(1)010A(2) 10.0 8.0 0.7 150.0 X T491X157(1)010A(2) 15.0 8.0 0.7 #150.0 D T491D157(1)010A(2) 15.0 8.0 0.7 #150.0 *C T491C157(1)010A(2) 15.0 8.0 0.7 #150.0 *C T491C157(1)010A(2) 15.0 8.0 0.7 #150.0 *V T491V157(1)010A(2) 15.0 8.0 0.7 #220.0 *V T491V157(1)010A(2) 15.0 8.0 0.7 #220.0 *D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 *D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 *D T491D227(1)010A(2) 22.0 8.0 0.5 #330.0 *D T491D337M010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #330.0 *Y T491X477(1)010A(2) 47.0 10.0 0.2 #470.0 *E T491E477M010A(2) 47.0 10.0 0.2 #470.0 *E T491E477M010A(2) 47.0 10.0 0.2 #470.0 *E T491E477M010A(2) 47.0 10.0 0.5 1.0 A T491A105(1)016A(2) 0.5 6.0 8.0 2.2 *R T491A25(1)016A(2) 0.5 6.0 8.0 2.2 *R T491A25(1)016A(2) 0.5 6.0 8.0 2.2 *R T491S33(1)016A(2) 0.5 6.0 15.0 #2.2 *R T491B335(1)016A(2) 0.5 6.0 5.0 4.7 B T491B335(1)016A(2) 0.5 6.0 5.0 4.7 T T491A475(1)016A(2) 0.5 6.0 5.0 4.7 T T491B335(1)016A(2) 0.5 6.0 5.0 4.7 D T491B335(1)016A(2) 0.5 6.0 5.0 4.7 D T491B335(1)016A(2) 0.5 6.0 5.0 4.7 D T491B336(1)016A(2) 0.5 6.0 0.8 4.7 D T491B336(1)016A(2) 0.5 6.0 0.8 4.7 D T491B336(1)016A(2) 0.5 6.0 0.8 4.7 D T491B336(1)016A(2) 0.5						
100.0 D	#68.0		T491U686(1)010A(2)	6.8	10.0	1.8
#100.0						
#100.0 V T491V107(1)010A(2) 10.0 8.0 0.7 150.0 X T491X157(1)010A(2) 15.0 8.0 0.7 #150.0 D T491D157(1)010A(2) 15.0 8.0 0.7 #150.0 "C T491C157(1)010A(2) 15.0 8.0 0.7 #150.0 "V T491V157(1)010A(2) 15.0 8.0 0.7 #150.0 "V T491V157(1)010A(2) 15.0 8.0 0.7 #220.0 "V T491V157(1)010A(2) 22.0 8.0 0.5 #220.0 "D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 "V T491V227(1)010A(2) 22.0 12.0 0.7 #330.0 "T491V227(1)010A(2) 22.0 12.0 0.7 #330.0 "T491V337M010A(2) 33.0 10.0 0.5 #330.0 "X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 "E T491E337(1)010A(2) 33.0 10.0 0.5 #470.0 "E T491E337(1)010A(2) 47.0 10.0 0.2 #470.0 "E T491E477M010A(2) 47.0 10.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 1.0 A T491A105(1)016A(2) 0.5 6.0 6.0 2.2 "S T491S225(1)016A(2) 0.5 6.0 8.0 2.2 "S T491S225(1)016A(2) 0.5 6.0 8.0 2.2 "R T491B335(1)016A(2) 0.5 6.0 15.0 #2.2 "R T491B335(1)016A(2) 0.5 6.0 3.5 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 4.7 B T491B475(1)016A(2) 0.8 6.0 5.0 4.7 B T491A475(1)016A(2) 0.8 6.0 5.0 4.7 T T491T475(1)016A(2) 0.8 6.0 3.5 6.8 C T4916685(1)016A(2) 0.8 6.0 5.0 6.8 C T491C685(1)016A(2) 1.1 6.0 2.5 #6.8 B T491B685(1)016A(2) 1.6 6.0 1.8 10.0 U T491U106(1)016A(2) 1.6 6.0 1.8 10.0 T T491U106(1)016A(2) 1.6 6.0 2.8 #10.0 "T T491T475(1)016A(2) 1.6 6.0 1.8 15.0 C T491C156(1)016A(2) 1.6 6.0 2.8 #10.0 "T T491T106(1)016A(2) 1.6 6.0 2.8 #10.0 "T T491T106(1)016A(2) 3.6 6.0 2.2 22.0 C T491C25(1)016A(2) 3.6 6.0 2.2 33.0 D T491D36(1)016A(2) 5.3 6.0 0.8 47.0 U T491U366(1)016A(2) 5.3 6.0 0.8 47.0 D T491U366(1)016A(2) 5.3 6.0 0.8 47.0 D T491U366(1)016A(2) 5.3 6.0 0.8 47.0 D T491U366(1)016A(2) 5.3 6.0 0.8 47.0 U T491U366(1)016A(2) 5.3 6.0 0.8 47.0 U T491U366(1)016A(2) 5.3 6.0 0.8 47.0 U T491U366(1)016A(2) 7.5 6.0 0.7						
150.0		-				
#150.0 D T491D157(1)010A(2) 15.0 8.0 0.7 #150.0 *C T491C157(1)010A(2) 15.0 10.0 0.9 #150.0 *V T491V157(1)010A(2) 15.0 8.0 0.7 #220.0 X T491X227(1)010A(2) 22.0 8.0 0.5 #220.0 *D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 *D T491D227(1)010A(2) 22.0 12.0 0.7 #330.0 *D T491D337M010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *Z T491Z337(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #370.0 *Z T491X477(1)010A(2) 47.0 10.0 0.5 #470.0 *Z T491Z477(1)010A(2) 47.0 10.0 0.5 #0.0 1.5 A T491Z45(1)016A(2) 0.5 4.0 10.0 1.5 A T491Z45(1)016A(2) 0.5 6.0 8.0 2.2 *X T491Z25(1)016A(2) 0.5 6.0 8.0 2.2 *X T491Z25(1)016A(2) 0.5 6.0 15.0 #2.2 *X T491Z25(1)016A(2) 0.5 6.0 15.0 #2.2 *X T491Z25(1)016A(2) 0.5 6.0 3.5 3.3 B T491B335(1)016A(2) 0.5 6.0 5.0 5.0 4.7 B T491Z45(1)016A(2) 0.5 6.0 5.0 5.0 4.7 B T491Z45(1)016A(2) 0.5 6.0 5.0 5.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6						
#150.0 *C T491C157(1)010A(2) 15.0 10.0 0.9 #150.0 *V T491V157(1)010A(2) 15.0 8.0 0.7 #220.0 X T491X227(1)010A(2) 22.0 8.0 0.5 #220.0 *D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 *V T491V227(1)010A(2) 22.0 12.0 0.7 #330.0 *D T491D337M010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #470.0 *X T491X477(1)010A(2) 47.0 10.0 0.5 #470.0 *X T491X477(1)010A(2) 47.0 10.0 0.5 #470.0 *E T491E477M010A(2) 47.0 10.0 0.5 1.0 A T491A105(1)016A(2) 0.5 6.0 8.0 1.5 A T491A25(1)016A(2) 0.5 6.0 8.0 2.2 *S T491S225(1)016A(2) 0.5 6.0 6.0 2.2 *S T491S225(1)016A(2) 0.5 6.0 15.0 #2.2 *R T491R225(1)016A(2) 0.5 6.0 3.5 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 3.3 A T491A335(1)016A(2) 0.5 6.0 3.5 4.7 B T491B475(1)016A(2) 0.5 6.0 3.5 4.7 B T491B475(1)016A(2) 0.5 6.0 3.5 4.7 T T491T475(1)016A(2) 0.8 6.0 3.5 4.7 T T491B475(1)016A(2) 1.1 6.0 2.5 6.8 C T491C685(1)016A(2) 1.1 6.0 2.5 #6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 2.5 #6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.6 6.0 1.8 #6.0 *A T491C166(1)016A(2) 1.6 6.0 1.8 #6.0 *A T491C166(1)016A(2) 1.6 6.0 1.8 #6.0 *A T491C26(1)016A(2) 1.6 6.0 0.8 #6.0 *A T491C26(1)016A(2) 3.6 6.0 0.8 #6.0 *A T491						
#150.0 *V T491V157(1)010A(2) 15.0 8.0 0.7 #220.0 X T491X227(1)010A(2) 22.0 8.0 0.5 #220.0 *D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 *V T491V227(1)010A(2) 22.0 8.0 0.5 #330.0 *D T491D337M010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #470.0 *E T491E477M010A(2) 47.0 10.0 0.2 #4470.0 *E T491E477M010A(2) 47.0 10.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 1.0 A T491A105(1)016A(2) 0.5 6.0 8.0 2.2 A T491A225(1)016A(2) 0.5 6.0 8.0 2.2 *S T491S225(1)016A(2) 0.5 6.0 15.0 #2.2 *R T491R225(1)016A(2) 0.5 6.0 15.0 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 4.7 B T491B335(1)016A(2) 0.5 6.0 3.5 4.7 B T491B475(1)016A(2) 0.5 6.0 3.5 4.7 B T491A475(1)016A(2) 0.8 6.0 3.5 4.7 B T491B475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 1.1 6.0 1.9 6.8 C T491C688(1)016A(2) 1.1 6.0 2.5 #6.8 T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 2.5 #10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 11.0 *A T491A160(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491A160(1)016A(2) 1.6 6.0 1.8 11.0 *A T491A160(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491B160(1)016A(2) 1.6 6.0 2.8 #10.0 *T T491T106(1)016A(2) 1.6 6.0 1.8 15.0 C T491C156(1)016A(2) 1.6 6.0 1.8 15.0 C T491C156(1)016A(2) 1.6 6.0 0.8 22.0 D T491D226(1)016A(2) 2.4 6.0 1.8 #15.0 'B T491B156(1)016A(2) 3.6 6.0 0.8 22.0 C T491C226(1)016A(2) 3.6 6.0 0.8 22.0 C T491C226(1)016A(2) 3.6 6.0 0.8 22.0 'B T491B226(1)016A(2) 3.6 6.0 0.8 22.0 'B T491B226(1)016A(2) 3.6 6.0 0.8 22.0 'B T491B226(1)016A(2) 5.3 6.0 0.0 #22.0 'B T491B226(1)016A(2) 5.3 6.0 0.0 #33.0 'U T491U336(1)016A(2) 7.5 6.0 0.0 #33.0 'U T491U336(1)016A(2) 7.5 6.0 0.7 #47.0 'C T491C476(1)016A(2) 7.5 6.0 0.7						
#220.0 X T491X227(1)010A(2) 22.0 8.0 0.5 #220.0 *D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 *V T491V227(1)010A(2) 22.0 12.0 0.7 #330.0 *D T491D337M010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *X T491X477(1)010A(2) 47.0 10.0 0.5 #470.0 *X T491X477(1)010A(2) 47.0 10.0 0.5 #470.0 *E T491E477M010A(2) 47.0 12.0 0.5 ** 16 Volt Rating at +85°C (10 Volt Rating at +125°C) ** 1.0 A T491A105(1)016A(2) 0.5 4.0 10.0 1.5 A T491A155(1)016A(2) 0.5 6.0 8.0 2.2 *S T491S225(1)016A(2) 0.5 6.0 15.0 2.2 *S T491S225(1)016A(2) 0.5 6.0 15.0 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 3.3 A T491A355(1)016A(2) 0.5 6.0 3.5 3.3 A T491A335(1)016A(2) 0.5 6.0 5.0 4.7 B T491B475(1)016A(2) 0.5 6.0 5.0 4.7 B T491B475(1)016A(2) 0.5 6.0 5.0 4.7 A T491A475(1)016A(2) 0.5 6.0 5.0 4.7 A T491A475(1)016A(2) 0.5 6.0 5.0 4.7 A T491A475(1)016A(2) 0.8 6.0 5.0 4.7 A T491A475(1)016A(2) 0.8 6.0 5.0 4.7 A T491A475(1)016A(2) 0.8 6.0 5.0 4.7 B T491B475(1)016A(2) 0.8 6.0 5.0 4.7 T T491T475(1)016A(2) 1.1 6.0 2.5 6.0 5.0 6.0 6.0 5.0 6.8 C T491C685(1)016A(2) 1.1 6.0 2.5 6.0 5.0 6.0 6.8 C T491C685(1)016A(2) 1.1 6.0 2.5 6.0 5.0 6.0 5.0 6.0 6.0 5.0 6.0 6.0 5.0 6.0 6.0 5.0 6.0 6.0 5.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6						
#220.0 *D T491D227(1)010A(2) 22.0 8.0 0.5 #220.0 *V T491V227(1)010A(2) 22.0 12.0 0.7 #330.0 *D T491D337M010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #470.0 *X T491X477(1)010A(2) 47.0 10.0 0.2 #470.0 *E T491E477M010A(2) 47.0 12.0 0.5 ** 100 A T491A105(1)016A(2) 0.5 4.0 10.0 1.5 A T491A105(1)016A(2) 0.5 6.0 8.0 2.2 A T491A225(1)016A(2) 0.5 6.0 8.0 2.2 *S T491S225(1)016A(2) 0.5 6.0 15.0 #2.2 *R T491R225(1)016A(2) 0.5 6.0 3.5 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 3.3 A T491A355(1)016A(2) 0.5 6.0 3.5 3.3 A T491A355(1)016A(2) 0.5 6.0 3.5 6.0 4.7 B T491B475(1)016A(2) 0.5 6.0 3.5 6.0 6.0 6.0 4.7 A T491A475(1)016A(2) 0.5 6.0 3.5 6.0 5.0 4.7 A T491A475(1)016A(2) 0.5 6.0 3.5 6.0 5.0 4.7 A T491A475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 3.5 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0		X				
#330.0 *D T491D337M010A(2) 33.0 10.0 0.5 #330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #470.0 *X T491X477(1)010A(2) 47.0 10.0 0.2 #470.0 *E T491E477M010A(2) 47.0 12.0 0.5	#220.0	*D		22.0	8.0	0.5
#330.0 *X T491X337(1)010A(2) 33.0 10.0 0.5 #330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #470.0 *X T491X477(1)010A(2) 47.0 10.0 0.2 #470.0 *E T491E477M010A(2) 47.0 12.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 1.0 A T491A105(1)016A(2) 0.5 4.0 10.0 1.5 A T491A125(1)016A(2) 0.5 6.0 8.0 2.2 A T491A225(1)016A(2) 0.5 6.0 15.0 #2.2 *S T491S225(1)016A(2) 0.5 6.0 15.0 #2.2 *R T491R225(1)016A(2) 0.5 6.0 3.5 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 3.3 A T491A335(1)016A(2) 0.5 6.0 3.5 4.7 B T4918475(1)016A(2) 0.5 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 4.0 4.7 T T491T475(1)016A(2) 0.8 6.0 3.5 6.8 C T491C685(1)016A(2) 1.1 6.0 1.9 6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 3.5 10.0 C T491C106(1)016A(2) 1.1 6.0 3.5 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 1.8 10.0 T491U106(1)016A(2) 1.6 6.0 1.8 10.0 T491U106(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491A106(1)016A(2) 1.6 8.0 8.0 15.0 C T491C106(1)016A(2) 1.6 8.0 8.0 15.0 U T491U106(1)016A(2) 1.6 8.0 8.0 15.0 U T491U106(1)016A(2) 1.6 8.0 8.0 22.0 C T491C226(1)016A(2) 2.4 6.0 1.8 15.0 U T491U156(1)016A(2) 3.6 6.0 0.8 22.0 *B T491B106(1)016A(2) 3.6 6.0 0.8 22.0 *B T491B106(1)016A(2) 3.6 6.0 0.8 33.0 *U T491U36(1)016A(2) 5.3 6.0 0.8 47.0 D T491U476(1)016A(2) 5.3 6.0 0.7 47.0 U T491U476(1)016A(2) 5.3 6.0 0.7 47.0 U T491U476(1)016A(2) 7.5 6.0 0.7	#220.0		T491V227(1)010A(2)	22.0	12.0	0.7
#330.0 *E T491E337(1)010A(2) 33.0 10.0 0.5 #4470.0 *X T491X477(1)010A(2) 47.0 10.0 0.2 #4470.0 *E T491E477M010A(2) 47.0 12.0 0.5 **I6 Volt Rating at +85°C (10 Volt Rating at +125°C)** 1.0 A T491A105(1)016A(2) 0.5 4.0 10.0 1.5 A T491A155(1)016A(2) 0.5 6.0 8.0 2.2 A T491A225(1)016A(2) 0.5 6.0 15.0 #2.2 *R T491S225(1)016A(2) 0.5 6.0 15.0 #2.2 *R T491R225(1)016A(2) 0.5 6.0 3.5 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 4.7 A T491A475(1)016A(2) 0.5 6.0 3.5 4.7 B T491B475(1)016A(2) 0.5 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 4.0 4.7 T T491T475(1)016A(2) 1.1 6.0 1.9 6.8 C T491C685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 3.5 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 1.8 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 1.8 10.0 T491C106(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491A106(1)016A(2) 1.6 8.0 8.0 15.0 C T491C166(1)016A(2) 1.6 8.0 8.0 15.0 C T491C166(1)016A(2) 1.6 8.0 8.0 22.0 C T491C226(1)016A(2) 2.4 6.0 1.8 #15.0 *B T491B106(1)016A(2) 3.6 6.0 0.8 22.0 C T491C226(1)016A(2) 3.6 6.0 0.8 22.0 *B T491B226(1)016A(2) 3.6 6.0 0.8 #22.0 *B T491B226(1)016A(2) 3.6 6.0 0.8 #33.0 *U T491U336(1)016A(2) 5.3 6.0 0.8 #33.0 *U T491U336(1)016A(2) 7.5 6.0 0.8 #33.0 *U T491U336(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 0.7						
#470.0 *X T491X477(1)010A(2) 47.0 10.0 0.2 #470.0 *E T491E477M010A(2) 47.0 12.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 1.0 A T491A105(1)016A(2) 0.5 4.0 10.0 1.5 A T491A155(1)016A(2) 0.5 6.0 8.0 2.2 A T491A225(1)016A(2) 0.5 6.0 15.0 2.2 *S T491S225(1)016A(2) 0.5 6.0 15.0 #2.2 *R T491R225(1)016A(2) 0.5 6.0 3.5 #2.3 A T491A335(1)016A(2) 0.5 6.0 3.5 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 4.7 B T491B335(1)016A(2) 0.5 6.0 3.5 4.7 B T491B475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 4.0 4.7 T T491T475(1)016A(2) 0.8 6.0 5.0 6.8 C T491C685(1)016A(2) 1.1 6.0 2.5 #6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 3.5 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 1.8 10.0 C T491C106(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491A160(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491A160(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491A160(1)016A(2) 1.6 6.0 2.8 #10.0 *T T491C106(1)016A(2) 1.6 8.0 7.0 #10.0 *T T491T106(1)016A(2) 1.6 8.0 8.0 15.0 C T491C156(1)016A(2) 1.6 8.0 8.0 22.0 C T491C226(1)016A(2) 2.4 6.0 1.8 #15.0 *B T491B156(1)016A(2) 2.4 6.0 1.8 #15.0 *B T491B156(1)016A(2) 3.6 6.0 0.8 22.0 C T491C226(1)016A(2) 3.6 6.0 0.8 #22.0 *B T491B226(1)016A(2) 3.6 6.0 0.8 #22.0 *B T491B226(1)016A(2) 5.3 6.0 0.8 #33.0 *U T491U336(1)016A(2) 5.3 6.0 0.8 #33.0 *U T491U336(1)016A(2) 7.5 6.0 0.7 #47.0 D T491U476(1)016A(2) 7.5 6.0 0.7						
#470.0 *E T491E477M010A(2) 47.0 12.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 1.0 A T491A105(1)016A(2) 0.5 4.0 10.0 1.5 A T491A25(1)016A(2) 0.5 6.0 8.0 2.2 A T491A225(1)016A(2) 0.5 6.0 15.0 2.2 *S T491S225(1)016A(2) 0.5 8.0 25.0 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 3.3 A T491A35(1)016A(2) 0.5 6.0 5.0 4.7 B T491B475(1)016A(2) 0.5 6.0 5.0 4.7 B T491B475(1)016A(2) 0.5 6.0 5.0 4.7 A T491A375(1)016A(2) 0.8 6.0 3.5 4.7 A T491A375(1)016A(2) 0.8 6.0 3.5 6.8 C T491C685(1)016A(2) 1.1 6.0 1.9 6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 2.5 #10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 U T491U106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491A106(1)016A(2) 1.6 8.0 7.0 #10.0 *A T491A106(1)016A(2) 1.6 8.0 8.0 15.0 C T491C106(1)016A(2) 1.6 8.0 8.0 2.8 #10.0 *A T491A106(1)016A(2) 1.6 8.0 8.0 15.0 C T491C106(1)016A(2) 1.6 8.0 8.0 22.0 C T491C26(1)016A(2) 2.4 6.0 1.8 #15.0 U T491U156(1)016A(2) 2.4 6.0 1.8 #15.0 "B T491B156(1)016A(2) 3.6 6.0 0.8 #22.0 "U T491U26(1)016A(2) 3.6 6.0 0.8 #22.0 "U T491U26(1)016A(2) 3.6 6.0 0.8 #33.0 "U T491U336(1)016A(2) 5.3 6.0 0.8 #33.0 "U T491U336(1)016A(2) 5.3 6.0 0.8 #33.0 "U T491U336(1)016A(2) 7.5 6.0 0.7 #47.0 "C T491C476(1)016A(2) 7.5 6.0 0.7						
16 Volt Rating at +85°C (10 Volt Rating at +125°C)	I .			l		
1.0	#470.0					0.0
2.2 A T491A225(1)016A(2) 0.5 6.0 6.0 2.2 *S T491S225(1)016A(2) 0.5 6.0 15.0 #2.2 *R T491R225(1)016A(2) 0.5 8.0 25.0 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 3.3 A T491A335(1)016A(2) 0.8 6.0 5.0 4.7 B T491A475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 3.5 4.7 A T491C685(1)016A(2) 0.8 6.0 5.0 6.8 C T491C685(1)016A(2) 1.1 6.0 1.9 6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491C106(1)016A(2) 1.6 6.0 1.8 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0	1.0					10.0
#2.2 **S						
#2.2 *R T491R225(1)016A(2) 0.5 8.0 25.0 3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 4.7 B T491B475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 4.0 4.7 T T491475(1)016A(2) 0.8 6.0 5.0 6.8 C T491C885(1)016A(2) 1.1 6.0 1.9 6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 3.5 10.0 C T491C106(1)016A(2) 1.6 6.0 3.5 10.0 B T491U106(1)016A(2) 1.6 6.0 1.8 10.0 B T491U106(1)016A(2) 1.6 6.0 1.8 10.0 B T491U106(1)016A(2) 1.6 6.0 1.8 10.0 T491C106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491A106(1)016A(2) 1.6 8.0 7.0 #10.0 *T T491T106(1)016A(2) 1.6 8.0 8.0 15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 15.0 U T491U156(1)016A(2) 2.4 6.0 1.8 15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 22.0 D T491D226(1)016A(2) 2.4 6.0 1.8 22.0 C T491C226(1)016A(2) 3.6 6.0 0.8 22.0 *B T491B226(1)016A(2) 3.6 6.0 0.8 22.0 *B T491B226(1)016A(2) 3.6 6.0 0.8 #22.0 *B T491B226(1)016A(2) 3.6 6.0 0.8 #33.0 *U T491U336(1)016A(2) 5.3 6.0 0.8 #33.0 *U T491U336(1)016A(2) 5.3 6.0 0.8 #33.0 *U T491U336(1)016A(2) 5.3 6.0 0.8 #33.0 *U T491U336(1)016A(2) 7.5 6.0 0.7 #47.0 D T491U476(1)016A(2) 7.5 6.0 0.7	2.2		T491A225(1)016A(2)	0.5	6.0	6.0
3.3 B T491B335(1)016A(2) 0.5 6.0 3.5 3.3 A T491A335(1)016A(2) 0.5 6.0 5.0 4.7 B T491B475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 4.0 4.7 T T491T475(1)016A(2) 0.8 6.0 5.0 6.8 C T491C685(1)016A(2) 1.1 6.0 1.9 6.8 B T491B685(1)016A(2) 1.1 6.0 1.9 #6.8 *A T491C106(1)016A(2) 1.6 6.0 1.8 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 8.0 7.0 #10.0 *A T491T106(1)016A(2) 1.6 8.0 7.0 #10.0 *A T491T106(1)016A(2) 1.6 8.0 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
3.3 A T491A335(1)016A(2) 0.5 6.0 5.0 4.7 B T491B475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 4.0 4.7 T T491T475(1)016A(2) 0.8 6.0 5.0 6.8 C T491C685(1)016A(2) 1.1 6.0 1.9 6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491C106(1)016A(2) 1.6 6.0 1.8 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 U T491U106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 1.8 #10.0 *A T491A106(1)016A(2) 1.6 8.0 7.0 #10.0 *T T491T106(1)016A(2) 1.6 8.0 7.0 #15.0 C T491C156(1)016A(2) 2.4 6.0						
4.7 B T491B475(1)016A(2) 0.8 6.0 3.5 4.7 A T491A475(1)016A(2) 0.8 6.0 4.0 4.7 T T T491T475(1)016A(2) 0.8 6.0 5.0 6.8 C T491C685(1)016A(2) 1.1 6.0 1.9 6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 3.5 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 U T491U106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491A106(1)016A(2) 1.6 8.0 8.0 #10.0 *T T491C156(1)016A(2) 1.6 8.0 8.0 #15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 #5.0 *B T491B156(1)016A(2) 2.4 6.0						
4.7 A T491A475(1)016A(2) 0.8 6.0 4.0 4.7 T T491T475(1)016A(2) 0.8 6.0 5.0 6.8 C T491C685(1)016A(2) 1.1 6.0 1.9 6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 3.5 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 2.8 #10.0 B T491B106(1)016A(2) 1.6 8.0 7.0 #10.0 *A T491A106(1)016A(2) 1.6 8.0 7.0 #10.0 *A T491A106(1)016A(2) 1.6 8.0 7.0 #15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 #15.0 U T491B156(1)016A(2) 2.4 6.0 1.8 #15.0 *B T491B156(1)016A(2) 2.4 6.0						
4.7 T T491T475(1)016A(2) 0.8 6.0 5.0 6.8 C T491C685(1)016A(2) 1.1 6.0 1.9 6.8 B T491C685(1)016A(2) 1.1 6.0 2.5 #6.8 "A T491A685(1)016A(2) 1.1 6.0 3.5 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 U T491U106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 8.0 7.0 #10.0 "A T491A106(1)016A(2) 1.6 8.0 7.0 #10.0 "T T491T106(1)016A(2) 1.6 8.0 8.0 #15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 #5.0 U T491U156(1)016A(2) 2.4 6.0 1.8 #15.0 B T491B156(1)016A(2) 2.4 6.0 2.5 22.0 D T491C226(1)016A(2) 3.6 6.0						
6.8 C T491C685(1)016A(2) 1.1 6.0 1.9 6.8 B T491B685(1)016A(2) 1.1 6.0 2.5 #6.8 *A T491A685(1)016A(2) 1.1 6.0 2.5 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 U T491U106(1)016A(2) 1.6 6.0 2.8 #10.0 B T491B106(1)016A(2) 1.6 8.0 7.0 #10.0 *A T491A106(1)016A(2) 1.6 8.0 8.0 #10.0 *T T491T106(1)016A(2) 1.6 8.0 8.0 #15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 #5.0 U T491B156(1)016A(2) 2.4 6.0 1.8 #15.0 *B T491B156(1)016A(2) 2.4 6.0 2.5 22.0 D T491C226(1)016A(2) 3.6 6.0 0.8 #22.0 *D T491C226(1)016A(2) 3.6 6.0						
#6.8 *A T491A685(1)016A(2) 1.1 6.0 3.5 10.0 C T491C106(1)016A(2) 1.6 6.0 1.8 10.0 U T491U106(1)016A(2) 1.6 6.0 1.8 10.0 B T491B106(1)016A(2) 1.6 6.0 2.8 #10.0 *A T491A106(1)016A(2) 1.6 8.0 7.0 #10.0 *T T491T106(1)016A(2) 1.6 8.0 8.0 15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 15.0 U T491U156(1)016A(2) 2.4 6.0 1.8 #15.0 *B T491B156(1)016A(2) 2.4 6.0 2.5 22.0 D T491C256(1)016A(2) 2.4 6.0 2.5 22.0 C T491C256(1)016A(2) 3.6 6.0 0.8 #22.0 *U T491U226(1)016A(2) 3.6 6.0 0.8 #22.0 *U T491U226(1)016A(2) 3.6 6.0 0.8 #22.0 *B T491B226(1)016A(2) 3.6 6.0 0.8 #23.0 D T491D336(1)016A(2) 3.6 6.0 0.2 #33.0 *U T491U336(1)016A(2) 5.3 6.0 0.8 #33.0 *C T491C336(1)016A(2) 5.3 6.0 0.8 #33.0 *U T491U336(1)016A(2) 7.5 6.0 0.8 #47.0 D T491D476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 0.7		С	T491C685(1)016A(2)	1.1	6.0	1.9
10.0	I .					
10.0						
10.0 B						
#10.0 *A T491A106(1)016A(2) 1.6 8.0 7.0 #10.0 *T T491T106(1)016A(2) 1.6 8.0 8.0 8.0 15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 15.0 U T491U156(1)016A(2) 2.4 6.0 1.8 #15.0 U T491U156(1)016A(2) 2.4 6.0 2.5 2.4 6.0 2.5 2.0 D T491D226(1)016A(2) 3.6 6.0 2.5 22.0 C T491C226(1)016A(2) 3.6 6.0 0.8 22.0 C T491C226(1)016A(2) 3.6 6.0 1.6 #22.0 *U T491U226(1)016A(2) 3.6 6.0 1.0 3.0 #22.0 *B T491B226(1)016A(2) 3.6 6.0 2.2 33.0 D T491D336(1)016A(2) 5.3 6.0 0.8 23.0 *U T491U336(1)016A(2) 5.3 6.0 0.8 #33.0 *C T491C336(1)016A(2) 5.3 6.0 0.8 433.0 *U T491U336(1)016A(2) 5.3 12.0 3.0 47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2						
#10.0 *T T491T106(1)016A(2) 1.6 8.0 8.0 15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 15.0 U T491U156(1)016A(2) 2.4 6.0 1.8 #15.0 *B T491B156(1)016A(2) 2.4 6.0 2.5 22.0 D T491D226(1)016A(2) 3.6 6.0 0.8 22.0 C T491C226(1)016A(2) 3.6 6.0 1.6 #22.0 *U T491U226(1)016A(2) 3.6 6.0 1.6 #22.0 *B T491B226(1)016A(2) 3.6 10.0 3.0 #22.0 *B T491B226(1)016A(2) 3.6 10.0 3.0 #22.0 *B T491B226(1)016A(2) 3.6 0.0 2.2 33.0 D T491D336(1)016A(2) 5.3 6.0 0.8 #33.0 *C T491C336(1)016A(2) 5.3 6.0 1.2 #33.0 *U T491U336(1)016A(2) 5.3 12.0 3.0 47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2						
15.0 C T491C156(1)016A(2) 2.4 6.0 1.8 15.0 U T491U156(1)016A(2) 2.4 6.0 1.8 #15.0 *B T491B156(1)016A(2) 2.4 6.0 2.5 22.0 D T491D226(1)016A(2) 3.6 6.0 0.8 22.0 C T491C226(1)016A(2) 3.6 6.0 1.6 #22.0 *U T491U226(1)016A(2) 3.6 6.0 2.2 #22.0 *B T491B226(1)016A(2) 3.6 6.0 2.2 33.0 D T491D336(1)016A(2) 5.3 6.0 0.8 #33.0 *C T491C336(1)016A(2) 5.3 6.0 1.2 #33.0 *U T491U336(1)016A(2) 5.3 12.0 3.0 47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0<						
15.0						
22.0 D T491D226(1)016A(2) 3.6 6.0 0.8 22.0 C T491C226(1)016A(2) 3.6 6.0 1.6 #22.0 *U T491U226(1)016A(2) 3.6 10.0 3.0 #22.0 *B T491B226(1)016A(2) 3.6 6.0 2.2 33.0 D T491D336(1)016A(2) 5.3 6.0 0.8 #33.0 *C T491C336(1)016A(2) 5.3 6.0 1.2 #33.0 *U T491U336(1)016A(2) 5.3 12.0 3.0 47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2		U	T491U156(1)016A(2)			
22.0 C T491C226(1)016A(2) 3.6 6.0 1.6 #22.0 *U T491U226(1)016A(2) 3.6 10.0 3.0 #22.0 *B T491B226(1)016A(2) 3.6 6.0 2.2 33.0 D T491D336(1)016A(2) 5.3 6.0 0.8 #33.0 *C T491C336(1)016A(2) 5.3 6.0 1.2 #33.0 *U T491U336(1)016A(2) 5.3 12.0 3.0 47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2						
#22.0 *U T491U226(1)016A(2) 3.6 10.0 3.0 #22.0 *B T491B226(1)016A(2) 3.6 6.0 2.2 33.0 D T491D336(1)016A(2) 5.3 6.0 0.8 #33.0 *C T491C336(1)016A(2) 5.3 6.0 1.2 #33.0 *U T491U336(1)016A(2) 5.3 12.0 3.0 47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2						
#22.0 *B T491B226(1)016A(2) 3.6 6.0 2.2 33.0 D T491D336(1)016A(2) 5.3 6.0 0.8 #33.0 *C T491C336(1)016A(2) 5.3 6.0 1.2 #33.0 *U T491U336(1)016A(2) 5.3 12.0 3.0 47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2						
33.0 D T491D336(1)016A(2) 5.3 6.0 0.8 #33.0 *C T491C336(1)016A(2) 5.3 6.0 1.2 #33.0 *U T491U336(1)016A(2) 5.3 12.0 3.0 47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2				1		
#33.0 *C T491C336(1)016A(2) 5.3 6.0 1.2 #33.0 *U T491U336(1)016A(2) 5.3 12.0 3.0 47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2						
#33.0 *U T491U336(1)016A(2) 5.3 12.0 3.0 47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2						
47.0 D T491D476(1)016A(2) 7.5 6.0 0.8 47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2						
47.0 V T491V476(1)016A(2) 7.5 6.0 0.7 #47.0 *C T491C476(1)016A(2) 7.5 6.0 1.2	47.0					
	47.0	V	T491V476(1)016A(2)	7.5	6.0	0.7
68 0 *V T491V686(1)016A(2) 10 9 6 0 0.7		*C		7.5		
68.0 D T491D686(1)016A(2) 10.9 6.0 0.7	68.0	*\	T491V686(1)016A(2)		6.0	0.7

Capaci- tance µF	Case Size	KEMET Part Number	DC Leakage μA @ 25°C Max	DF % @ +25°C 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
	16 \	। /olt Rating at +85ºC (10 Vo			IVIAA
100.0	Х	T491X107(1)016A(2)	16.0	8.0	0.7
†100.0	*V	T491V107(1)016A(2)	16.0	12.0	0.7
#100.0	*D	T491D107(1)016A(2)	16.0	8.0	0.7
#150.0	*X	T491X157(1)016A(2)	24.0	8.0	0.5
#150.0 #220.0	*D *X	T491D157(1)016A(2) T491X227(1)016A(2)	24.0 35.2	12.0 10.0	0.7 0.5
#220.0	*Ê	T491E227(1)016A(2)	35.2	7.2	0.9
	20 V	olt Rating at +85°C (13 Vo			
0.68	Α	T491A684(1)020A(2)	0.5	4.0	12.0
1.0 1.0	A S	T491A105(1)020A(2)	0.5 0.5	4.0 6.0	9.0 18.0
#1.0	R	T491S105(1)020A(2) T491R105(1)020A(2)	0.5	6.0	20.0
1.5	A	T491A155(1)020A(2)	0.5	6.0	6.5
1.5	S	T491S155(1)020A(2)	0.5	6.0	15.0
2.2	В	T491B225(1)020A(2)	0.5	6.0	3.5
2.2	A	T491A225(1)020A(2)	0.5	6.0	7.0
3.3 #3.3	В *А	T491B335(1)020A(2) T491A335(1)020A(2)	0.7 0.7	6.0 6.0	3.0 4.5
3.3	^` *T	T491T335(1)020A(2)	0.7	6.0	5.0
4.7	Ċ	T491C475(1)020A(2)	1.0	6.0	2.4
4.7	В	T491B475(1)020A(2)	1.0	6.0	3.0
#4.7	*A	T491A475(1)020A(2)	1.0	6.0	4.0
6.8	С	T491C685(1)020A(2)	1.4	6.0	1.9
6.8 #6.8	U *B	T491U685(1)020A(2) T491B685(1)020A(2)	1.4 1.4	6.0 6.0	1.9 2.5
#6.8	*A	T491A685M020A(2)	1.4	8.0	6.0
10.0	С	T491C106(1)020A(2)	2.0	6.0	1.8
10.0	U	T491U106(1)020A(2)	2.0	6.0	1.8
#10.0	*B	T491B106(1)020A(2)	2.0	6.0	2.1
15.0 15.0	D C	T491D156(1)020A(2) T491C156(1)020A(2)	3.0 3.0	6.0 6.0	1.0 1.7
22.0	D	T491D226(1)020A(2)	4.4	6.0	0.8
22.0	V	T491V226(1)020A(2)	4.4	6.0	0.7
#22.0	*C	T491C226(1)020A(2)	4.4	6.0	1.2
33.0	D	T491D336(1)020A(2)	6.6	6.0	0.8
#33.0 †33.0	*C *V	T491C336M020A(2) T491V336(1)020A(2)	6.6 6.6	6.0 8.0	1.2 0.7
47.0	Č	T491C476M020A(2)	9.4	10.0	0.9
47.0	*D	T491D476(1)020A(2)	9.4	6.0	0.7
68.0	Х	T491X686(1)020A(2)	13.6	6.0	0.7
#68.0	*D	T491D686(1)020A(2)	13.6	8.0	0.7
#100.0 #100.0	*X *E	T491X107(1)020A(2) T491E107(1)020A(2)	20.0 20.0	8.0 8.0	0.5 0.5
#150.0	*X	T491X157(1)020A(2)	30.0	10.0	0.5
	25 \	/olt Rating at +85°C (17 Vo			
0.33	Α	T491A334(1)025A(2)	0.5	4.0	15.0
0.47	A	T491A474(1)025A(2) T491A684(1)025A(2)	0.5 0.5	4.0	14.0
0.68 1.0	A B	T491B105(1)025A(2)	0.5	4.0 4.0	10.0 5.0
1.0	*A	T491A105(1)025A(2)	0.5	4.0	8.0
1.5	В	T491B155(1)025A(2)	0.5	6.0	5.0
1.5	*A	T491A155(1)025A(2)	0.5	6.0	7.5
2.2 2.2	СВ	T491C225(1)025A(2) T491B225(1)025A(2)	0.6 0.6	6.0 6.0	3.5 4.5
3.3	C	T491B225(1)025A(2)	0.6	6.0	2.5
3.3	В	T491B335(1)025A(2)	0.9	6.0	3.5
4.7	С	T491C475(1)025A(2)	1.2	6.0	2.4
#4.7	*B	T491B475(1)025A(2)	1.2	6.0	1.5
#4.7 6.8	*A C	T491A475M025A(2) T491C685(1)025A(2)	1.2 1.7	8.0 6.0	6.0 1.9
6.8	*B	T491B685(1)025A(2)	1.7	8.0	2.8
10.0	D	T491D106(1)025A(2)	2.5	6.0	1.0
10.0	С	T491C106(1)025A(2)	2.5	6.0	1.5
15.0	D	T491D156(1)025A(2)	3.8	6.0	1.0
#15.0	*C	T491C156(1)025A(2)	3.8	6.0	1.5
22.0 22.0	р Ç	T491D226(1)025A(2) T491C226(1)025A(2)	5.5 5.5	6.0 6.0	0.8 1.4
22.0	*V	T491V226(1)025A(2)	5.5	6.0	0.7
33.0	X	T491X336(1)025A(2)	8.3	6.0	0.7
#33.0	*D	T491D336(1)025A(2)	8.3	6.0	0.7
#47.0	*X	T491X476(1)025A(2)	11.8	6.0	0.7
†47.0 †68.0	*D *X	T491D476(1)025A(2) T491X686M025A(2)	11.8 17.0	10.0 8.0	0.7
100.0	_ ^_	1431V000MINSOW(S)	17.0	0.0	0.7

To complete KEMET Part Number, insert M for ±20% tolerance or K for ±10% tolerance.

⁽²⁾ To complete KI *Extended Values To complete KEMET Part Number, insert T, H, G, or S lead material designation as shown on page 15.

^{**6} Volt product equivalent to 6.3 volt product. #Maximum Capacitance Change @ 125°C=+15%. †Maximum Capacitance Change @ 125°C=+20%.

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

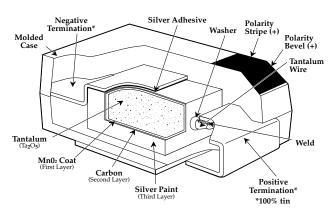
T491 SERIES—Precision Molded Chip



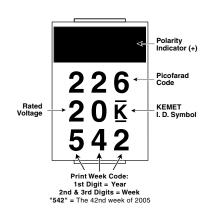
T491 RATINGS & PART NUMBER REFERENCE

			•		
Capaci-			DC	DF %	$ESR\Omega$
•	Case	KEMET	Leakage	@ +25°C	@ +25°C
tance	Size	Part Number	μΑ @ 25°C	120 Hz	100 kHz
μF			Max	Max	Max
	35 \	/olt Rating at +85°C (23 Vo	_	125°C)	
0.10	A	T491A104(1)035A(2)	0.5	4.0	20.0
0.15	Α	T491A154(1)035A(2)	0.5	4.0	19.0
0.22	Α	T491A224(1)035A(2)	0.5	4.0	18.0
0.33	Α	T491A334(1)035A(2)	0.5	4.0	15.0
0.47	В	T491B474(1)035A(2)	0.5	4.0	8.0
0.47	Α	T491A474(1)035A(2)	0.5	4.0	12.0
0.68	В	T491B684(1)035A(2)	0.5	4.0	6.5
0.68	*A	T491A684(1)035A(2)	0.5	4.0	8.0
1.0	В	T491B105(1)035A(2)	0.5	4.0	5.0
1.0	*A	T491A105(1)035A(2)	0.5	4.0	7.5
1.5	С	T491C155(1)035A(2)	0.5	6.0	4.5
1.5	В	T491B155(1)035A(2)	0.5	6.0	5.0
2.2	C *B	T491C225(1)035A(2)	0.8	6.0	3.5
2.2	C	T491B225(1)035A(2)	0.8 1.2	6.0	4.0 2.5
3.3 #3.3	*B	T491C335(1)035A(2) T491B335(1)035A(2)	1.2	6.0 6.0	3.5
4.7	D	T491D475(1)035A(2)	1.7	6.0	1.5
4.7	C	T491C475(1)035A(2)	1.7	6.0	2.2
6.8	D	T491D685(1)035A(2)	2.4	6.0	1.3
6.8	*C	T491C685(1)035A(2)	2.4	6.0	1.8
10.0	D	T491D106(1)035A(2)	3.5	6.0	1.0
#10.0	*C	T491C106M035A(2)	3.5	6.0	1.6
#10.0	*V	T491V106(1)035A(2)	3.5	6.0	2.0
15.0	Х	T491X156(1)035A(2)	5.3	6.0	0.9
15.0	D	T491D156(1)035A(2)	5.3	6.0	8.0
22.0	Х	T491X226(1)035A(2)	7.7	6.0	0.7
#22.0	*D	T491D226(1)035A(2)	7.7	6.0	0.7
#33.0	*X	T491X336(1)035A(2)	11.6	6.0	0.6
†47.0	*X	T491X476(1)035A(2)	16.5	8.0	0.6
#47.0	*E	T491E476(1)035A(2)	16.5	10.0	0.5
		olt Rating at +85°C (33 Vo			
0.10	A	T491A104(1)050A(2)	0.5	4.0	20.0
0.15	В	T491B154(1)050A(2)	0.5	4.0	16.0
0.15	*A	T491A154(1)050A(2)	0.5	4.0	15.0
0.22	B B	T491B224(1)050A(2) T491B334(1)050A(2)	0.5 0.5	4.0 4.0	14.0 10.0
0.33	C	T491B334(1)050A(2)	0.5	4.0	8.0
0.47	*B	T491B474(1)050A(2)	0.5	4.0	9.0
0.47	C	T491C684(1)050A(2)	0.5	4.0	7.0
0.68	*B	T491B684(1)050A(2)	0.5	4.0	8.0
1.0	C	T491C105(1)050A(2)	0.5	4.0	5.5
1.0	*V	T491V105(1)050A(2)	0.5	4.0	6.0
1.5	D	T491D155(1)050A(2)	0.8	6.0	3.5
1.5	*C	T491C155(1)050A(2)	0.8	6.0	4.5
2.2	D	T491D225(1)050A(2)	1.1	6.0	2.5
2.2	*C	T491C225(1)050A(2)	1.1	6.0	3.0
3.3	D	T491D335(1)050A(2)	1.7	6.0	2.0
4.7	D	T491D475(1)050A(2)	2.4	6.0	1.4
6.8	X	T491X685(1)050A(2)	3.5	6.0	1.0
#6.8	*D	T491D685(1)050A(2)	3.4	6.0	1.0
#10.0	*X	T491X106M050A(2)	5.0	6.0	0.7
#10.0	*D	T491D106(1)050A(2)	5.0	6.0	0.8
†15.0	*X	T491X156(1)050A(2)	7.5	8.0	0.7

CONSTRUCTION



CAPACITOR MARKINGS T491 Series — All Case Sizes



Higher voltage ratings and tighter tolerance product may be substituted within the same size at KEMET's option.

Voltage substitutions will be marked with the higher voltage rating.

To complete KEMET Part Number, insert M for ±20% tolerance or K for ±10% tolerance.

To complete KEMET Part Number, insert T, H, G, or S lead material designation as shown on page 15.

^{*}Extended Values

^{**6} Volt product equivalent to 6.3 volt product.

[#]Maximum Capacitance Change @ 125°C=+15%. †Maximum Capacitance Change @ 125°C=+20%.

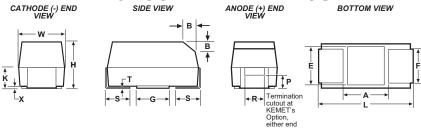


T492 SERIES—Style CWR11 Per Mil-PRF-55365/8

- Established reliability military version of Industrial Grade T491 series
- Taped and reeled per EIA 481-1
- · Precision-molded, laser-marked case
- Symmetrical, compliant terminations
- 100% Surge Current test available for all case sizes
- Operating Temperature: -55°C to + 125°C

- Qualified to MIL-PRF-55365/8, Style CWR11:
 - Termination Options B, C, H, K
 - Weibull failure rate codes B, C and D
 - Capacitance values and voltages as shown in following part number table. (Contact KEMET for latest qualification status)

T492 OUTLINE DRAWINGS



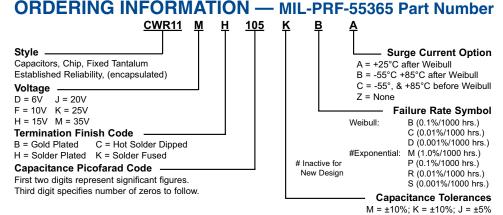
DIMENSIONS - Millimeters (Inches)

CASE	SIZE					СОМ	PONENT	•							
KEMET	EIA	L*	W *	H*	K* ±0.20 ±(.008)	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)
А	3216-18	3.2 ± 0.2 (.126 ± .008)	1.6 ± 0.2 (.063 ± .008)	1.6 ± 0.2 (.063 ± .008)	0.9 (.035)	1.2 (.047)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.4 (.016)	0.4 (.016)	0.13 (.005)	0.8 (.031)	1.1 (.043)	1.3 (.051)
В	3528-21	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.9 ± 0.2 (.075 ± .008)	1.1 (.043)	2.2 (.087)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.5 (.020)	1.0 (.039)	0.13 (.005)	1.1 (.043)	1.8 (.071)	2.2 (.087)
С	6032-28	6.0 ± 0.3 (.236 ± .012)	3.2 ± 0.3 (.126 ± .012)	2.5 ± 0.3 (.098 ± .012)	1.4 (.055)	2.2 (.087)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.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)	1.5 (.059)	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)

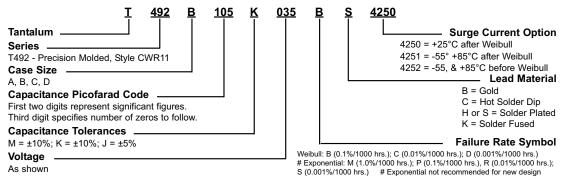
otes: 1. Metric dimensions govern.

* Mil-C-55365/8 Specified Dimensions

2. (Ref) - Dimensions provided for reference only.



T492 SERIES ORDERING INFORMATION — KEMET Part Number



^{*} Part Number Example: T492B105K035BS (14 digits - no spaces)

Note on Failure Rates: Exponential failure rate levels M, P, R and S are inactive for new design per Mil-C-55365. Parts qualified to Weibull failure rate levels are substitutable for exponential failure rate levels.

^{*} See www.kemet.com for Pb Free transition.

T492 SERIES—Style CWR11 Per Mil-PRF-55365/8



T492 (CWR11) RATINGS AND PART NUMBER REFERENCE

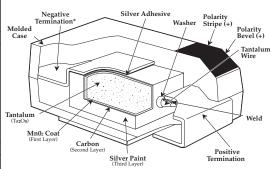
Capaci- tance µF	Case Size	KEMET Part Number	Mil-C-55365/8 Part Number	DCL μA @ +25°C Max	DF % @ +25°C 120 Hz Max	ESR Ω@ +25°C 100kHz Max
			85°C (4 Volt Rating at +125	°C)		
1.5	Α	T492A155(1)006(2)(3)(4)	CWR11D(6)155(1)(2)(5)	0.5	6.0	8.0
2.2	Α	T492A225(1)006(2)(3)(4)	CWR11D(6)225(1)(2)(5)	0.5	6.0	8.0
3.3	Α	T492A335(1)006(2)(3)(4)	CWR11D(6)335(1)(2)(5)	0.5	6.0	8.0
4.7	В	T492B475(1)006(2)(3)(4)	CWR11D(6)475(1)(2)(5)	0.5	6.0	5.5
6.8	В	T492B685(1)006(2)(3)(4)	CWR11D(6)685(1)(2)(5)	0.5	6.0	4.5
10.0	В	T492B106(1)006(2)(3)(4)	CWR11D(6)106(1)(2)(5)	0.6	6.0	3.5
15.0	С	T492C156(1)006(2)(3)(4)	CWR11D(6)156(1)(2)(5)	0.9	6.0	3.0
22.0	С	T492C226(1)006(2)(3)(4)	CWR11D(6)226(1)(2)(5)	1.4	6.0	2.2
47.0	D	T492D476(1)006(2)(3)(4)	CWR11D(6)476(1)(2)(5)	2.8	6.0	1.1
L			+85°C (7 Volt Rating at 125			
1.0	Α	T492A105(1)010(2)(3)(4)	CWR11F(6)105(1)(2)(5)	0.5	4.0	10.0
1.5	Α	T492A155(1)010(2)(3)(4)	CWR11F(6)155(1)(2)(5)	0.5	6.0	8.0
2.2	A	T492A225(1)010(2)(3)(4)	CWR11F(6)225(1)(2)(5)	0.5	6.0	8.0
3.3	В	T492B335(1)010(2)(3)(4)	CWR11F(6)335(1)(2)(5)	0.5	6.0	5.5
4.7	В	T492B475(1)010(2)(3)(4)	CWR11F(6)475(1)(2)(5)	0.5	6.0	4.5
6.8	В	T492B685(1)010(2)(3)(4)	CWR11F(6)685(1)(2)(5)	0.7	6.0	3.5
15.0	С	T492C156(1)010(2)(3)(4)	CWR11F(6)156(1)(2)(5)	1.5	6.0	2.5
33.0	D	T492D336(1)010(2)(3)(4)	CWR11F(6)336(1)(2)(5)	3.3	6.0	1.1
			85°C (10 Volt Rating at +12			40.0
0.7	Α	T492A684(1)015(2)(3)(4)	CWR11H(6)684(1)(2)(5)	0.5	4.0	12.0
1.0	Α	T492A105(1)015(2)(3)(4)	CWR11H(6)105(1)(2)(5)	0.5	4.0	10.0
1.5	A	T492A155(1)015(2)(3)(4)	CWR11H(6)155(1)(2)(5)	0.5	6.0	8.0
2.2	В	T492B225(1)015(2)(3)(4)	CWR11H(6)225(1)(2)(5)	0.5	6.0	5.5
3.3	В	T492B335(1)015(2)(3)(4)	CWR11H(6)335(1)(2)(5)	0.5	6.0	5.0
4.7	В	T492B475(1)015(2)(3)(4)	CWR11H(6)475(1)(2)(5)	0.7	6.0	4.0
10.0	С	T492C106(1)015(2)(3)(4)	CWR11H(6)106(1)(2)(5)	1.6	6.0	2.5
22.0	D	T492D226(1)015(2)(3)(4)	CWR11H(6)226(1)(2)(5)	3.3	6.0	1.1
0.5	Α	T492A474(1)020(2)(3)(4)	85°C (13 Volt Rating at +12 CWR11J(6)474(1)(2)(5)	0.5	4.0	14.0
0.5	A	T492A684(1)020(2)(3)(4)	CWR11J(6)684(1)(2)(5)	0.5	4.0	12.0
1.0	A	T492A105(1)020(2)(3)(4)	CWR11J(6)105(1)(2)(5)	0.5	4.0	10.0
1.5	В	T492B155(1)020(2)(3)(4)	CWR11J(6)155(1)(2)(5)	0.5	6.0	6.0
2.2	В	T492B135(1)020(2)(3)(4)	CWR11J(6)225(1)(2)(5)	0.5	6.0	5.0
3.3	В	T492B335(1)020(2)(3)(4)	CWR11J(6)335(1)(2)(5)	0.7	6.0	4.0
4.7	C	T492C475(1)020(2)(3)(4)	CWR11J(6)475(1)(2)(5)	1.0	6.0	3.0
6.8	C	T492C685(1)020(2)(3)(4)	CWR11J(6)685(1)(2)(5)	1.4	6.0	2.4
15.0	D	T492D156(1)020(2)(3)(4)	CWR11J(6)156(1)(2)(5)	3.0	6.0	1.1
10.0			85°C (17 Volt Rating at +12		0.0	
0.3	Α	T492A334(1)025(2)(3)(4)	CWR11K(6)334(1)(2)(5)	0.5	4.0	15.0
0.5	A	T492A474(1)025(2)(3)(4)	CWR11K(6)474(1)(2)(5)	0.5	4.0	14.0
0.7	В	T492B684(1)025(2)(3)(4)	CWR11K(6)684(1)(2)(5)	0.5	4.0	7.5
1.0	В	T492B105(1)025(2)(3)(4)	CWR11K(6)105(1)(2)(5)	0.5	4.0	6.5
1.5	В	T492B155(1)025(2)(3)(4)	CWR11K(6)155(1)(2)(5)	0.5	6.0	6.5
2.2	С	T492C225(1)025(2)(3)(4)	CWR11K(6)225(1)(2)(5)	0.6	6.0	3.5
3.3	С	T492C335(1)025(2)(3)(4)	CWR11K(6)335(1)(2)(5)	0.9	6.0	3.5
4.7	С	T492C475(1)025(2)(3)(4)	CWR11K(6)475(1)(2)(5)	1.2	6.0	2.5
6.8	D	T492D685(1)025(2)(3)(4)	CWR11K(6)685(1)(2)(5)	1.7	6.0	1.4
10.0	D	T492D106(1)025(2)(3)(4)	CWR11K(6)106(1)(2)(5)	2.5	6.0	1.2
			85°C (23 Volt Rating at +12			
0.1	Α	T492A104(1)035(2)(3)(4)	CWR11M(6)104(1)(2)(5)	0.5	4.0	24.0
0.2	Α	T492A154(1)035(2)(3)(4)	CWR11M(6)154(1)(2)(5)	0.5	4.0	21.0
0.2	Α	T492A224(1)035(2)(3)(4)	CWR11M(6)224(1)(2)(5)	0.5	4.0	18.0
0.3	Α	T492A334(1)035(2)(3)(4)	CWR11M(6)334(1)(2)(5)	0.5	4.0	15.0
0.5	В	T492B474(1)035(2)(3)(4)	CWR11M(6)474(1)(2)(5)	0.5	4.0	10.0
0.7	В	T492B684(1)035(2)(3)(4)	CWR11M(6)684(1)(2)(5)	0.5	4.0	8.0
1.0	В	T492B105(1)035(2)(3)(4)	CWR11M(6)105(1)(2)(5)	0.5	4.0	6.5
1.5	С	T492C155(1)035(2)(3)(4)	CWR11M(6)155(1)(2)(5)	0.5	6.0	4.5
2.2	С	T492C225(1)035(2)(3)(4)	CWR11M(6)225(1)(2)(5)	0.8	6.0	3.5
3.3	С	T492C335(1)035(2)(3)(4)	CWR11M(6)335(1)(2)(5)	1.2	6.0	2.5
4.7	D	T492D475(1)035(2)(3)(4)	CWR11M(6)475(1)(2)(5)	1.7	6.0	1.5

PACKAGING

Note: T492 Packaging

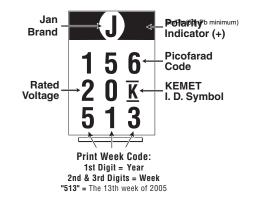
- No c-spec required for 7" reel packaging
- C-7280 required for 13" reel packaging
- Standard reel packaging is not mandatory
- Bulk packaging also available using C-7610 See page 91 for tape and reel quantities.

CONSTRUCTION



CAPACITOR MARKINGS

T492 Series — All Case Sizes



Note on Failure Rates:

Exponential failure rate levels M, P, R and S are inactive for new design per MIL-C-55365. Parts qualified to Weibull failure rate levels are substitutable for exponential failure rate levels.

Note: ESR limits are per

Mil-C-55365/8

(2) To complete KEMET/CWR part number, insert Failure Rate Symbol Weibull: B (0.1%/1000 Hrs.), C (0.01%/1000Hrs or D (0.001%/1000 Hrs.), Exponential: M (1.0%/1000 hrs.), P (0.1%/1000 hrs.), R (0.01%/1000 hrs.) or S (0.001%/1000 hrs.)

(3) To complete KEMET part number, insert Termination Finish Designation B = Gold; C = Hot Solder Dipped; S = Solder Plated; K = Solder Fused.

- (4) To complete KEMET part number, insert 4250 = +25°C after Weibull; 4251 = -55° + 85°C after Weibull; or 4252 = -55, & +85°C before Weibull Surge Current Option.
- (5) To complete CWR part number, insert A = +25°C after Weibull; B = -55° + 85°C after Weibull; C = -55°, & +85°C before Weibull or Z = None for Surge Current Option.
- (6) To complete CWR part numbers, insert B = Gold; C = Hot Solder Dipped; H or S = Solder Plated; K = Solder Fused

(1) To complete KEMET/CWR part number, insert M for ±20%, K for ±10% or J for ±5% tolerance.

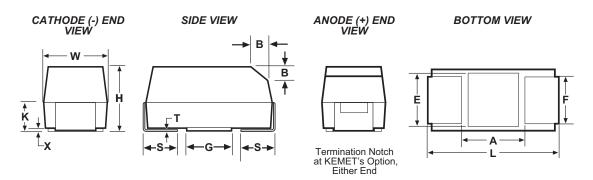


T493 SERIES—Military COTS

FEATURES

- Standard Cases Sizes A X per EIA535BAAC
- Termination Finishes offered per MIL-PRF-55365: Gold Plated, Hot Solder Dipped, Solder Plated, Solder Fused, 100% Tin
- Weibull Grading Available: B (0.1%/1000hrs) and C (0.01%/1000hrs)
- Surge Current Testing Available per MIL-PRF-55365: 10 cycles @ +25°C; 10 cycles @ -55°C and +85°C
- Standard and Low ESR Options
- Operating Temperature Range: -55°C to +125°C
- Capacitance: 0.1 to 330µF · Voltage: 4 to 50 Volts

OUTLINE DRAWING

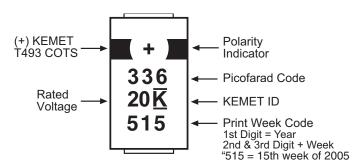


DIMENSIONS- MILLIMETERS (INCHES)

Case	e Size	1	w	н	K ±0.20	F ±0.1	S ±0.3	B ±0.15	X (Ref)	P (Ref)	R (Ref)	A (Min)	G (Ref)	E (Ref)
KEMET	EIA	_	"		14 20.20	1 -0	0 20.0	(Ref) ±(.006)	X (itel)	1 (1101)	it (itoi)	A (MIII)	O (Ito)	= (110.)
А	3216-18	3.2 ± 0.2 (.126 ± .008)	1.6 ± 0.2 (.063 ± .008)	1.6 ± 0.2 (.063 ± .008)	0.9 (.035)	1.2 (.047)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.4 (.016)	0.4 (.016)	1.4 (.055)	1.1 (.043)	1.3 (.051)
В	3528-21	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.9 ± 0.1 (.075 ± .008)	1.1 (.043)	2.2 (.087)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.5 (.020)	1.0 (.039)	2.1 (.083)	1.8 (.071)	2.2 (.087)
С	6032-28	6.0 ± 0.3 (.236 ± .012)	3.2 ± 0.3 (.126 ± .12)	2.5 ± 0.3 .098 ± .012)	1.4 (.055)	2.2 (.087)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.0235)	1.0 (.039)	3.1 (.122)	2.8 (.110)	2.4 (.094)
D	7343-31	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.8 ± 0.3 (.110 ± .012)	1.5 (.059)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.0235)	1.0 (.039)	3.8 (.150)	3.5 (.138)	3.5 (.138)
Х	7343-43	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	4.0 ± 0.3 (.157 ± .012)	2.3 (.091)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	1.7 (.067)	1.0 (.039)	3.8 (.150)	3.5 (.138)	3.5 (.138)
E	7260-38	7.3 ± 0.3 (.287 ± .012)	6.0 ± 0.3 (.236± .012)	3.6 ± 0.2 (.142 ± .008)	2.3 (.091)	4.1 (.161)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	3.8 (.150)	3.5 (.138)	3.5 (.138)

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

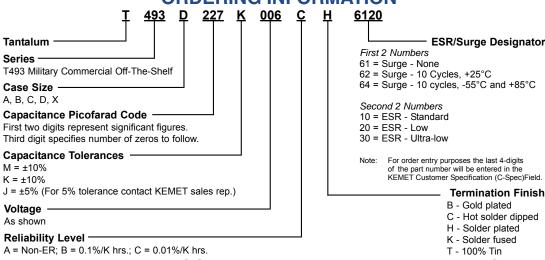
COMPONENT MARKING



T493 SERIES—Military COTS



ORDERING INFORMATION



Capaci- tance µF	Case Size	KEMET Part Number	DCL μA @ 25°C Max	DF % @ +25°C 120 Hz Max	Std. ESR Ohms @+25°C 100 kHz Max	Low ESR Ohms @+25°C 100 kHz Max	Ultra-Low ESR, Ohms @+25°C 100 kHz Max
		4 Volt Rating at	+85°C (2.7	Volt Rating a	t +125°C)		
2.2	Α	T493A225(1)004(2)(3)(4)(5)	0.5	6.0	8.0	6.0	N/A
3.3	Α	T493A335(1)004(2)(3)(4)(5)	0.5	6.0	8.0	4.0	N/A
4.7	Α	T493A475(1)004(2)(3)(4)(5)	0.5	6.0	8.0	3.5	N/A
6.8	Α	T493A685(1)004(2)(3)(4)(5)	0.5	6.0	6.0	3.0	N/A
6.8	В	T493B685(1)004(2)(3)(4)(5)	0.5	6.0	5.5	2.0	N/A
10.0	Α	T493A106(1)004(2)(3)(4)(5)	0.5	6.0	6.0	2.0	N/A
10.0	В	T493B106(1)004(2)(3)(4)(5)	0.5	6.0	3.5	1.2	N/A
15.0	Α	T493A156(1)004(2)(3)(4)(5)	0.6	6.0	4.0	1.5	N/A
15.0	В	T493B156(1)004(2)(3)(4)(5)	0.6	6.0	3.5	1.2	N/A
22.0	Α	T493A226(1)004(2)(3)(4)(5)	0.9	6.0	4.0	1.5	N/A
22.0	В	T493B226(1)004(2)(3)(4)(5)	0.9	6.0	3.5	0.6	N/A
22.0	С	T493C226(1)004(2)(3)(4)(5)	0.9	6.0	1.8	0.5	N/A
33.0	Α	T493A336(1)004(2)(3)(4)(5)	1.3	6.0	4.0	3.0	N/A
33.0	В	T493B336(1)004(2)(3)(4)(5)	1.3	6.0	3.5	0.5	N/A
33.0	С	T493C336(1)004(2)(3)(4)(5)	1.3	6.0	1.8	0.5	N/A
47.0	В	T493B476(1)004(2)(3)(4)(5)	1.9	6.0	3.0	0.5	N/A
47.0	С	T493C476(1)004(2)(3)(4)(5)	1.9	6.0	1.8	0.5	N/A
68.0	В	T493B686(1)004(2)(3)(4)(5)	2.7	6.0	3.5	2.0	N/A
68.0	С	T493C686(1)004(2)(3)(4)(5)	2.7	6.0	1.6	0.25	N/A
68.0	D	T493D686(1)004(2)(3)(4)(5)	2.7	6.0	0.8	0.2	N/A
#100.0	*B	T493B107(1)004(2)(3)(4)(5)	4.0	8.0	1.0	0.7	0.50
100.0	С	T493C107(1)004(2)(3)(4)(5)	4.0	8.0	1.2	0.2	N/A
100.0	D	T493D107(1)004(2)(3)(4)(5)	4.0	8.0	0.8	0.2	N/A
#150.0	*C	T493C157(1)004(2)(3)(4)(5)	6.0	8.0	1.2	0.3	0.25
150.0	D	T493D157(1)004(2)(3)(4)(5)	6.0	8.0	8.0	0.15	N/A
220.0	D	T493D227(1)004(2)(3)(4)(5)	8.8	8.0	0.9	0.7	N/A
330.0	D	T493D337(1)004(2)(3)(4)(5)	13.2	8.0	0.7	0.15	N/A
330.0	Χ	T493X337(1)004(2)(3)(4)(5)	13.2	8.0	0.5	0.2	N/A
		6 Volt Rating at					
1.5	Α	T493A155(1)006(2)(3)(4(5)	0.5	6.0	8.0	6.0	N/A
2.2	Α	T493A225(1)006(2)(3)(4)(5)	0.5	6.0	8.0	6.0	N/A
3.3	Α	T493A335(1)006(2)(3)(4)(5)	0.5	6.0	8.0	6.0	N/A
4.7	A	T493A475(1)006(2)(3)(4)(5)	0.5	6.0	6.0	3.5	N/A
4.7	В	T493B475(1)006(2)(3)(4)(5)	0.5	6.0	5.5	3.5	N/A
6.8	Α	T493A685(1)006(2)(3)(4)(5)	0.5	6.0	6.0	2.0	N/A
6.8	В	T493B685(1)006(2)(3)(4)(5)	0.5	6.0	3.5	1.2	N/A
10.0	A	T493A106(1)006(2)(3)(4)(5)	0.6	6.0	4.0	2.0	N/A
10.0	В	T493B106(1)006(2)(3)(4)(5)	0.6	6.0	3.5	1.0	N/A
15.0	A	T493A156(1)006(2)(3)(4)(5)	0.9	6.0	4.0	1.5	N/A
15.0	В	T493B156(1)006(2)(3)(4)(5)	0.9	6.0	3.5	0.7	N/A
15.0	C	T493C156(1)006(2)(3)(4)(5)	0.9	6.0	1.8	0.6	N/A
22.0	A	T493A226(1)006(2)(3)(4)(5)	1.4	6.0	4.0	3.0	N/A
22.0	В	T493B226(1)006(2)(3)(4)(5)	1.4	6.0	3.5	0.6	N/A
22.0	С	T493C226(1)006(2)(3)(4)(5)	1.4	6.0	1.8	0.5	N/A

⁽¹⁾ To complete KEMET part number, insert M for ±20% or K for ±10% capacitance tolerance. To request ±5%

tolerance,contact KEMET sales representative.

(2) To complete KEMET part number, insert A for Non-ER; B for 0.1%/1000 Hrs.; or C for 0.01%/1000 Hrs. Reliability Level.

(3) To complete KEMET part number, insert B for Gold Plated (50 μ inch minimum); C for Hot Solder Dipped (60 μ inch

minimum); H for Solder Plated (100 µ inch minimum); K for Solder Fused (60 µ inch minimum Termination Finish or T for 100% Tin.

⁽⁴⁾ To complete KEMET part number for Surge Current testing, insert 61 for none; 62 for 10 cycles +25°C; or 64 for 10 cycles, -55°C & +85°C

⁽⁵⁾ To complete KEMET part number, insert 10 for Standard ESR; 20 for Low ESR or 30 for Ultra-low ESR Option.

^{*} Extended Values #Maximum Capacitance Change @ 125°C = +15%



T493 SERIES—Military COTS

1 730	11/	TINGS AND I	A111	11011			TENCE
Capaci- tance µF	Case Size	KEMET Part Number	DCL μA @ 25°C Max	DF % @ +25°C 120 Hz Max	Std. ESR Ohms @+25°C 100 kHz Max	Low ESR Ohms @+25°C 100 kHz Max	Ultra-Low ESR, Ohms @+25°C 100 kHz Max
		6 Volt Rating at	: +85°C (4 \	olt Rating at			
33.0	В	T493B336(1)006(2)(3)(4)(5)	2.0	6.0	3.0	0.6	N/A
33.0	С	T493C336(1)006(2)(3)(4)(5)	2.0	6.0	1.8	0.3	N/A
47.0	В	T493B476(1)006(2)(3)(4)(5)	2.9	6.0	3.5	2.0	N/A
47.0	С	T493C476(1)006(2)(3)(4)(5)	2.9	6.0	1.6	0.25	0.25
47.0	D	T493D476(1)006(2)(3)(4)(5)	2.9	6.0	0.8	0.22	N/A
68.0	В	T493B686(1)006(2)(3)(4)(5)	4.1	8.0	1.0	0.65	N/A
68.0	C	T493C686(1)006(2)(3)(4)(5)	4.1	6.0	1.2	0.2	N/A
68.0	D	T493D686(1)006(2)(3)(4)(5)	4.1	6.0	0.8	0.2	0.18
#100.0	*B	T493B107(1)006(2)(3)(4)(5)	6.3	15.0	10.0	8.0	0.70
100.0	C	T493C107(1)006(2)(3)(4)(5)	6.0	8.0	1.2	0.3	0.15
100.0	D	T493D107(1)006(2)(3)(4)(5)	6.0	8.0	0.8	0.15	N/A
	*C				1.2		0.20
#150.0	_	T493C157(1)006(2)(3)(4)(5)	9.0	8.0		0.3	
150.0	D	T493D157(1)006(2)(3)(4)(5)	9.0	8.0	0.7	0.15	N/A
#220.0	*C	T493C227(1)006(2)(3)(4)(5)	13.2	10.0	1.2	0.3	0.23
220.0	D	T493D227(1)006(2)(3)(4)(5)	13.2	8.0	0.7	0.1	0.10
220.0	Х	T493X227(1)006(2)(3)(4)(5)	13.2	8.0	0.7	0.15	0.07
330.0	D	T493D337(1)006(2)(3)(4)(5)	19.8	8.0	0.5	0.15	0.10
330.0	Χ	T493X337(1)006(2)(3)(4)(5)	19.8	8.0	0.5	0.1	0.07
		10 Volt Rating a					
1.0	Α	T493A105(1)010(2)(3)(4)(5)	0.5	4.0	10.0	6.0	N/A
1.5	Α	T493A155(1)010(2)(3)(4)(5)	0.5	6.0	8.0	6.0	N/A
2.2	Α	T493A225(1)010(2)(3)(4)(5)	0.5	6.0	8.0	6.0	N/A
3.3	Α	T493A335(1)010(2)(3)(4)(5)	0.5	6.0	6.0	4.0	N/A
3.3	В	T493B335(1)010(2)(3)(4)(5)	0.5	6.0	5.5	3.5	N/A
4.7	A	T493A475(1)010(2)(3)(4)(5)	0.5	6.0	6.0	3.0	N/A
4.7	В	T493B475(1)010(2)(3)(4)(5)	0.5	6.0	3.5	1.5	1.3
6.8	A	T493A685(1)010(2)(3)(4)(5)	0.7	6.0	6.0	3.0	N/A
6.8	В	T493B685(1)010(2)(3)(4)(5)	0.7	6.0	3.5	1.2	0.90
10.0	A	T493A106(1)010(2)(3)(4)(5)	1.0	6.0	4.0	1.8	0.90 N/A
	В					0.8	
10.0		T493B106(1)010(2)(3)(4)(5)	1.0	6.0	3.5		0.75
10.0	C	T493C106(1)010(2)(3)(4)(5)	1.0	6.0	1.8	0.6	N/A
#15.0	*A	T493A156(1)010(2)(3)(4)(5)	1.5	8.0	6.0	4.0	3.2
15.0	В	T493B156(1)010(2)(3)(4)(5)	1.5	6.0	3.5	0.7	N/A
15.0	С	T493C156(1)010(2)(3)(4)(5)	1.5	6.0	1.8	0.5	0.48
22.0	В	T493B226(1)010(2)(3)(4)(5)	2.2	6.0	3.0	0.7	N/A
22.0	С	T493C226(1)010(2)(3)(4)(5)	2.2	6.0	1.8	0.4	0.29
33.0	В	T493B336(1)010(2)(3)(4)(5)	3.3	6.0	3.5	2.0	N/A
33.0	С	T493C336(1)010(2)(3)(4)(5)	3.3	6.0	1.6	0.3	N/A
33.0	D	T493D336(1)010(2)(3)(4)(5)	3.3	6.0	0.8	0.3	N/A
47.0	С	T493C476(1)010(2)(3)(4)(5)	4.7	6.0	1.2	0.3	N/A
47.0	D	T493D476(1)010(2)(3)(4)(5)	4.7	6.0	0.8	0.2	0.08
68.0	С	T493C686(1)010(2)(3)(4)(5)	6.8	6.0	1.2	0.3	0.23
68.0	D	T493D686(1)010(2)(3)(4)(5)	6.8	6.0	0.8	0.2	0.09
68.0	Х	T493X686(1)010(2)(3)(4)(5)	5.4	4.0	0.5	0.15	0.15
#100.0	*C	T493C107(1)010(2)(3)(4)(5)	10.0	8.0	1.2	0.3	N/A
100.0	D	T493D107(1)010(2)(3)(4)(5)	10.0	8.0	0.7	0.1	0.08
150.0	D	T493D157(1)010(2)(3)(4)(5)	15.0	8.0	0.7	0.1	0.08
150.0	Х	T493X157(1)010(2)(3)(4)(5)	15.0	8.0	0.7	0.1	0.09
#220.0	*D	T493D227(1)010(2)(3)(4)(5)	22.0	8.0	0.7	0.2	0.09
220.0	X	T493X227(1)010(2)(3)(4)(5)	22.0	8.0	0.5	0.2	0.05
330.0	X	T493X337(1)010(2)(3)(4)(5)	33.0	10.0	0.5	0.1	0.05
J3U.U	_ ^	16 Volt Rating at				U. I	0.00
0.60						0.0	NI/A
0.68	A	T493A684(1)016(2)(3)(4)(5)	1.1	6.0	12.0	8.0	N/A
1.0	A	T493A105(1)016(2)(3)(4)(5)	0.5	4.0	10.0	6.0	N/A
1.5	A	T493A155(1)016(2)(3)(4)(5)	0.5	6.0	8.0	6.0	N/A
2.2	A	T493A225(1)016(2)(3)(4)(5)	0.5	6.0	6.0	4.0	N/A
3.3	Α	T493A335(1)016(2)(3)(4)(5)	0.5	6.0	6.0	3.5	N/A
3.3	В	T493B335(1)016(2)(3)(4)(5)	0.5	6.0	3.5	2.0	N/A
4.7	Α	T493A475(1)016(2)(3)(4)(5)	0.8	6.0	6.0	3.0	N/A
4.7	В	T493B475(1)016(2)(3)(4)(5)	8.0	6.0	3.5	1.5	N/A
#6.8	*A	T493A685(1)016(2)(3)(4)(5)	1.1	6.0	7.0	3.0	N/A
6.8	В	T493B685(1)016(2)(3)(4)(5)	1.1	6.0	3.5	1.2	N/A
6.8	С	T493C685(1)016(2)(3)(4)(5)	1.1	6.0	1.9	0.8	0.75
10.0	В	T493B106(1)016(2)(3)(4)(5)	1.6	6.0	3.5	0.8	N/A
10.0	С	T493C106(1)016(2)(3)(4)(5)	1.6	6.0	1.8	0.6	N/A
#15.0	*B	T493B156(1)016(2)(3)(4)(5)	2.4	6.0	3.0	0.8	0.80
15.0	С	T493C156(1)016(2)(3)(4)(5)	2.4	6.0	1.8	0.4	N/A
#22.0	*B	T493B226(1)016(2)(3)(4)(5)	3.5	6.0	2.2	0.8	N/A
22.0	c	T493C226(1)016(2)(3)(4)(5)	3.6	6.0	1.6	0.4	N/A
22.0	D	T493D226(1)016(2)(3)(4)(5)	3.6	6.0	0.8	0.3	N/A
		AET part number insert M for ±					

⁽¹⁾ To complete KEMET part number, insert M for ±20% or K for ±10% capacitance tolerance. To request ±5% tolerance, contact KEMET sales representative.

⁽²⁾ To complete KEMET part number, insert A for Non-ER; B for 0.1%/1000 Hrs.; or C for 0.01%/1000 Hrs. Reliability Level.
(3) To complete KEMET part number, insert A for Gold Plated (50 μ inch minimum); C for Hot Solder Dipped (60 μ inch

minimum); H for Solder Plated (100 µ inch minimum); K for Solder Fused (60 µ inch minimum Termination Finish or T for 100% Tin.

⁽⁴⁾ To complete KEMET part number for Surge Current testing, insert 61 for none; 62 for 10 cycles +25°C; or 64 for 10 cycles, -55°C & +85°C.

(5) To complete KEMET part number, insert 10 for Standard ESR; 20 for Low ESR or 30 for Ultra-low ESR Option.

* Extended Values #Maximum Capacitance Change @ 125°C = +15%

©KEMET Electronics Corporation, P.O. Box 5928, Greenville, S.C. 29606, (864) 963-6300

T493 SERIES—Military COTS



Capaci- tance µF	Case Size	KEMET Part Number	DCL μA @ 25°C Max	DF % @ +25°C 120 Hz Max	Std. ESR Ohms @+25°C 100 kHz Max	Low ESR Ohms @+25°C 100 kHz Max	Ultra-Low ESR, Ohms @+25°C 100 kHz Max
		16 Volt Rating a	t +85°C (10	Volt Rating a	it +125°C)		-
33.0	С	T493C336(1)016(2)(3)(4)(5)	5.3	6.0	1.2	0.3	0.23
33.0	D	T493D336(1)016(2)(3)(4)(5)	5.3	6.0	0.8	0.25	0.15
#47.0	*C	T493C476(1)016(2)(3)(4)(5)	7.5	6.0	1.2	0.5	0.35
47.0	D	T493D476(1)016(2)(3)(4)(5)	7.5	6.0	0.8	0.2	0.10
68.0 #100.0	D *D	T493D686(1)016(2)(3)(4)(5)	10.9	6.0	0.7	0.2 0.125	0.15
100.0	*D X	T493D107(1)016(2)(3)(4)(5) T493X107(1)016(2)(3)(4)(5)	16.0 16.0	8.0 8.0	0.7 0.7	0.125	0.10 0.08
150.0	*D	T493D157(1)016(2)(3)(4)(5)	24.0	8.0	0.7	0.1	0.08
#150.0	*X	T493X157(1)016(2)(3)(4)(5)	24.0	8.0	0.7	0.4	0.13
# 100.0		20 Volt Rating at				0.2	0.10
0.47	А	T493A474(1)020(2)(3)(4)(5)	0.5	4.0	14.0	9.0	N/A
0.68	Α	T493A684(1)020(2)(3)(4)(5)	0.5	4.0	12.0	8.0	N/A
1.0	Α	T493A105(1)020(2)(3)(4)(5)	0.5	4.0	10.0	5.5	N/A
1.5	Α	T493A155(1)020(2)(3)(4)(5)	0.5	6.0	8.0	4.5	N/A
1.5	В	T493B155(1)020(2)(3)(4)(5)	0.5	6.0	6.0	4.0	N/A
2.2	Α	T493A225(1)020(2)(3)(4)(5)	0.5	6.0	7.0	4.0	N/A
2.2	В	T493B225(1)020(2)(3)(4)(5)	0.5	6.0	3.5	1.5	N/A
#3.3	*A	T493A335(1)020(2)(3)(4)(5)	0.7	6.0	7.0	4.0	N/A
3.3	В	T493B335(1)020(2)(3)(4)(5)	0.7	6.0	3.5	1.3	N/A
#4.7	*A	T493A475(1)020(2)(3)(4)(5)	1.0	8.0	6.0	1.8	N/A
4.7	В	T493B475(1)020(2)(3)(4)(5)	1.0	6.0	3.5	1.0	N/A
4.7	С	T493C475(1)020(2)(3)(4)(5)	1.0	6.0	2.4	0.6	N/A
#6.8	*B	T493B685(1)020(2)(3)(4)(5)	1.4	6.0	3.5	1.0	N/A
6.8	С	T493C685(1)020(2)(3)(4)(5)	1.4	6.0	1.9	0.6	N/A
#10.0	*B	T493B106(1)020(2)(3)(4)(5)	2.0	6.0	3.0	1.0	1.0
10.0	С	T493C106(1)020(2)(3)(4)(5)	2.0	6.0	1.8	0.5	0.48
15.0	С	T493C156(1)020(2)(3)(4)(5)	3.0	6.0	1.7	0.4	0.38
15.0	D *C	T493D156(1)020(2)(3)(4)(5)	3.0 4.4	6.0	1.0	0.35	0.28
#22.0 22.0	D	T493C226(1)020(2)(3)(4)(5)	4.4	6.0 6.0	1.2 0.8	0.4 0.3	N/A 0.18
33.0	D	T493D226(1)020(2)(3)(4)(5) T493D336(1)020(2)(3)(4)(5)	6.6	6.0	0.8	0.3	0.16
47.0	*D	T493D476(1)020(2)(3)(4)(5)	9.4	6.0	0.7	0.2	0.10
47.0	X	T493X476(1)020(2)(3)(4)(5)	7.5	4.0	0.7	0.15	0.10
#68.0	*D	T493D686(1)020(2)(3)(4)(5)	13.6	8.0	0.7	0.2	0.15
68.0	х	T493X686(1)020(2)(3)(4)(5)	13.6	6.0	0.7	0.15	0.12
		25 Volt Rating a	+85°C (17	Volt Rating a	t +125°C)		
0.33	Α	T493A334(1)025(2)(3)(4)(5)	0.5	4.0	15.0	10.0	N/A
0.47	Α	T493A474(1)025(2)(3)(4)(5)	0.5	4.0	14.0	9.0	N/A
0.68	Α	T493A684(1)025(2)(3)(4)(5)	0.5	4.0	10.0	6.0	N/A
0.68	В	T493B684(1)025(2)(3)(4)(5)	0.5	4.0	7.5	5.5	N/A
1.0	*A	T493A105(1)025(2)(3)(4)(5)	0.5	4.0	8.0	4.0	N/A
1.0	В	T493B105(1)025(2)(3)(4)(5)	0.5	4.0	5.0	2.0	N/A
1.5	*A	T493A155(1)025(2)(3)(4)(5)	0.5	6.0	10.0	3.0	N/A
1.5	В	T493B155(1)025(2)(3)(4)(5)	0.5	6.0	5.0	1.5	N/A
2.2	В	T493B225(1)025(2)(3)(4)(5)	0.6	6.0	4.5	1.2	N/A
2.2	С	T493C225(1)025(2)(3)(4)(5)	0.6	6.0	3.5	2.2	1.30
3.3	В	T493B335(1)025(2)(3)(4)(5)	0.9	6.0	3.5	2.0	N/A
3.3	C *P	T493C335(1)025(2)(3)(4)(5) T493B475(1)025(2)(3)(4)(5)	0.9	6.0	2.5	1.2	0.75
#4.7 4.7	*B C	T493C475(1)025(2)(3)(4)(5)	1.2 1.2	6.0 6.0	1.5 2.4	1.0 0.6	N/A 0.58
6.8	C	T493C685(1)025(2)(3)(4)(5)	1.7	6.0	1.9	0.6	0.56
6.8	D	T493D685(1)025(2)(3)(4)(5)	1.7	6.0	1.9	1.0	0.49 N/A
10.0	С	T493C106(1)025(2)(3)(4)(5)	2.5	6.0	1.4	0.5	0.45
10.0	D	T493D106(1)025(2)(3)(4)(5)	2.5	6.0	1.0	0.4	0.43 N/A
#15.0	*C	T493C156(1)025(2)(3)(4)(5)	3.8	6.0	1.5	0.9	N/A
	D	T493D156(1)025(2)(3)(4)(5)	3.8	6.0	1.0	0.35	0.28
15.0		T493X156(1)025(2)(3)(4)(5)	3.0	6.0	0.7	0.2	0.20
15.0 15.0	_ ^		5.5	6.0	0.8	0.2	0.20
	X D	T493D226(1)025(2)(3)(4)(5)	0.0				
15.0		T493D226(1)025(2)(3)(4)(5) T493X226(1)025(2)(3)(4)(5)	4.4	4.0	0.7	0.23	0.23
15.0 22.0	D	T493D226(1)025(2)(3)(4)(5) T493X226(1)025(2)(3)(4)(5) T493D336(1)025(2)(3)(4)(5)	1			0.23 0.4	0.23 0.09
15.0 22.0 22.0	D X	T493X226(1)025(2)(3)(4)(5)	4.4	4.0	0.7		

⁽¹⁾ To complete KEMET part number, insert M for ±20% or K for ±10% capacitance tolerance. To request ±5% tolerance,contact KEMET sales representative.

⁽²⁾ To complete KEMET part number, insert A for Non-ER; B for 0.1%/1000 Hrs.; or C for 0.01%/1000 Hrs. Reliability Level.

⁽³⁾ To complete KEMET part number, insert B for Gold Plated (50 μ inch minimum); C for Hot Solder Dipped (60 μ inch minimum); H for Solder Plated (100 μ inch minimum); K for Solder Fused (60 μ inch minimum Termination Finish or T for 100% Tin.

⁽⁴⁾ To complete KEMET part number for Surge Current testing, insert 61 for none; 62 for 10 cycles +25°C; or 64 for 10 cycles, -55°C & +85°C.

⁽⁵⁾ To complete KEMET part number, insert 10 for Standard ESR; 20 for Low ESR or 30 for Ultra-low ESR Option.

^{*} Extended Values #Maximum Capacitance Change @ 125°C = +15% † Maximum Capacitance Change @ 125°C = +20%



T493 SERIES—Military COTS

		TINGS AND I	<u> </u>				
Capaci- tance µF	Case Size	KEMET Part Number	DCL μA @ 25°C Max	DF % @ +25°C 120 Hz Max	Std. ESR Ohms @+25°C 100 kHz Max	Low ESR Ohms @+25°C 100 kHz Max	Ultra-Low ESR, Ohms @+25°C 100 kHz Max
		35 Volt Rating at	+85°C (23	Volt Rating a	t +125°C)		
0.10	Α	T493A104(1)035(2)(3)(4)(5)	0.5	4.0	20.0	10.0	N/A
0.15	Α	T493A154(1)035(2)(3)(4)(5)	0.5	4.0	19.0	6.0	N/A
0.22	Α	T493A224(1)035(2)(3)(4)(5)	0.5	4.0	18.0	6.0	N/A
0.33	Α	T493A334(1)035(2)(3)(4)(5)	0.5	4.0	15.0	6.0	N/A
0.47	Α	T493A474(1)035(2)(3)(4)(5)	0.5	4.0	14.0	4.0	N/A
0.47	В	T493B474(1)035(2)(3)(4)(5)	0.5	4.0	8.0	2.5	1.5
0.68	*A	T493A684(1)035(2)(3)(4)(5)	0.5	4.0	10.0	6.0	N/A
0.68	В	T493B684(1)035(2)(3)(4)(5)	0.5	4.0	6.5	2.5	N/A
1.0	*A	T493A105(1)035(2)(3)(4)(5)	0.5	4.0	10.0	6.0	N/A
1.0	В	T493B105(1)035(2)(3)(4)(5)	0.5	4.0	5.0	2.0	1.5
1.5	В	T493B155(1)035(2)(3)(4)(5)	0.5	6.0	5.0	3.0	N/A
1.5	С	T493C155(1)035(2)(3)(4)(5)	0.5	6.0	4.5	2.5	N/A
2.2	*B	T493B225(1)035(2)(3)(4)(5)	0.8	6.0	4.0	2.5	1.5
2.2	С	T493C225(1)035(2)(3)(4)(5)	0.8	6.0	3.5	1.5	0.75
#3.3	*B	T493B335(1)035(2)(3)(4)(5)	1.2	6.0	3.5	1.3	N/A
3.3	С	T493C335(1)035(2)(3)(4)(5)	1.2	6.0	2.5	0.8	0.60
4.7	С	T493C475(1)035(2)(3)(4)(5)	1.7	6.0	2.5	0.6	0.45
4.7	D	T493D475(1)035(2)(3)(4)(5)	1.7	6.0	1.5	0.7	N/A
6.8	С	T493C685(1)035(2)(3)(4)(5)	2.4	6.0	2.0	0.9	N/A
6.8	D	T493D685(1)035(2)(3)(4)(5)	2.4	6.0	1.3	0.5	0.40
#10.0	*C	T493C106(1)035(2)(3)(4)(5)	3.5	6.0	2.0	1.2	N/A
10.0	D	T493D106(1)035(2)(3)(4)(5)	3.5	6.0	1.0	0.3	0.25
10.0	Х	T493X106(1)035(2)(3)(4)(5)	2.8	4.0	0.9	0.25	0.18
15.0	D	T493D156(1)035(2)(3)(4)(5)	5.3	6.0	0.8	0.3	0.23
15.0	Х	T493X156(1)035(2)(3)(4)(5)	5.3	6.0	0.9	0.3	0.20
#22.0	*D	T493D226(1)035(2)(3)(4)(5)	7.7	6.0	0.7	0.4	0.20
22.0	Х	T493X226(1)035(2)(3)(4)(5)	7.7	6.0	0.7	0.3	0.20
#33.0	*X	T493X336(1)035(2)(3)(4)(5)	11.6	6.0	0.6	0.3	0.18
#47.0	*E	T493E476(1)035(2)(3)(4)(5)	16.5	10.0	0.5	0.3	N/A
		50 Volt Rating at	+85°C (33	Volt Rating a	t +125°C)		
0.10	Α	T493A104(1)050(2)(3)(4)(5)	0.5	4.0	20.0	10.0	N/A
0.15	*A	T493A154(1)050(2)(3)(4)(5)	0.5	4.0	19.0	10.0	N/A
0.15	В	T493B154(1)050(2)(3)(4)(5)	0.5	4.0	16.0	10.0	N/A
0.22	В	T493B224(1)050(2)(3)(4)(5)	0.5	4.0	14.0	10.0	N/A
0.33	В	T493B334(1)050(2)(3)(4)(5)	0.5	4.0	10.0	2.5	N/A
0.47	*B	T493B474(1)050(2)(3)(4)(5)	0.5	4.0	9.0	2.0	N/A
0.47	С	T493C474(1)050(2)(3)(4)(5)	0.5	4.0	8.0	1.8	N/A
0.68	С	T493C684(1)050(2)(3)(4)(5)	0.5	4.0	7.0	1.6	N/A
1.0	С	T493C105(1)050(2)(3)(4)(5)	0.5	4.0	5.5	1.6	1.3
1.5	*C	T493C155(1)050(2)(3)(4)(5)	0.8	6.0	4.5	1.5	N/A
1.5	D	T493D155(1)050(2)(3)(4)(5)	0.8	6.0	3.5	1.0	N/A
2.2	*C	T493C225(1)050(2)(3)(4)(5)	1.1	6.0	3.5	1.5	N/A
2.2	D	T493D225(1)050(2)(3)(4)(5)	1.1	6.0	2.5	0.8	0.60
3.3	D	T493D335(1)050(2)(3)(4)(5)	1.7	6.0	2.0	0.8	0.70
4.7	D	T493D475(1)050(2)(3)(4)(5)	2.4	6.0	1.5	0.6	0.28
4.7	X	T493X475(1)050(2)(3)(4)(5)	1.9	4.0	0.9	0.3	0.30
6.8	Х	T493X685(1)050(2)(3)(4)(5)	3.5	6.0	1.0	0.5	N/A
10.0	Х	T493X106(1)050(2)(3)(4)(5)	5.0	6.0	0.7	0.4	N/A

⁽¹⁾ To complete KEMET part number, insert M for $\pm 20\%$ or K for $\pm 10\%$ capacitance tolerance. To request $\pm 5\%$ tolerance, contact KEMET sales representative.

⁽²⁾ To complete KEMET part number, insert A for Non-ER; B for 0.1%/1000 Hrs.; or C for 0.01%/1000 Hrs. Reliability Level.
(3) To complete KEMET part number, insert B for Gold Plated (50 μ inch minimum); C for Hot Solder Dipped (60 μ inch

minimum); H for Solder Plated (100 μ inch minimum); K for Solder Fused (60 μ inch minimum Termination Finish or T for 100% Tin.

⁽⁴⁾ To complete KEMET part number for Surge Current testing, insert 61 for none; 62 for 10 cycles +25°C; or 64 for 10 cycles, -55°C & +85°C.

⁽⁵⁾ To complete KEMET part number, insert 10 for Standard ESR; 20 for Low ESR or 30 for Ultra-low ESR Option.

^{*} Extended Values #Maximum Capacitance Change @ 125°C = +15%



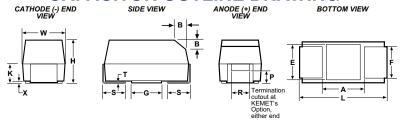
T494 SERIES — Low ESR, Industrial Grade

FEATURES

- Low ESR values in EIA 535BAAC sizes
- Taped and Reeled per EIA 481-1
- Symmetrical, Compliant Terminations
- Optional Gold-plated Terminations
- Laser-marked Case
- 100% Surge Current test on C, D, E, U, V, X sizes
- Capacitance: 0.1 µF to 1000 µF

- Tolerance: ±10%, ±20%
- Voltage: 3-50 VDC
- **Extended Range Values**
- Low Profile Case Sizes
- RoHS Compliant & Leadfree Terminations (See www.kemet.com for lead transition)
- Operating Temperature: -55°C to +125°C

CAPACITOR OUTLINE DRAWING



STANDARD T494 DIMENSIONS

Millimeters (inches)

CASE	SIZE					COMP	ONENT								
KEMET	EIA	L*	W*	H*	$\mathbf{K}^{\star} \stackrel{\pm 0.20}{\pm (.008)}$	F* ± 0.1 ± (.004)	S* ± 0.3 ± (.012)	$\mathbf{B} \pm 0.15$ (Ref) $\pm (.006)$	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)	0.9 (.035)	1.2 (.047)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.4 (.016)	0.4 (.016)	0.13 (.005)	1.4 (.055)	1.1 (.043)	1.3 (.051)
В	3528-21	3.5 ± 0.2 (.138 \pm .008)	2.8 ± 0.2 (.110 ± .008)	1.9 ± 0.2 (.075 ± .008)	1.1 (.043)	2.2 (.087)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.5 (.020)	1.0 (.039)	0.13 (.005)	2.1 (.083)	1.8 (.071)	2.2 (.087)
С	6032-28	6.0 ± 0.3 (.236 ± .012)	3.2 ± 0.3 (.126 ± .012)	2.5 ± 0.3 (.098 ± .012)	1.4 (.055)	2.2 (.087)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.1 (.122)	2.8 (.110)	2.4 (.094)
D	7343-31	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.8 ± 0.3 (.110 ± .012)	1.5 (.059)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
Х	7343-43	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	4.0 ± 0.3 (.157 ± .012)	2.3 (.091)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	1.7 (.067)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
Е	7260-38	7.3 ± 0.3 (.287 ± .012)	6.0 ± 0.3 (.236 ± .012)	3.6 ± 0.2 (.142 ± .008)	2.3 (.091)	4.1 (.161)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

Notes: 1. Metric dimensions govern.

LOW PROFILE T494 DIMENSIONS

Millimeters (inches)

CASE	SIZE				C	OMPONE	NT					
KEMET	EIA	L	w	H Max.	K Min.	F ± 0.1	S ± 0.3	X (Ref	T (Ref)	A (Min)	G (Ref)	E (Ref)
R	2012-12	2.0 ± 0.2 (.079 ± .008)	1.3 ± 0.2 (.051 ± .008)	1.2 (.047)	0.3 (.012)	0.9 (.035)	0.5 (.020)	0.05 (.002)	0.13 (.005)	0.8 (.031)	0.5 (.020)	0.8 (.031)
S	3216-12	3.2 ± 0.2 (.126 ± .008)	1.6 ± 0.2 (.063 ± .008)	1.2 (.047)	0.3 (.012)	1.2 (.047)	0.8 (.031)	0.05 (.002)	0.13 (.005)	1.4 (.055)	1.1 (.043)	1.3 (.051)
Т	3528-12	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.2 (.047)	0.3 (.012)	2.2 (.087)	0.8 (.031)	0.05 (.002)	0.13 (.005)	2.1 (.083)	1.8 (.071)	2.2 (.087)
U	6032-15	6.0 ± 0.3 (.236 ± .012)	3.2 ± 0.3) (.126 ± .012)	1.5 (.059)	0.5 (.020)	2.2 (.087)	1.3 (.051)	0.05 (.002)	0.13 (.005)	3.1 (.122)	2.8 (.110)	2.4 (.094)
٧	7343-20	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.0 (.079)	0.9 (.035)	2.4 (.094)	1.3 (.051)	0.05 (.002)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

Notes: 1. Metric dimensions govern.

2. (Ref) - Dimensions provided for reference only.

3. No dimensions provided for B, P or R because low profile cases do not have a bevel or a notch.

T494 ORDERING INFORMATION 494 B 105 M 035 A T - 100% Tin (Sn) Plated Tantalum Tin/Lead (SnPb 5% Pb minimum) Gold Plated (A, B, C, D, X only) Not recommended for new designs Case Size - Failure Rate A - Not Applicable A, B, C, D, E, R, S, T, U, V, X Voltage Capacitance Picofarad Code **Capacitance Tolerance** First two digits represent significant figures. **M** - ± 20% **K** - ± 10% Third digit specifies number of zeros to follow.

*Part number example: T494B105M035AT (14 digits - no spaces). See www.kemet.com for Pb Free transition. ** "S" Termination codes are converting from 90Sn/10 Pb to 100% tin finishes. Orders including "S" suffix termination codes do not quarantee Pb-free product.

^{2. (}Ref) - Dimensions provided for reference only.

* Mil-C-55365/8 Specified Dimensions



T494 SERIES—Low ESR, Industrial Grade

			1		ī
Capaci-			DC	DF %	$ESR\Omega$
tance	Case	KEMET	Leakage	@ +25°C	@ +25°C
μF	Size	Part Number	μA @ 25°C	120 Hz Max	100 kHz
			Max	IVIAX	Max
		Volt Rating at +85°C (1.7 V			
100.0 220.0	*T D	T494T107(1)2R5A(2) T494D227(1)2R5A(2)	2.5 5.5	24.0 8.0	3.5
220.0		Volt Rating at +85°C (2 Vol			0.2
#33.0	*A	T494A336(1)003A(2)	1.0	6.0	2.0
		olt Rating at +85°C (2.7 Vo			
3.3 4.7	A	T494A335(1)004A(2) T494A475(1)004A(2)	0.5 0.5	6.0 6.0	4.0 3.5
6.8	Α	T494A685(1)004A(2)	0.5	6.0	3.0
6.8 10.0	S B	T494S685(1)004A(2) T494B106(1)004A(2)	0.5	6.0	7.0 1.2
10.0	A	T494A106(1)004A(2)	0.5 0.5	6.0 6.0	2.0
#10.0	*S	T494S106(1)004A(2)	0.5	6.0	9.0
#10.0 15.0	*R B	T494R106M004A(2) T494B156(1)004A(2)	0.5 0.6	8.0 6.0	6.0 1.2
15.0	Α	T494A156(1)004A(2)	0.6	6.0	1.5
15.0 #15.0	T *S	T494T156(1)004A(2)	0.6	6.0 10.0	2.0 9.0
22.0	C	T494S156M004A(2) T494C226(1)004A(2)	0.6 0.9	6.0	0.5
22.0	В	T494B226(1)004A(2)	0.9	6.0	0.6
#22.0 #22.0	*A *S	T494A226(1)004A(2) T494S226M004A(2)	0.9 0.9	6.0 10.0	1.5 8.0
#22.0	*T	T494T226(1)004A(2)	0.9	6.0	2.5
33.0	C :	T494C336(1)004A(2)	1.3	6.0	0.5
33.0 33.0	U B	T494U336(1)004A(2) T494B336(1)004A(2)	1.3 1.3	6.0 6.0	0.6 0.5
#33.0	*A	T494A336(1)004A(2)	1.3	6.0	3.0
#33.0 47.0	*T C	T494T336M004A(2) T494C476(1)004A(2)	1.3 1.9	8.0 6.0	3.5 0.5
47.0	Ü	T494U476(1)004A(2)	1.9	6.0	0.6
#47.0	*B	T494B476(1)004A(2)	1.9	6.0	0.5
#47.0 #47.0	*A T	T494A476M004A(2) T494T476M004A(2)	1.9 1.9	12.0 12.0	2.0 4.0
68.0	D	T494D686(1)004A(2)	2.7	6.0	0.20
68.0 #68.0	C *U	T494C686(1)004A(2)	2.7 2.7	6.0 6.0	0.25 0.60
#68.0	*B	T494U686(1)004A(2) T494B686(1)004A(2)	2.7	6.0	2.00
#68.0	A	T494A686(1)004A(2)	2.8	30.0	3.00
100.0 #100.0	D *C	T494D107(1)004A(2) T494C107(1)004A(2)	4.0 4.0	8.0 8.0	0.20 0.20
#100.0	*U	T494U107(1)004A(2)	4.0	10.0	1.00
#100.0 †100.0	*B *A	T494B107M004A(2) T494A107M004A(2)	4.0 4.0	8.0 30.0	0.65 3.00
†100.0	*T	T494T107M004A(2)	4.0	30.0	4.50
150.0	D	T494D157(1)004A(2)	6.0	8.0	0.15
150.0 #150.0	V *C	T494V157(1)004A(2) T494C157(1)004A(2)	6.0 6.0	8.0 8.0	0.20 0.30
†150.0	*B	T494B157M004A(2)	6.0	12.0	1.00
#220.0 #220.0	*V *B	T494V227(1)004A(2) T494B227M004A(2)	8.8 8.8	8.0 8.0	0.30 0.40
#330.0	*D	T494D337(1)004A(2)	13.2	8.0	0.40
#330.0	*C *V	T494C337(1)004A(2)	13.2	10.0 12.0	0.09
†330.0 #470.0	*X	T494V337(1)004A(2) T494X477(1)004A(2)	13.2 18.8	12.0 8.0	0.30 0.15
#470.0	*D	T494D477(1)004A(2)	18.8	8.0	0.15
#680.0 #680.0	*X D	T494X687M004A(2) T494D687M004A(2)	27.2 27.2	12.0 12.0	0.10 0.15
#1000.0	*X	T494X108(1)004A(2)	40.0	12.0	0.10
#1000.0	*E	T494E108M004A(2)	40.0	15.0	0.08
2.2	** 6	Volt Rating at +85°C (4 Vo T494R225(1)006A(2)	olt Rating at + 0.5	125°C) 6.0	20.0
2.2	A	T494A225(1)006A(2)	0.5	6.0	6.0
3.3	Α	T494A335(1)006A(2)	0.5	6.0	6.0
4.7 4.7	A S	T494A475(1)006A(2) T494S475(1)006A(2)	0.5 0.5	6.0 6.0	3.5 8.0
6.8	В	T494B685(1)006A(2)	0.5	6.0	1.2
6.8 #6.8	A *S	T494A685(1)006A(2) T494S685(1)006A(2)	0.5	6.0	2.0 9.0
#6.8 #6.8	*R	T494R685(1)006A(2)	0.5 0.5	6.0 8.0	10.0
10.0	В	T494B106(1)006A(2)	0.6	6.0	1.0
10.0 10.0	A T	T494A106(1)006A(2) T494T106(1)006A(2)	0.6 0.6	6.0 6.0	2.0 1.2
#10.0	*S	T494S106M006A(2)	0.6	10.0	9.0
#10.0	*R	T494R106M006A(2)	0.6	8.0	6.0

	1		1		
Capaci-		KENET	DC	DF %	ESR Ω
tance	Case Size	KEMET Part Number	Leakage µA @ 25°C	@ +25°C 120 Hz	@ +25°C 100 kHz
μF	Size	Fait Number	Max	Max	Max
	**6	L ■ Volt Rating at +85°C (4 Vo		125°C)	
15.0	С	T494C156(1)006A(2)	0.9	6.0	0.6
15.0	В	T494B156(1)006A(2)	0.9	6.0	0.7
#15.0	*A	T494A156(1)006A(2)	0.9	6.0	2.0
#15.0 #15.0	*T S	T494T156(1)006A(2) T494S156M006A(2)	0.9 0.9	6.0 10.0	2.5 10.0
22.0	Č	T494C226(1)006A(2)	1.4	6.0	0.5
22.0	U	T494U226(1)006A(2)	1.4	6.0	0.8
22.0 #22.0	В *А	T494B226(1)006A(2) T494A226(1)006A(2)	1.4 1.4	6.0 6.0	0.6 3.0
#22.0	*T	T494T226M006A(2)	1.4	8.0	3.5
33.0	С	T494C336(1)006A(2)	2.0	6.0	0.3
33.0	U	T494U336(1)006A(2)	2.0	6.0	0.6
#33.0 #33.0	*B *A	T494B336(1)006A(2) T494A336(1)006A(2)	2.0 2.0	6.0 12.0	0.6 2.0
#33.0	Ť	T494T336M006A(2)	2.0	12.0	4.0
47.0	D	T494D476(1)006A(2)	2.9	6.0	0.22
47.0 #47.0	C *U	T494C476(1)006A(2) T494U476(1)006A(2)	2.9 2.9	6.0 6.0	0.25 0.60
#47.0 #47.0	*B	T494B476(1)006A(2)	2.9	6.0	0.50
†47.0	*A	T494A476M006A(2)	3.0	12.0	2.50
47.0	*T	T494T476(1)006A(2)	3.0	24.0	4.00
68.0 #68.0	D *C	T494D686(1)006A(2) T494C686(1)006A(2)	4.1 4.1	6.0 6.0	0.20 0.20
#68.0	*U	T494U686(1)006A(2)	4.1	10.0	1.00
#68.0	*B	T494B686M006A(2)	4.1	8.0	0.65
#68.0 100.0	*A D	T494A686(1)006A(2	5.0	30.0	3.00
100.0	V	T494D107(1)006A(2) T494V107(1)006A(2)	6.0 6.0	8.0 8.0	0.15 0.20
#100.0	*C	T494C107(1)006A(2)	6.0	8.0	0.30
#100.0	U	T494U107M006A(2)	6.0	10.0	1.20
#100.0 150.0	*B D	T494B107(1)006A(2) T494D157(1)006A(2)	6.0 9.0	15.0 8.0	1.50 0.15
#150.0	*C	T494C157M006A(2)	9.0	8.0	0.30
#150.0	*V	T494V157(1)006A(2)	9.0	8.0	0.30
220.0 #220.0	X *D	T494X227(1)006A(2) T494D227(1)006A(2)	13.2 13.2	8.0 8.0	0.15 0.15
#220.0	*C	T494D227(1)006A(2)	13.2	10.0	0.13
#220.0	*V	T494V227M006A(2)	13.2	12.0	0.30
#330.0	*X	T494X337(1)006A(2)	19.8	8.0	0.15
#330.0 #330.0	*D *E	T494D337(1)006A(2) T494E337(1)006A(2)	19.8 20.8	8.0 8.0	0.15 0.25
#470.0	*X	T494X477(1)006A(2)	28.2	10.0	0.10
#470.0	*D	T494D477M006A(2)	28.2	12.0	0.15
#470.0 #680.0	*E	T494E477(1)006A(2) T494E687M006A(2)	29.6 40.8	10.0 12.0	0.20 0.10
#000.0	10	Volt Rating at +85°C (7 Vo			0.10
1.5	Α	T494A155(1)010A(2)	0.5	6.0	6.0
2.2 2.2	B A	T494B225(1)010A(2) T494A225(1)010A(2)	0.5 0.5	6.0 6.0	1.5 6.0
3.3	A	T494A335(1)010A(2)	0.5	6.0	4.0
3.3	S	T494S335(1)010A(2)	0.5	6.0	9.0
#3.3	*R	T494R335(1)010A(2)	0.3	8.0	10.0
4.7 4.7	B A	T494B475(1)010A(2) T494A475(1)010A(2)	0.5 0.5	6.0 6.0	1.5 3.0
#4.7	*S	T494S475(1)010A(2)	0.5	6.0	9.0
#4.7	*R	T494R475M010A(2)	0.5	8.0	8.0
6.8 6.8	B	T494B685(1)010A(2) T494A685(1)010A(2)	0.7 0.7	6.0 6.0	1.2 3.0
6.8	T	T494T685(1)010A(2)	0.7	6.0	2.0
#6.8	*S	T494S685M010A(2)	0.7	10.0	9.0
10.0 10.0	C B	T494C106(1)010A(2) T494B106(1)010A(2)	1.0 1.0	6.0 6.0	0.6 0.8
#10.0	*A	T494B106(1)010A(2)	1.0	6.0	1.8
#10.0	*T	T494T106(1)010A(2)	1.0	6.0	3.5
#10.0	S	T494S106M010A(2)	1.0	10.0	12.0
15.0 15.0	C	T494C156(1)010A(2) T494U156(1)010A(2)	1.5 1.5	6.0 6.0	0.5 0.8
15.0	В	T494B156(1)010A(2)	1.5	6.0	0.7
#15.0	*A	T494A156(1)010A(2)	1.5	8.0	4.0
#15.0	*T	T494T156M010A(2)	1.5	8.0	3.5

⁽¹⁾ To complete KEMET Part Number, insert M for ±20% tolerance or K for ±10% tolerance.
(2) To complete KEMET Part Number, insert S, H, G, or T lead material designation as shown on page 27. *Extended Values

^{**6} Volt product equivalent to 6.3 volt product.

[#]Maximum Capacitance Change @ 125°C=+15%. †Maximum Capacitance Change @ 125°C=+20%.

Higher voltage ratings and tighter tolerance product may be substituted within the same size at KEMET's option.

Voltage substitutions will be marked with the higher voltage rating.

T494 SERIES—Low ESR, Industrial Grade



Capaci- tance µF	Case Size	KEMET Part Number	DC Leakage μA @ 25°C Max	DF % @ +25°C 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
		Volt Rating at +85°C (7 Vo			
22.0	С	T494C226(1)010A(2)	2.2	6.0	0.4
22.0	U	T494U226(1)010A(2)	2.2	6.0	0.8
#22.0	*B	T494B226(1)010A(2)	2.2	6.0	0.7
#22.0	*A	T494A226M010A(2)	2.2	10.0	4.5
#22.0	Т	T494T226M010A(2)	2.2	12.0	6.0
33.0	D	T494D336(1)010A(2)	3.3	6.0	0.25
33.0	V	T494V336(1)010A(2)	3.3	6.0	0.30
33.0	С	T494C336(1)010A(2)	3.3	6.0	0.30
#33.0	*U	T494U336(1)010A(2)	3.3	6.0	0.60
#33.0	*B	T494B336(1)010A(2)	3.3	6.0	1.40
47.0	D	T494D476(1)010A(2)	4.7	6.0	0.22
47.0	V	T494V476(1)010A(2)	4.7	6.0	0.30
#47.0	*C	T494C476(1)010A(2)	4.7	6.0	0.30
#47.0	*U	T494U476(1)010A(2)	4.7	10.0	1.20
#47.0	*B	T494B476M010A(2)	4.7	8.0	0.65
68.0	D	T494D686(1)010A(2)	6.8	6.0	0.20
#68.0	*C	T494C686(1)010A(2)	6.8	6.0	0.30
68.0	V	T494V686(1)010A(2)	6.8	6.0	0.30
#68.0	Ů	T494U686M010A(2)	6.8	10.0	1.20
#68.0	*B	T494B686M010A(2)	6.8	10.0	1.50
100.0	D	T494D107(1)010A(2)	10.0	8.0	0.15
#100.0	*c	T494C107(1)010A(2)	10.0	8.0	0.20
#100.0	*V	T494V107(1)010A(2)	10.0	8.0	0.40
150.0	X	T494X157(1)010A(2)	15.0	8.0	0.15
#150.0	*D	T494D157(1)010A(2)	15.0	8.0	0.15
#150.0	*C	T494C157(1)010A(2)	15.0	10.0	0.70
#150.0	v	T494V157M010A(2)	15.0	8.0	0.30
#220.0	*X	T494X227(1)010A(2)	22.0	8.0	0.30
	^n			8.0	
#220.0	*V	T494D227(1)010A(2)	22.0		0.15
#220.0	X	T494V227(1)010A(2)	22.0 33.0	12.0 10.0	0.50
#330.0	*D	T494X337(1)010A(2)			0.10
#330.0		T494D337M010A(2)	33.0	10.0	0.15
#330.0	*E	T494E337(1)010A(2)	33.0	10.0	0.25
#470.0	*X	T494X477(1)010A(2)	47.0	10.0	0.10
#470.0	E	T494E477M010A(2)	47.0	12.0	0.10
	16	Volt Rating at +85°C (10 Vo			
4.0					
1.0	Α	T494A105(1)016A(2)	0.5	4.0	6.0
1.5	A	T494A155(1)016A(2)	0.5	6.0	6.0
1.5 2.2	A A A	T494A155(1)016A(2) T494A225(1)016A(2)	0.5 0.5	6.0	6.0 4.0
1.5 2.2 2.2	A A A *S	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2)	0.5 0.5 0.5	6.0 6.0 6.0	6.0 4.0 10.0
1.5 2.2 2.2 #2.2	A A A *S *R	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2)	0.5 0.5 0.5 0.5	6.0 6.0 6.0 8.0	6.0 4.0 10.0 20.0
1.5 2.2 2.2 #2.2 3.3	A A *S *R B	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494B335(1)016A(2)	0.5 0.5 0.5 0.5 0.5	6.0 6.0 6.0 8.0 6.0	6.0 4.0 10.0 20.0 2.0
1.5 2.2 2.2 #2.2 3.3 3.3	A A *S *R B A	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494F225(1)016A(2) T494B335(1)016A(2) T494A335(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.5	6.0 6.0 6.0 8.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7	A A *S *R B A B	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B345(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.5 0.5	6.0 6.0 6.0 8.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7	A A *S *R B A B A	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.8	6.0 6.0 6.0 8.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7	A A *S *R B A T	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494B335(1)016A(2) T494A335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.8 0.8	6.0 6.0 6.0 8.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8	A A *S *R B A T C	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494C475(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1	6.0 6.0 6.0 8.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0 0.8
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8	A A *S *R B A T C B	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494A335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 1.1 1.1	6.0 6.0 6.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0 0.8 1.2
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8	A A *S *R B A T C B *A	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494A685(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0 0.8 1.2 3.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8	A A *S *R B A T C B *A C	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494B685(1)016A(2) T494B685(1)016A(2) T494A685(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 1.1 1.1	6.0 6.0 6.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 0.8 1.2 3.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8	A A *S *R B A T C B *A	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494A685(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0 0.8 1.2 3.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8 10.0 10.0	A A *S *R B A T C B *A C U B	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494B685(1)016A(2) T494B685(1)016A(2) T494A685(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.1	6.0 6.0 6.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 0.8
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8	A A *S *R B A T C B *A C U	T494A155(1)016A(2) T494A225(1)016A(2) T494R225(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494A335(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494A685(1)016A(2) T494A685(1)016A(2) T494A685(1)016A(2) T494A685(1)016A(2) T494A685(1)016A(2) T494A685(1)016A(2) T494A685(1)016A(2) T494A685(1)016A(2) T494A685(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.1	6.0 6.0 6.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0 0.8 1.2 3.0 0.6 1.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8 10.0 10.0	A A *S *R B A T C B *A C U B	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R225(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2) T494C106(1)016A(2) T494C106(1)016A(2) T494C106(1)016A(2) T494C106(1)016A(2) T494C106(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 1.1 1.1 1.6 1.6	6.0 6.0 6.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 0.8
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8 10.0 10.0 #10.0	A A *S *R B A T C B *A C U B *A	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494B685(1)016A(2) T494B685(1)016A(2) T494B106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494H106(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6	6.0 6.0 6.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0 0.8 1.2 3.0 0.6 1.0 0.8 3.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 6.8 6.8 #6.8 10.0 10.0 10.0 11.0 #10.0	A A A S * R B A B A T C B * A C U B * A * T	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B475(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6	6.0 6.0 6.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0 0.8 1.2 3.0 0.6 1.0 0.8
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8 #10.0 10.0 110.0 #10.0 #10.0	A A A * S * R B A B A T C B * A C U B * A T C	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 1.6 2.4	6.0 6.0 6.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0 0.8 1.2 3.0 0.6 1.0 0.8
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8 #10.0 10.0 10.0 110.0 #10.0 #10.0 #10.0	A A A * S * R B A B A T C B * A C U B * A T C U	T494A155(1)016A(2) T494A225(1)016A(2) T494R225(1)016A(2) T494B325(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494B685(1)016A(2) T494C106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494B106(1)016A(2) T494C156(1)016A(2) T494C156(1)016A(2) T494C156(1)016A(2) T494C156(1)016A(2) T494U106(1)016A(2) T494C156(1)016A(2) T494C156(1)016A(2) T494C156(1)016A(2)	0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 1.6 2.4 2.4	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0 0.8 1.2 3.0 0.6 1.0 0.8 3.0 0.6 1.0 0.8
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8 #10.0 10.0 110.0 #10.0 #10.0	A A A * S * R B A B A T C B * A C U B * A T C U * B D	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2)	0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 1.6 2.4	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 3.0 0.8 1.2 3.0 0.6 1.0 0.8 3.0 0.8
1.5 2.2 2.2 #2.2 3.3 4.7 4.7 4.7 6.8 6.8 #10.0 10.0 #10.0 #10.0 #10.0 #15.0 #15.0 #15.0 #15.0 #22.0 22.0	A A A A S *R B A B A T C B *A C U B A *T C U *B D C	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B475(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2)	0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 1.6 2.4 2.4 2.4 3.6 3.6	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 0.8 0.8 1.2 3.0 0.6 1.0 0.8 1.0 0.8 1.0 0.6 1.0 0.8 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8 #10.0 10.0 110.0 #10.0 #10.0 #10.0 #15.0	A A A S *R B A B A T C B *A C U B *A *T C U *B D C *V	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494U106(1)016A(2) T494C156(1)016A(2) T494C156(1)016A(2) T494C156(1)016A(2) T494C156(1)016A(2) T494C156(1)016A(2) T494C226(1)016A(2) T494C226(1)016A(2) T494C226(1)016A(2)	0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 1.6 2.4 2.4 2.4 3.6 3.6 3.6	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 0.8 0.6 1.0 0.8 0.8 0.9 0.8 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9
1.5 2.2 2.2 2.2 3.3 4.7 4.7 6.8 6.8 10.0 10.0 #10.0 #10.0 #15.0 15.0 #15	A A A A S *R B A B A T C B *A C U B A *T C U *B D C	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2)	0.5 0.5 0.5 0.5 0.8 0.8 1.1 1.1 1.6 1.6 1.6 2.4 2.4 2.4 2.4 3.6 3.6 3.6 3.6	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 6.0 0.8 3.0 6.0 9.8 3.0 6.0 9.8 1.0 9.8 9.8 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8 10.0 10.0 #10.0 #10.0 #10.0 #15.0 #15.0 #15.0 #22.0 #22.0	A A A % \$\mathbb{R}\$ B A B A T C B \$\mathbb{A}\$ C U B \$\mathbb{A}\$ T C U \$\mathbb{B}\$ D C \$\mathbb{D}\$ B D D D D D D D D D D D D D D D D D D	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2) T494U106(1)016A(2)	0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 1.6 2.4 2.4 2.4 2.4 3.6 3.6 3.6 3.6 5.3	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 0.8 3.0 6.0 0.4 0.8 0.8 0.8 1.2 3.0 0.6 1.0 0.8 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
1.5 2.2 2.2 #2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 #6.8 #10.0 10.0 110.0 110.0 110.0 115.0	A A A \$\infty R B A B A T C B \$\infty C U B A T C U B D C \nabla B D D D D D D D D D D D D D D D D D D	T494A155(1)016A(2) T494A225(1)016A(2) T494R225(1)016A(2) T494R225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494B475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2) T494C106(1)016A(2) T494H06(1)016A(2) T494H06(1)016A(2) T494H106(1)016A(2) T494H106(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U156(1)016A(2) T494U256(1)016A(2) T494U336(1)016A(2) T494U336(1)016A(2) T494U336(1)016A(2)	0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 1.6 1.6 2.4 2.4 2.4 3.6 3.6 3.6 3.6 5.3 5.3	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 0.8 3.0 6.0 0.4 0.8 3.0 6.0 0.4 0.8 3.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0
1.5 2.2 2.2 2.2 3.3 4.7 4.7 6.8 6.8 10.0 10.0 #10.0 #10.0 #15.0 #15.0 #15.0 #22.0 22.0 #22.0 #22.0 #22.0 #33.0 #33.0	A A A \$ \$ \$ B A B A T C B \$ C U B \$ A T C U \$ B D C \$ \$ \$ B D C \$ \$ \$ B D C \$ \$ \$ \$ \$ \$ B D C \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2) T494C1016A(2)	0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 2.4 2.4 2.4 2.4 3.6 3.6 3.6 3.6 3.6 3.5 3.5 3.5	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 0.8 3.0 6.0 0.8 3.0 6.0 9.8 1.2 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0
1.5 2.2 2.2 2.2 3.3 3.3 4.7 4.7 6.8 6.8 10.0 10.0 11.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0 33	A A A A S R B A B A T C B A C U B A T C U B D C U B D C U D	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2) T494U106(1)016A(2)	0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 1.6 2.4 2.4 2.4 2.4 3.6 3.6 3.6 3.6 3.5 3.7 5.3	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 0.8 0.8 0.8 1.2 3.0 0.6 1.0 0.8 1.0 0.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0
1.5 2.2 2.2 2.2 3.3 4.7 4.7 6.8 6.8 10.0 10.0 11.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 422.0 33.0 47.0	A A A \$ \$ R B A B A T C B \$ A C U B \$ A T C U \$ B D C \$ \$ D C \$ D D C \$ D C \$ D C C C C C	T494A155(1)016A(2) T494A225(1)016A(2) T494R225(1)016A(2) T494R225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494B475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2) T494C1016A(2)	0.5 0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 1.6 2.4 2.4 2.4 2.4 3.6 3.6 3.6 3.6 5.3 5.3 7.5	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 0.8 3.0 0.8 1.2 1.2 1.2 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
1.5 2.2 2.2 2.2 3.3 3.3 4.7 4.7 6.8 6.8 10.0 10.0 11.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0 33	A A A A S R B A B A T C B A C U B A T C U B D C U B D C U D	T494A155(1)016A(2) T494A225(1)016A(2) T494S225(1)016A(2) T494S225(1)016A(2) T494R225(1)016A(2) T494R335(1)016A(2) T494B335(1)016A(2) T494B475(1)016A(2) T494B475(1)016A(2) T494A475(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C685(1)016A(2) T494C106(1)016A(2) T494U106(1)016A(2)	0.5 0.5 0.5 0.5 0.8 0.8 0.8 1.1 1.1 1.6 1.6 1.6 1.6 2.4 2.4 2.4 2.4 3.6 3.6 3.6 3.6 3.5 3.7 5.3	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	6.0 4.0 10.0 20.0 2.0 4.0 4.0 1.5 3.0 0.8 1.2 3.0 0.6 1.0 0.8 0.8 0.8 1.2 3.0 0.6 1.0 0.8 1.0 0.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0

Capaci- tance µF	Case Size	KEMET Part Number	DC Leakage μA @ 25°C	DF % @ +25°C 120 Hz	ESR Ω @ +25°C 100 kHz
		V. I. D	Max	Max	Max
100.0	16 X	Volt Rating at +85°C (10 Voltage	16.0	8.0	0.15
#100.0	_{*D}	T494D107(1)016A(2)	16.0	8.0	0.15
†100.0 †100.0	*V	T494V107(1)016A(2)	16.0	12.0	0.15
#150.0	*X	T494X157(1)016A(2)	24.0	8.0	0.15
#150.0	*D	T494D157(1)016A(2)	24.0	12.0	0.4
#220.0	*X	T494X227(1)016A(2)	35.2	10.0	0.4
#220.0	*E	T494E227(1)016A(2)	35.2	7.2	0.5
0.00		Volt Rating at +85°C (13 V			0.0
0.68 1.0	A	T494A684(1)020A(2) T494A105(1)020A(2)	0.5 0.5	4.0 4.0	8.0 5.5
1.0	s	T494S105(1)020A(2)	0.5	6.0	10.0
†1.0	R	T494R105(1)020A(2)	0.2	6.0	15.0
1.5	Α	T494A155(1)020AS(2)	0.5	6.0	4.5
1.5	S	T494S155(1)020A(2)	0.5	6.0	9.0
2.2	В	T494B225(1)020A(2)	0.5	6.0	1.5
2.2	A	T494A225(1)020A(2)	0.5	6.0	4.0
3.3 #3.3	В *А	T494B335(1)020A(2) T494A335(1)020A(2)	0.7 0.7	6.0 6.0	1.3 4.0
3.3	*T	T494T335(1)020A(2)	0.7	6.0	4.0
4.7	Ċ	T494C475(1)020A(2)	1.0	6.0	0.6
4.7	В	T494B475(1)020A(2)	1.0	6.0	1.0
#4.7	*A	T494A475(1)020A(2)	1.0	6.0	3.0
6.8	С	T494C685(1)020A(2)	1.4	6.0	0.6
6.8	U *B	T494U685(1)020A(2)	1.4	6.0	1.4
#6.8 #6.8	*A	T494B685(1)020A(2) T494A685M020A(2)	1.4 1.4	6.0 8.0	1.0 3.0
10.0	C	T494C106(1)020A(2)	2.0	6.0	0.5
10.0	Ιŭ	T494U106(1)020A(2)	2.0	6.0	0.8
#10.0	*B	T494B106(1)020A(2)	2.0	6.0	1.0
15.0	D	T494D156(1)020A(2)	3.0	6.0	0.35
15.0	*C	T494C156(1)020A(2)	3.0	6.0	0.40
22.0	D	T494D226(1)020A(2)	4.4	6.0	0.3
22.0	*C	T494V226(1)020A(2)	4.4	6.0	0.4
#22.0 33.0	D	T494C226(1)020A(2) T494D336(1)020A(2)	4.4 6.6	6.0	0.4 0.25
#33.0	, c	T494C336M020A(2)	6.6	6.0	0.40
†33.0	V	T494V336(1)020A(2)	6.6	8.0	0.40
47.0	С	T494C476M020A(2)	9.4	10.0	0.80
47.0	*D	T494D476(1)020A(2)	9.4	6.0	0.20
68.0	X	T494X686(1)020A(2)	13.6	6.0	0.20
#68.0 #100.0	*D	T494D686(1)020A(2)	13.6 20.0	8.0 8.0	0.20 0.15
#100.0	_{*Ê}	T494X107(1)020A(2) T494E107(1)020A(2)	20.0	8.0	0.13
#150.0	*X	T494X157(1)020A(2)	30.0	10.0	0.30
	25	Volt Rating at +85°C (17 Vo	olt Rating at +	125°C)	
0.33	Α	T494A334(1)025A(2)	0.5	4.0	10.0
0.47	A	T494A474(1)025A(2)	0.5	4.0	9.0
0.68 1.0	A B	T494A684(1)025A(2) T494B105(1)025A(2)	0.5 0.5	4.0 4.0	6.0 2.0
1.0	*A	T494A105(1)025A(2)	0.5	4.0	4.0
1.5	В	T494B155(1)025A(2)	0.5	6.0	1.5
1.5	*A	T494A155(1)025A(2)	0.5	6.0	3.0
2.2	C	T494C225(1)025A(2)	0.6	6.0	2.2
2.2	B	T494B225(1)025A(2)	0.6	6.0	1.2
3.3	C *B	T494C335(1)025A(2)	0.9 0.9	6.0	1.2 2.0
3.3 4.7	C	T494B335(1)025A(2) T494C475(1)025A(2)	1.2	6.0	0.6
#4.7	*B	T494B475(1)025A(2)	1.2	6.0	1.0
#4.7	*A	T494A475M025A(2)	1.2	8.0	3.0
6.8	С	T494C685(1)025A(2)	1.7	6.0	0.6
6.8	*B	T494B685(1)025A(2)	1.7	8.0	2.0
10.0	D *C	T494D106(1)025A(2)	2.5	6.0	0.4 0.6
10.0 15.0	D	T494C106(1)025A(2) T494D156(1)025A(2)	2.5 3.8	6.0 6.0	0.8
#15.0	*c	T494C156(1)025A(2)	3.8	6.0	0.90
22.0	D	T494D226(1)025A(2)	5.5	6.0	0.3
22.0	*C	T494C226(1)025A(2)	5.5	6.0	1.0
22.0	*V	T494V226(1)025A(2)	5.5	6.0	0.5
33.0	X	T494X336(1)025A(2)	8.3	6.0	0.3
#33.0	*D *X	T494D336(1)025A(2) T494X476(1)025A(2)	8.3	6.0	0.4
#47.0 †47.0	*D	T494X476(1)025A(2)	11.8 11.8	6.0 10.0	0.3 0.2
†68.0	*X	T494X686M025A(2)	17.0	8.0	0.3

⁽¹⁾ To complete KEMET Part Number, insert M for ±20% tolerance or K for ±10% tolerance.

(2) To complete KEMET Part Number, insert S, H, G, or T lead material designation as shown on page 27.

⁽²⁾ To complete K *Extended Values

^{**6} Volt product equivalent to 6.3 volt product. #Maximum Capacitance Change @ 125°C=+15%. †Maximum Capacitance Change @ 125°C=+20%.

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

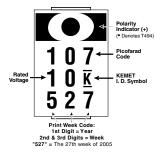


T494 SERIES—Low ESR, Industrial Grade

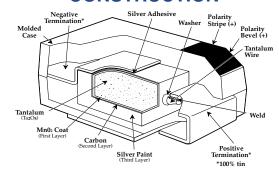
T494 RATINGS & PART NUMBER REFERENCE

0			DC	DF %	ESR Ω
Capaci-	Case	KEMET	Leakage	@ +25°C	@ +25°C
tance	Size	Part Number	μA @ 25°C	120 Hz	100 kHz
μF	Oize	r art ivalliber	Max	Max	Max
	05	V-14 D-4'			IVIAX
0.10		Volt Rating at +85°C (23 V			10.0
0.10 0.15	A	T494A104(1)035A(2) T494A154(1)035A(2)	0.5 0.5	4.0	10.0 6.0
0.13	A	T494A154(1)035A(2)	0.5	4.0	
0.22	A	T494A334(1)035A(2)	0.5	4.0	6.0
0.33	B	T494B474(1)035A(2)	0.5	4.0	2.5
0.47	A	T494A474(1)035A(2)	0.5	4.0	4.0
0.47	В	T494B684(1)035A(2)	0.5	4.0	2.5
0.68	*A	T494A684(1)035A(2)	0.5	4.0	6.0
1.0	В	T494B105(1)035A(2)	0.5	4.0	2.0
1.0	*A	T494A105(1)035A(2)	0.5	4.0	6.0
1.5	Ċ	T494C155(1)035A(2)	0.5	6.0	2.5
1.5	В	T494B155(1)035A(2)	0.5	6.0	3.0
2.2	C	T494C225(1)035A(2)	0.8	6.0	1.5
2.2	*B	T494B225(1)035A(2)	0.8	6.0	2.5
3.3	Č	T494C335(1)035A(2)	1.2	6.0	0.8
#3.3	*B	T494B335(1)035A(2)	1.2	6.0	1.3
4.7	D	T494D475(1)035A(2)	1.7	6.0	0.7
4.7	Ċ	T494C475(1)035A(2)	1.7	6.0	0.7
6.8	Ď	T494D685(1)035A(2)	2.4	6.0	0.5
6.8	*C	T494C685(1)035A(2)	2.4	6.0	0.9
10.0	D	T494D106(1)035A(2)	3.5	6.0	0.4
#10.0	*C	T494C106M035A(2)	3.5	6.0	1.2
#10.0	*V	T494V106(1)035A(2)	3.5	6.0	0.8
15.0	Х	T494X156(1)035A(2)	5.3	6.0	0.30
15.0	*D	T494D156(1)035A(2)	5.3	6.0	0.35
#22.0	Х	T494X226(1)035A(2)	7.7	6.0	0.3
#22.0	*D	T494D226(1)035A(2)	7.7	6.0	0.4
#33.0	*X	T494X336(1)035A(2)	11.6	6.0	0.3
†47.0	*X	T494X476(1)035A(2)	16.5	8.0	0.5
†47.0	*E	T494E476(1)035A(2)	16.5	10.0	0.3
	50	Volt Rating at +85°C (33 V			
0.10	Α	T494A104(1)050A(2)	0.5	4.0	10.0
0.15	В	T494B154(1)050A(2)	0.5	4.0	10.0
0.15	*A	T494A154(1)050A(2)	0.5	4.0	10.0
0.22	В	T494B224(1)050A(2)	0.5	4.0	10.0
0.33	В	T494B334(1)050A(2)	0.5	4.0	2.5
0.47	С	T494C474(1)050A(2)	0.5	4.0	1.8
0.47	*B	T494B474(1)050A(2)	0.5	4.0	2.0
0.68	С	T494C684(1)050A(2)	0.5	4.0	1.6
0.68	*B	T494B684(1)050A(2)	0.5	4.0	3.0
1.0	С	T494C105(1)050A(2)	0.5	4.0	1.6
#1.0	*V	T494V105M050A(2)	0.5	4.0	4.0
1.5	D	T494D155(1)050A(2)	8.0	6.0	1.0
1.5	*C	T494C155(1)050A(2)	0.8	6.0	1.5
2.2	D	T494D225(1)050A(2)	1.1	6.0	0.8
2.2	*C	T494C225(1)050A(2)	1.1	6.0	1.5
3.3	D	T494D335(1)050A(2)	1.7	6.0	0.8
4.7	D	T494D475(1)050A(2)	2.4	6.0	0.6
6.8	Х	T494X685(1)050A(2)	3.5	6.0	0.5
#6.8	D	T494D685(1)050A(2)	3.4	6.0	0.7
#10.0	X	T494X106M050A(2)	5.0	6.0	0.4
#10.0	*D	T494D106(1)050A(2)	5.0	6.0	0.7
†15.0	*X	T494X156(1)050A(2)	7.5	6.0	0.4

CAPACITOR MARKINGS T494 Series — All Case Sizes



CONSTRUCTION



To complete KEMET Part Number, insert M for $\pm 20\%$ tolerance or K for $\pm 10\%$ tolerance. To complete KEMET Part Number, insert S, H, G, or T lead material designation as shown on page 27.

^{**6} Volt product equivalent to 6.3 volt product. #Maximum Capacitance Change @ 125°C=+15%. †Maximum Capacitance Change @ 125°C=+20%.

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

T495 SERIES—Low ESR, Surge Robust

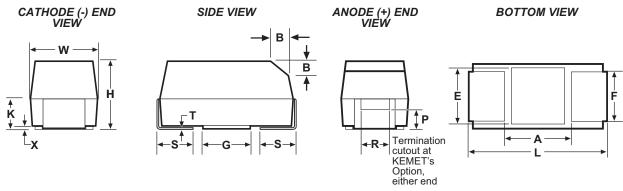


FEATURES

- Designed for very low ESR
- High ripple current capability
- High surge current capability
- 100% accelerated steady-state aging
- 100% Surge Current test
- Meets or Exceeds EIA Standard 535BAAC
- Available tested per DSCC Dwg. 95158
- Operating Temperature: -55°C to +125°C

- · New Extended Values for Low ESR
- Low Equivalent Series Inductance (<2.5nH ESL)
- Precision-molded, laser-marked case
- Symmetrical, compliant terminations
- Taped and reeled per EIA 481-1
- RoHS Compliant & Leadfree Terminations (see www.kemet.com for lead transition)

OUTLINE DRAWING



STANDARD T495 DIMENSIONS

Millimeters (Inches)

								210 (11101	,						
Case	Size	L	w	н	K ±0.20	F ±0.1	S ±0.3	B ±0.15	X (Ref)	P (Ref)	R (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
KEMET	EIA							(Ref) ±(.006)	` ′	` ′	` '	` '	, ,	, ,	, ,
Α	3216-18	3.2 ± 0.2 (.126 ± .008)	1.6 ± 0.2 (.063 ± .008)	1.6 ± 0.2 (.063 ± .008)	0.9 (.035)	1.2 (.047)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.4 (.016)	0.4 (.016)	0.13 (.005)	1.4 (.055)	1.1 (.043)	1.3 (.051)
В	3528-21	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.9 ± 0.1 (.075 ± .008)	1.1 (.043)	2.2 (.087)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.5 (.020)	1.0 (.039)	0.13 (.005)	2.1 (.083)	1.8 (.071)	2.2 (.087)
С	6032-28	6.0 ± 0.3 (.236 ± .012)	3.2 ± 0.3 (.126 ± .12)	2.5 ± 0.3 .098 ± .012)	1.4 (.055)	2.2 (.087)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.0235)	1.0 (.039)	0.13 (.005)	3.1 (.122)	2.8 (.110)	2.4 (.094)
D	7343-31	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.8 ± 0.3 (.110 ± .012)	1.5 (.059)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.0235)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
Х	7343-43	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	4.0 ± 0.3 (.157 ± .012)	2.3 (.091)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	1.7 (.067)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
Е	7260-38	7.3 ± 0.3 (.287 ± .012)	6.0 ± 0.3 (.236± .012)	3.6 ± 0.2 (.142 ± .008)	2.3 (.091)	4.1 (.161)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

Notes: 1. Metric dimensions govern

LOW PROFILE T495 DIMENSIONS

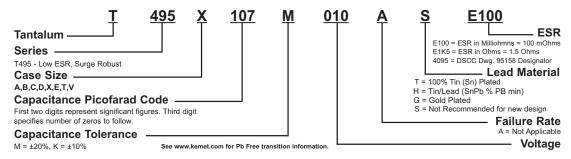
Millimeters (Inches)

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

Notes: 1. Metric dimensions govern.

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.

T495 Series – ORDERING INFORMATION



^{2. (}Ref) - Dimensions provided for reference only



T495 SERIES—Low ESR, Surge Robust

T495 RATINGS & PART NUMBER REFERENCE

495	K/	ATINGS &	PARI	NUN	/IDC	K K	EFE	:nE	NC
Capaci- tance µF	Case Size	KEMET Part Number	DSCC Dwg. No. 95158 Part Number	DC Leakage μA @ 25°C	DF% @ 25°C 120 Hz Max	ESR mΩ @ 25°C 100 kHz Max	25°	Current mA C, 100 kHz	Max
		25.44	olt Rating @ +85°C	Max			25°C	85°C	125°C
100.0	Т	T495T107M2R5A(2)E3K0	nt Rating @ +65 C	2.5	24.0	3000	153	137	61
220.0 1000.0	D X	T495D227(1)2R5A(2)E045 T495X108(1)2R5A(2)E040		5.5 25.0	8.0 15.0	45 40	1826 2031	1643 1828	730 812
		4 Vo	t Rating @ +85°C						
68.0 100.0	V B	T495V686(1)004A(2)E150 T495B107(1)004A(2)E500		2.7 4.0	6.0 8.0	150 500	913 412	822 371	365 165
150.0 150.0	B	T495B157M004A(2) E900 T495C157(1)004A(2)E250		6.0 6.0	12.0 8.0	900 250	307 663	277 597	123 265
330.0 330.0	СС	T495C337(1)004A(2)E300 T495C337(1)004A(2)E700		13.2 13.2	10.0 12.0	300 700	606 396	545 357	242 159
330.0	D	T495D337(1)004A(2)E030		13.2	8.0	30	2236	2012	894
330.0 470.0	D X	T495D337(1)004A(2)E045 T495X477(1)004A(2)E030		13.2 18.8	8.0 8.0	45 30	1826 2345	1643 2111	730 938
470.0 470.0	X	T495X477(1)004A(2)E045 T495X477(1)004A(2)E100		18.8 18.8	8.0 8.0	45 100	1915 1285	1723 1156	766 514
1000.0	X E	T495X108(1)004A(2)E070 T495E108(1)004A(2)E035		40.0 40.0	12.0 15.0	70 35	1535 2390	1381 2151	614 956
1000.0	E	T495E108(1)004A(2)E050		40.0	15.0	50	2000	1800	800
47.0	В	6/6.3 T495B476(1)006A(2)E450	Volt Rating @ +85	°C (4 Volt Ration 3.0	ng at +125° 6.0	C) 450	435	392	174
47.0 47.0	C V	T495C476(1)006A(2)E250 T495V476(1)006A(2)E150		2.9 3.0	6.0 6.0	250 150	663 913	597 822	265 365
68.0	D	T495D686(1)006A(2)E175		3.3	4.0	175	926	833	370
68.0 100.0	*B	T495D686(1)006A(2)4095 T495B107(1)006A(2)E400	95158-01(1)(2)	3.3 6.3	4.0 15.0	175 400	926 461	833 415	370 184
100.0 100.0	*B C	T495B107M006A(2)E700 T495C107(1)006A(2)E150		6.3 6.0	15.0 8.0	700 150	348 856	313 770	139 342
100.0 100.0	D V	T495D107(1)006A(2)E150 T495V107(1)006A(2)E090		6.0 6.0	8.0 8.0	150 90	1000 1179	900 1061	400 471
100.0	V	T495V107(1)006A(2)E150		6.0	8.0	150	913	822	365
150.0 150.0	*C V	T495C157M006A(2)E200 T495V157(1)006A(2)E070		9.0 9.0	8.0 8.0	200 70	742 1336	668 1203	297 535
150.0 150.0	X	T495X157(1)006A(2)E100 T495X157(1)006A(2)4095	95158-02(1)(2)	7.2 7.2	6.0 6.0	100 125	1285 1150	1156 1040	514 460
220.0 220.0	*C D	T495C227(1)006A(2)E225 T495D227(1)006A(2)E045	(-)(-)	13.9 13.2	10.0	225 45	700 1826	600 1643	300 730
220.0	D	T495D227(1)006A(2)E100	05450 05	13.9	8.0	100	1225	1102	490
220.0 220.0	D X	T495D227(1)006A(2)4095 T495X227(1)006A(2)E070	95158-25(1)(2)	13.2 13.2	8.0 8.0	100 70	1225 1535	1102 1381	490 614
220.0 220.0	X X	T495X227(1)006A(2)E100 T495X227(1)006A(2)4095	95158-03(1)(2)	13.2 13.2	8.0 8.0	100 100	1285 1285	1156 1156	514 514
330.0 330.0	D D	T495D337(1)006A(2)E040 T495D337(1)006A(2)E050	00100 00(1)(2)	20.8 20.8	8.0 8.0	40 50	1936 1732	1743 1559	775 693
330.0	D	T495D337(1)006A(2)E070		20.8	8.0	70	1464	1317	586
330.0 330.0	D *X	T495D337(1)006A(2)E100 T495X337(1)006A(2)E065		20.8 19.8	8.0 8.0	100 65	1225 1593	1102 1434	490 637
330.0 330.0	*X	T495X337(1)006A(2)E045 T495X337(1)006A(2)E100		19.8 19.8	8.0 8.0	45 100	1915 1285	1723 1723	766 766
330.0	*E	T495E337(1)006A(2)E060		20.8	8.0	60	1826	1643	730
330.0 470.0	*D	T495E337(1)006A(2)E100 T495D477(1)006A(2)E040		20.8 29.6	8.0 12.0	100 40	1414 2236	1273 2012	566 894
470.0 470.0	*D *D	T495D477(1)006A(2)E100 T495D477(1)006A(2)E125		29.6 29.6	12.0 12.0	100 125	1225 1095	1102 986	490 438
470.0 470.0	*X *X	T495X477(1)006A(2)E030 T495X477(1)006A(2)E045		28.2 28.2	10.0 10.0	30 45	2345 1915	2111 1723	938 766
470.0 470.0	*X	T495X477(1)006A(2)E050		28.2 28.2	10.0	50 65	1816 1593	1634 1434	726 637
470.0	*X	T495X477(1)006A(2)E065 T495E477(1)006A(2)E040		29.6	12.0	40	2236	2012	894
470.0 470.0	ų ų	T495E477(1)006A(2)E055 T495E477(1)006A(2)E100		29.6 29.6	10.0 10.0	55 100	1907 1414	1716 1273	763 566
1000.0	*E	T495E108(1)006A(2)E050 10 V	olt Rating @ +85°	63.0 C (7 Volt Ratin	15.0 g at +125°C	50	2000	1800	800
4.7 4.7	A B	T495A475(1)010A(2)E1K3 T495B475(1)010A(2)E1K3		0.5 0.5	6.0 15.0	1300 1300	240 256	216 230	96 102
6.8	A B	T495A685(1)010A(2)E1K8		0.7 0.7	6.0	1800 900	204 307	184 277	82 123
10.0	В	T495B685(1)010A(2)E900 T495B106(1)010A(2)E750		1.0	6.0	750	337	303	135
15.0 15.0	B C	T495B156(1)010A(2)E500 T495C156(1)010A(2)E375		1.5 1.5	6.0 6.0	500 375	412 542	371 487	165 217
15.0 15.0	C	T495C156(1)010A(2)E400 T495C156(1)010A(2)E475		1.5 1.5	6.0 6.0	400 475	524 481	472 433	210 192
22.0 22.0	C	T495C226(1)010A(2)E290 T495C226(1)010A(2)E345		2.2	6.0 6.0	290 345	616 565	554 508	246 226
33.0	В	T495B336(1)010A(2)E450		3.3	6.0	450	435		220
33.0 33.0	> >	T495V336(1)010A(2)E100 T495V336(1)010A(2)E150						392	174
47.0 47.0	B D			3.3 3.3	6.0 6.0	100 150	1118 913	1006 822	447 365
47.0		T495B476(1)010A(2)E500 T495D476(1)010A(2)E080			6.0	100	1118	1006	447
	D	T495D476(1)010A(2)E080 T495D476(1)010A(2)E090		3.3 4.7 3.8 4.7	6.0 6.0 6.0 4.0 6.0	100 150 500 80 90	1118 913 412 1369 1291	1006 822 371 1232 1162	447 365 164 548 516
47.0 47.0	D D D	T495D476(1)010A(2)E080 T495D476(1)010A(2)E090 T495D476(1)010A(2)E200 T495D476(1)010A(2)4095	95158-04(1)(2)	3.3 4.7 3.8 4.7 3.8 3.8	6.0 6.0 4.0 6.0 4.0 4.0	100 150 500 80 90 200 200	1118 913 412 1369 1291 866 866	1006 822 371 1232 1162 780 780	447 365 164 548 516 346 346
47.0 47.0 68.0 68.0	D D *B *B	T495D476(1)010A(2)E080 T495D476(1)010A(2)E090 T495D476(1)010A(2)E200 T495D476(1)010A(2)4095 T495B4686(1)010A(2)E600 T495B686(1)010A(2)E750	95158-04(1)(2)	3.3 4.7 3.8 4.7 3.8 3.8 6.8 1.5	6.0 6.0 4.0 6.0 4.0 4.0 10.0	100 150 500 80 90 200 200 600 750	1118 913 412 1369 1291 866 866 376 337	1006 822 371 1232 1162 780 780 339 303	447 365 164 548 516 346 346 151 135
47.0 47.0 68.0	D D D	T495D476(1)010A(2)E080 T495D476(1)010A(2)E090 T495D476(1)010A(2)E200 T495D476(1)010A(2)E200 T495B686(1)010A(2)E000 T495B686(1)010A(2)E500 T495B686(1)010A(2)E750 T495B686(1)010A(2)E900 T495B686(1)010A(2)E900	95158-04(1)(2)	3.3 4.7 3.8 4.7 3.8 3.8 6.8	6.0 6.0 4.0 6.0 4.0 4.0 4.0	100 150 500 80 90 200 200 600	1118 913 412 1369 1291 866 866 376	1006 822 371 1232 1162 780 780 339	447 365 164 548 516 346 346 151
47.0 47.0 68.0 68.0 68.0 68.0 68.0	D D *B *B *B	T4950476(1)010A(2)E080 T4950476(1)010A(2)E090 T4950476(1)010A(2)E200 T4950476(1)010A(2)E300 T4950868(1)010A(2)E300 T4950868(1)010A(2)E300 T4950868(1)010A(2)E300 T4950868(1)010A(2)E30 T4950868(1)010A(2)E30 T4950868(1)010A(2)E30	95158-04(1)(2)	3.3 4.7 3.8 4.7 3.8 3.8 6.8 6.8 6.8 6.8	6.0 6.0 4.0 6.0 4.0 4.0 10.0 10.0 10.0 6.0 6.0	100 150 500 80 90 200 200 600 750 900 225 70	1118 913 412 1369 1291 866 866 376 337 307 700 1336	1006 822 371 1232 1162 780 780 339 303 276	447 365 164 548 516 346 346 151 135 123
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0	D D *B *B *C V V V	T495D476(1)010A(2)E000 T495D476(1)010A(2)E000 T495D476(1)010A(2)E000 T495D476(1)010A(2)E000 T495B686(1)010A(2)E750 T495B686(1)010A(2)E750 T495B686(1)010A(2)E750 T495C866(1)010A(2)E275 T495V686(1)010A(2)E270 T495V686(1)010A(2)E100 T495V686(1)010A(2)E100	95158-04(1)(2)	3.3 4.7 3.8 4.7 3.8 3.8 6.8 6.8 6.8 6.8 6.8 6.8	6.0 6.0 4.0 6.0 4.0 4.0 10.0 10.0 10.0 6.0 6.0 6.0	100 150 500 80 90 200 600 750 900 225 70 100 140	1118 913 412 1369 1291 866 866 376 337 307 700 1336 1118 945	1006 822 371 1232 1162 780 780 339 303 276 630 1203 1006 850	447 365 164 548 516 346 346 151 135 123 280 535 447 378
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D B *B *B C V V V D D	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E280 T495D476(1)10A(2)E280 T495B886(1)10A(2)E580 T495B886(1)10A(2)E900 T495C886(1)101A(2)E257 T495V886(1)101A(2)E707 T495V886(1)101A(2)E100 T495V886(1)101A(2)E100 T495V886(1)101A(2)E100 T495V886(1)101A(2)E100 T495V886(1)101A(2)E100	95158-04(1)(2)	3.3 4.7 3.8 4.7 3.8 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8	6.0 6.0 6.0 4.0 4.0 10.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0	100 150 500 80 90 200 600 750 900 225 70 100 140 90 150	1118 913 412 1369 1291 866 866 376 337 700 1336 1118 945 1291	1006 822 371 1232 1162 780 780 339 303 276 630 1203 1006 850 1162 900	447 365 164 548 516 346 346 151 135 123 280 535 447 378 516 400
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D *B *B *C V V V D D X X	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E200 T495D476(1)10A(2)E200 T495D886(1)10A(2)E560 T495B886(1)10A(2)E200 T495B886(1)10A(2)E207 T495C886(1)101A(2)E277 T495C886(1)101A(2)E107 T495C886(1)101A(2)E107 T495C886(1)101A(2)E107 T495C886(1)101A(2)E107 T495C886(1)101A(2)E107 T495C886(1)101A(2)E150 T495C886(1)10A(2)E150 T495C886(1)10A(2)E150	95158-04(1)(2) 95158-05(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 5.4	6.0 6.0 4.0 6.0 4.0 10.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 4.0	100 150 500 80 90 200 600 750 900 225 70 100 140 90 150 150	1118 913 412 1369 1291 866 376 337 700 1336 1118 945 1291 1000 1049	1006 822 371 1232 1162 780 339 303 276 630 1203 1006 850 1162 900 944	447 365 164 548 516 346 346 151 135 123 280 535 447 378 516 400 420 420
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D *B *B *C V V V D D X X X V	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E190		3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8	6.0 6.0 6.0 4.0 6.0 4.0 10.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0	100 150 500 80 90 200 200 600 750 900 225 70 100 140 90 150	1118 913 412 1369 1291 866 376 337 307 700 1336 1118 945 1291 1000 1049 913	1006 822 371 1232 1162 780 339 303 276 630 1203 1006 850 1162 900 944 944	447 365 164 548 516 346 346 151 135 123 280 535 447 378 516 400 420
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D B *B *B C V V V D D X X X V *D *D	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E190 T495D46(1)10A(2)E190 T495D46(1)10A(2)E190 T495D46(1)10A(2)E190		3.3 4.7 3.8 4.7 3.8 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 1.0 10.0	6.0 6.0 6.0 4.0 6.0 4.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0	100 150 500 80 90 200 200 600 750 900 225 70 100 140 90 150 150 150 50 60	1118 913 412 1369 1291 866 866 376 337 700 1336 1118 945 1291 1000 1049 913 1732 1519	1006 822 371 1232 1162 780 339 276 630 1203 1006 850 900 944 822 1559	447 365 164 548 516 346 346 151 133 280 535 447 378 516 400 420 420 365 693 608
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D *B *B *B C V V V D D X X V D D X X	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D48(1)10A(2)E180 T495D48(1)10A(2)E180 T495D48(1)10A(2)E180 T495D107(1)10A(2)E180 T495D107(1)10A(2)E180	95158-05(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 5.4 10.0 10.0 10.0	6.0 6.0 6.0 4.0 6.0 4.0 10.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 8.0 8.0 8.0 8.0 8.0	100 150 500 80 90 200 200 600 750 900 225 70 100 140 90 150 150 150 65 80 100	1118 913 412 1369 1291 866 866 376 337 307 700 1336 1118 945 1291 1000 1049 913 1732 1519 1369	1006 822 371 1232 1162 780 780 339 276 630 1203 1006 850 1162 900 944 944 822 1559 1367 1232	447 365 164 548 516 346 346 151 135 123 280 535 447 378 516 400 420 420 365 693 608 548 490
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D **B **B **B C V V V D D X X V D **D **D **D **D **D X X	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D869(1)10A(2)E190 T495D867(1)10A(2)E190 T495D107(1)10A(2)E190 T495D107(1)10A(2)E190 T495D107(1)10A(2)E190 T495D107(1)10A(2)E190 T495D107(1)10A(2)E190 T495D107(1)10A(2)E190 T495D107(1)10A(2)E190 T495D107(1)10A(2)E190	95158-05(1)(2) 95158-06(1)(2)	3.3 4.7 3.8 4.7 7.3 8.8 3.8 6.8 6.8 6.8 6.8 6.8 6.8 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	6.0 6.0 6.0 4.0 6.0 10.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0	100 150 80 90 200 200 600 750 900 225 70 100 150 150 150 150 65 80 100 100	1118 913 412 1369 1291 866 866 376 337 307 700 1336 1118 945 1291 1000 1049 913 1732 1519 1369 1220 1220 1285	1006 822 371 1232 1162 780 780 339 303 276 630 1203 1006 850 1162 900 944 944 944 944 1559 1367 1237 1100 1100	447 365 164 548 516 346 346 151 135 123 280 535 447 378 516 400 420 420 420 365 693 608 548 490 490 514
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	ооо [*]	T495D476(1)010A(2)E090 T495D476(1)010A(2)E090 T495D476(1)010A(2)E090 T495D476(1)010A(2)E090 T495D476(1)010A(2)E090 T495D868(1)010A(2)E090 T495D868(1)010A(2)E090 T495D868(1)010A(2)E090 T495C886(1)010A(2)E190 T495D107(1)01A(2)E095 T495D107(1)01A(2)E095 T495D107(1)01A(2)E095 T495D107(1)01A(2)E190 T495D107(1)01A(2)E190 T495D107(1)01A(2)E190 T495D107(1)01A(2)E190 T495D107(1)01A(2)E190	95158-05(1)(2)	3.3 4.7 3.8 4.7 3.8 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 1.0 0.0 10.0	6.0 6.0 6.0 4.0 6.0 4.0 10.0 10.0 10.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 4.0 8.0 8.0 8.0 8.0 8.0	100 150 80 90 200 200 750 900 225 70 100 140 90 150 150 150 50 65 80 100	1118 913 412 1369 1291 866 866 376 337 700 1336 1118 945 1291 1000 1049 1049 1049 13 1732 1519 1369 1220	1006 822 371 1232 1162 780 780 339 303 276 630 1203 1006 850 1162 900 944 944 944 942 1559 1232 1100	447 365 164 548 516 346 346 151 135 123 280 535 447 378 516 400 420 420 365 693 608 548 490 490
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D **B **B **B C V V V D D X X X V D D D X X X V D D D X X X V D D D X X X V D D D D	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495C886(1)10A(2)E180 T495C86(1)10A(2)E180 T495C10A(1)10A(2)E180 T495C10A(1)10A(2)E180 T495C10A(1)10A(2)E180 T495C10A(1)10A(2)E180 T495C10A(1)10A(2)E180 T495C10A(1)10A(2)E180 T495C10A(1)10A(2)E180 T495C15A(1)10A(2)E180 T495C15A(1)10A(2)E180	95158-05(1)(2) 95158-06(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 5.4 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10	6.0 6.0 4.0 4.0 4.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	100 150 80 90 200 600 750 900 225 70 100 150 150 150 150 100 100 100 100	1118 913 412 1369 1291 866 866 866 337 700 1336 1118 945 1291 1000 1049 913 1732 1519 1369 1220 1220 1220 1285 1118 913	1006 822 371 1232 1162 780 339 303 276 630 1203 1006 850 944 944 944 944 944 941 1100 1156 1100 1156 1006 822	447. 3655 548. 548. 346. 346. 346. 346. 1511. 123. 2800. 32. 2800. 420. 420. 365. 535. 547. 378. 447. 365. 608. 449. 451. 449. 451. 449.
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D *B *B *B *C V V V V D D D X X X X V *D D D X X X X V *D D D X X X X *V *D D D X X X *V *V D D D X X X X *V *V D D D X X X X *V *V D D D X X X X *V *V D D D X X X X *V *V D D D X X X X *V *V D D D X X X X *V *V D D D X X X X *V *V D D D X X X X *V *V D D D X X X X X *V *V D D D X X X X X *V *V D D D X X X X X *V *V D D D X X X X X *V *V D D D X X X X X X *V *V D D D X X X X X X *V *V D D D X X X X X X X X X X X X X X X X	T495D476(1)010A(2)E090 T495D476(1)010A(2)E090 T495D476(1)010A(2)E090 T495D476(1)010A(2)E090 T495D476(1)010A(2)E090 T495D868(1)010A(2)E090 T495D868(1)010A(2)E090 T495D868(1)010A(2)E090 T495D868(1)010A(2)E190 T495D107(1)01A(2)E095	95158-05(1)(2) 95158-06(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6	6.0 6.0 4.0 4.0 4.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	100 150 80 90 200 600 750 900 225 70 140 90 150 150 150 150 100 100 100 10	1118 913 412 1369 1291 866 376 337 700 1336 1118 945 1291 1000 1049 913 1732 1519 1220 1220 1220 1285 1118 913 1732 1285	1006 822 371 1232 1162 780 339 303 276 630 1203 1006 850 1162 900 944 944 944 944 945 1367 1232 1156 1156 1156 1156 1156 1156	447 3655 1644 147 3656 693 3632 632 16447 3656 693 365 693 632
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D **B **B **B C V V V D D X X X V D D D X X X V D D D X X X V D D D X X X V D D D D	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E080 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D48(1)10A(2)E180 T495D48(1)10A(2)E180 T495D48(1)10A(2)E180 T495D48(1)10A(2)E180 T495D107(1)10A(2)E080 T495D107(1)10A(2)E080 T495D107(1)10A(2)E080 T495D107(1)10A(2)E080 T495D107(1)10A(2)E180 T495D107(1)10A(2)E180 T495D107(1)10A(2)E180 T495D107(1)10A(2)E180 T495D107(1)10A(2)E180 T495D107(1)10A(2)E180 T495D107(1)10A(2)E180 T495D107(1)10A(2)E180 T495D107(1)10A(2)E180 T495D157(1)10A(2)E180	95158-05(1)(2) 95158-06(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 1.5 10.0 10.0 10.0 10.0 10.0 10.0 10.0	6.0 6.0 4.0 4.0 4.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	100 150 80 90 200 600 750 90 225 720 100 150 150 150 65 80 100 100 100 100 100 100 100	1118 913 412 1369 1291 866 866 376 337 700 1336 1118 945 1291 1000 1049 1049 1049 1136 1220 1220 1220 1285 1285 1118 913	1006 822 371 1232 1162 780 339 303 1006 850 1203 1006 850 904 4 944 944 944 944 941 1559 1100 1156 1156 1006 822 1559	447 3655 164 164 164 164 164 164 164 164 164 164
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D D B *B *B *B C V V V D D D X X X V *D D D D D D D D D D D D D D D D D D	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D8686(1)10A(2)E080 T495D8686(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D868(1)10A(2)E190 T495D86(1)10A(2)E190 T495D107(1)10A(2)E190 T495D157(1)10A(2)E190 T495D157(1)10A(2)E190 T495D157(1)10A(2)E190 T495D157(1)10A(2)E190 T495D157(1)10A(2)E190 T495D157(1)10A(2)E190 T495D157(1)10A(2)E190 T495D157(1)10A(2)E190	95158-05(1)(2) 95158-06(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 1.5 10.0 10.0 10.0 10.0 10.0 10.0 10.0	6.0 6.0 4.0 4.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	100 150 500 80 90 200 200 600 750 900 225 70 100 150 150 150 150 100 100 10	1118 913 412 1369 1291 866 376 337 700 1336 1118 945 1291 1000 1049 913 1732 1519 1220 1220 1220 1220 1285 1118 913 1732 1519 1220 1285 1218 1369 1220 1285 1285 1285 1285 1285 1285 1285 1285	1006 822 371 1232 1162 780 339 303 276 630 1203 1006 850 1162 900 944 822 1559 1367 1232 1100 1156 1156 1156 1156 1159 1232 1100	4474 5484 5164 5486 3466 1511 1355 5355 54477 378 3693 6088 4904 4904 5144 4474 4474 4474 4474 4474 4474 447
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D D TB *B *B C V V V V D D D X X X V *D D D D X X X *V *D D D D D D D D D D D D D D D D D D	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D486(1)10A(2)E180 T495D48(1)10A(2)E180	95158-05(1)(2) 95158-06(1)(2) 95158-07(1)(2) 95158-26(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 1.5 10.0 10.0 10.0 10.0 10.0 10.0 10.0	6.0 6.0 4.0 4.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	100 150 500 80 90 200 600 750 900 225 70 100 150 900 150 150 150 150 150 100 100 100 100 1	1118 913 412 1369 1291 1369 1291 1369 866 866 377 700 1336 1118 945 1291 1000 1049 1049 1049 1049 1291 1200 1220 1220 1220 1285 1285 1285 1285 1285 1285 1285 1285	1006 822 371 1232 1162 780 339 303 276 630 1203 1006 850 904 944 944 944 944 9155 1106 622 1559 1423 1100 1100 822 1559 1423 1102 1232 1102 1254	4474 5484 5166 5166 5166 5166 5176 5176 5176 5176
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D D B B B C V V V V D D D X X X V D D D D D X X X X	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D4868(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C48(1)10A(2)E180	95158-05(1)(2) 95158-06(1)(2) 95158-07(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 1.5 10.0 10.0 10.0 10.0 10.0 10.0 15.0 15	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	100 150 500 80 90 200 200 600 750 900 225 70 100 150 150 150 150 100 100 10	1118 913 1291 1295 1295 1295 1295 1295 1295 1295	1006 822 371 1102 1105 1106 822 1102 1232 1102 1232 1102 1105 822 1102 822 822 822 822 822 823 823 823 823 82	4477 3655 1644 5484 3466 1511 1353 2800 3253 4477 3788 420 420 420 420 420 420 420 420 420 420
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0	D D D B *B *B C V V V V D D D X X X V D D D D D X X X X	T495D476(1)010A(2)E080 T495D476(1)010A(2)E080 T495D476(1)010A(2)E080 T495D476(1)010A(2)E080 T495D476(1)010A(2)E080 T495D476(1)010A(2)E080 T495D868(1)010A(2)E080 T495D868(1)010A(2)E080 T495D868(1)010A(2)E080 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D107(1)010A(2)E190	95158-05(1)(2) 95158-06(1)(2) 95158-07(1)(2) 95158-26(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 5.4 10.0 10.0 10.0 10.0 10.0 10.0 15.0 15.0	6.0 6.0 4.0 4.0 4.0 10.0 10.0 6.0 6.0 6.0 6.0 6.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	100 150 90 90 200 750 900 225 70 140 90 150 150 150 150 150 100 100 10	1118 945 1291 1295 1118 9913 1732 1295 1118 9913 1732 1225 1225 1285 1285 1285 1285 1285 128	10068 822 371 1232 232 1312 132 132 132 132 132 132	4474 5484 3466 3466 3466 3466 3466 3466 3466 3
47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D B B B B C V V V V D D X X X V V D D D D D X X X X	T495D476(1)010A(2)E080 T495D476(1)010A(2)E080 T495D476(1)010A(2)E080 T495D476(1)010A(2)E080 T495D476(1)010A(2)E080 T495D476(1)010A(2)E080 T495D868(1)010A(2)E080 T495D868(1)010A(2)E080 T495D868(1)010A(2)E080 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D868(1)010A(2)E190 T495D86(1)010A(2)E190 T495D107(1)010A(2)E190 T495D207(1)010A(2)E190 T495D207(1)010A(2)E190 T495D207(1)010A(2)E190 T495D207(1)010A(2)E190 T495D207(1)010A(2)E190	95158-05(1)(2) 95158-06(1)(2) 95158-07(1)(2) 95158-26(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 5.4 10.0 10.0 10.0 10.0 10.0 10.0 15.0 15.0	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	100 150 500 80 90 200 750 900 225 70 100 140 90 150 150 150 150 150 150 100 100 100 10	1118 913 412 412 412 412 412 412 412 412 412 412	1006 822 371 1232 1162 2780 1205 1162 1232 1162 2780 1162 1203 1100 1165 1203 1162 1203 1100 1165 1203 1203 1203 1203 1203 1203 1203 1203	4477 3655 1644 548 3666 1511 1355 1634 1511 1355 535 547 470 420 420 420 420 420 451 440 451 447 451 447 3655 693 632 632 632 632 647 633 652 648 490 657 657 657 657 657 6568 657 657 657 657 6568 657 657 657 657 657 658
47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D *B *B *B C C V V V D D X X X *V D D D X X X *V D D D D X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X X *V D D D D D X X X X *V D D D D D X X X X X *V D D D D D X X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D X X X X *V D D D D D D X X X X *V D D D D D D D X X X X *V D D D D D D D X X X X *V D D D D D D D D D D D X X X X *V D D D D D D D D D D D D D D D D D D	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D86(1)10A(2)E180 T495D107(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180	95158-05(1)(2) 95158-06(1)(2) 95158-07(1)(2) 95158-26(1)(2)	3.3 4.7 3.8 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	100 150 500 80 90 200 750 900 200 140 90 150 150 150 150 150 150 150 150 150 15	1118 913 412 412 4136 416 416 416 416 416 416 416 416 416 41	10068 822 371 1232 1162 1232 1162 1232 1162 1232 1162 1232 1162 1232 1162 1233 1339 1339 1339 1276 630 1006 850 1162 1233 1006 850 1162 1233 1233 1233 1233 1233 1233 1233	4477 3655 1648 3466 1511 135 1233 2800 2555 5181 400 4202 3655 6833 608 490 5144 477 365 693 608 5144 477 365 5181 490 5144 477 365 5181 477 477 577 577 577 577 577 577 577 577
47.0 47.0 58.0 58.0 58.0 58.0 58.0 58.0 58.0 58	D D D B B B B C C V V V D D D X X X V D D D D D X X X X V D D D D	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D4868(1)10A(2)E080 T495D4868(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C486(1)10A(2)E180 T495C48(1)10A(2)E180	95158-05(1)(2) 95158-06(1)(2) 95158-07(1)(2) 95158-26(1)(2)	3.3 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 1.5 10.0 10.0 10.0 10.0 10.0 10.0 10.0	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	100 150 500 800 90 200 600 900 225 750 900 140 90 150 150 150 150 150 100 100 100 100 10	1118 913 1285 1281 1188 913 1281 1285 1285 1285 1285 1285 1285 1285	1006 822 371 1720 1720 1720 1720 1720 1720 1720 17	4477 3655 1644 5484 3466 1511 1232 2800 3457 1233 4477 3457 5444 420 3457 5484 4590 4590 4590 4590 4590 4590 4590 459
47.0 47.0 68.0 68.0 68.0 68.0 68.0 68.0 68.0 68	D D D *B *B *B C C V V V D D D X X X *V *D D D D D X X X X *V *D D D D D X X X X *X *	T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D476(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E080 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D868(1)10A(2)E180 T495D86(1)10A(2)E180 T495D107(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180 T495D207(1)10A(2)E180	95158-05(1)(2) 95158-06(1)(2) 95158-07(1)(2) 95158-26(1)(2)	3.3 4.7 3.8 4.7 3.8 4.7 3.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6.8 6	6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	100 150 500 800 90 200 600 900 225 750 900 140 90 150 150 150 150 150 100 100 100 100 10	1118 913 1389 1291 1389 1291 1389 1291 1389 1291 1389 1291 1389 1391 1318 1318 1318 1318 1318 13	1006 822 371 1720 1780 1780 1780 1780 1780 1780 1780 178	4477 3655 1644 548 346 1511 135 1232 2802 347 477 378 378 378 378 378 378 378 378 378 3

32

T495 SERIES—Low ESR, Surge Robust



Capaci- tance µF	Case Size	KEMET Part Number	DSCC Dwg. No. 95158 Part Number	DC Leakage μA @ 25°C	DF% @ 25°C 120 Hz	ESR mΩ @ 25°C 100 kHz	25°	Current mA C, 100 kHz	Max
		10 Velt	Rating @ +85°C (Max	Max	Max	25°C	85°C	125°C
330.0	l D	T495D337(1)010A(2)E100	Rating @ +85°C (33.0	8.0	ont. 100	1227	1102	490
330.0	D	T495D337(1)010A(2)E125		33.0	10.0	125	1095	986	438
330.0	D	T495D337(1)010A(2)E150	1	33.0	10.0	150	1000	900	400
330.0	*X	T495X337(1)010A(2)E035		33.0	10.0	35	2171	1954	868
330.0 330.0	*X *X	T495X337(1)010A(2)E050 T495X337(1)010A(2)E060		33.0 33.0	10.0 10.0	50 60	1817 1658	1635 1492	727 663
330.0	l ∗x̂	T495X337(1)010A(2)E100		33.0	10.0	100	1284	1156	513
330.0	*E	T495E337(1)010A(2)E040		33.0	8.0	40	2236	2012	894
330.0	*E	T495E337(1)010A(2)E060		33.0	10.0	60	1826	1643	730
330.0 470.0	*E X	T495E337(1)010A(2)E100 T495X477M010(2)E060		33.0 47.0	10.0	100 60	1414 1658	1273 1492	566 663
470.0	l î	T495X477M010(2)E100		47.0	10.0	100	1284	1156	513
470.0	X	T495X477M010(2)E200		47.0	10.0	200	908	817	363
		16 V	olt Rating @ +85°0						
3.3 4.7	A	T495A335(1)016A(2)E3K0		0.5	6.0	3000 2000	158 194	142 174	63 77
4.7	B	T495A475(1)016A(2)E2K0 T495B475(1)016A(2)E700		0.8	6.0	700	348	313	139
6.8	č	T495C685(1)016A(2)E750		1.1	6.0	750	383	345	153
10.0	*T	T495T106M016A(2)E4K0		1.6	8.0	4000	132	119	53
15.0	В	T495B156(1)016A(2)E800		2.4	6.0	800	326	293	130
33.0 33.0	*C	T495C336(1)016A(2)E225 T495C336(1)016A(2)E275		5.3 5.3	6.0 6.0	225 275	699 632	629 569	280 253
33.0	l ŏ	T495D336(1)016A(2)E150		6.6	6.0	150	1000	900	400
33.0	D	T495D336(1)016A(2)E175		5.3	6.0	175	926	833	370
33.0	D	T495D336(1)016A(2)E225		4.2	4.0	225	816	735	327
33.0	D	T495D336(1)016A(2)4095	95158-09(1)(2)	4.2	4.0	250	770	700	310
47.0 47.0	C	T495C476(1)016A(2)E350 T495D476(1)016A(2)E080	1	7.5 7.5	6.0 6.0	350 80	561 1369	505 1232	224 547
47.0	D	T495D476(1)016A(2)E100		7.5	6.0	100	1225	1102	490
47.0	D	T495D476(1)016A(2)E150		7.5	6.0	150	1000	900	400
47.0	D	T495D476(1)016A(2)4095	95158-10(1)(2)	7.5	6.0	200	870	780	345
68.0 68.0	*\	T495V686(1)016A(2)E180 T495V686(1)016A(2)E300	1	10.9 10.9	6.0 6.0	180 300	833 645	750 581	333 258
68.0 68.0	D *V	T495V686(1)016A(2)E300 T495D686(1)016A(2)E150	l	10.9 10.9	6.0	300 150	645 1000	581 900	258 400
100.0	*D	T495D107(1)016(2)E100		16.0	8.0	100	1225	1102	490
100.0	*D	T495D107(1)016A(2)E125		16.0	8.0	125	1095	986	438
100.0	X	T495X107(1)016A(2)E080		16.0	8.0	80	1436	1293	574
100.0 100.0	X	T495X107(1)016A(2)E100	05158-11/11/01	16.0 16.0	8.0 8.0	100	1285	1156 1034	514 460
100.0	*D	T495X107(1)016A(2)4095 T495D157M016A(2)E100	95158-11(1)(2)	16.0 24.0	8.0	125 100	1149 1224	1034	460 489
150.0	*D	T495D157M016A(2)E100 T495D157M016A(2)E125	l	24.0	8.0	125	1095	985	489
150.0	*D	T495D157M016A(2)E150		24.0	8.0	150	1000	900	400
150.0	*X	T495X157(1)016A(2)E075		24.0	8.0	75	1483	1335	593
150.0 227.0	*X	T495X157(1)016A(2)E100 T495X227(1)016A(2)E100		24.0 35.2	8.0	100 100	1285 1284	1156 1156	514 513
220.0	*F	T495E227(1)016A(2)E100		35.2 35.2	8.0	75	1632	1469	652
220.0	*E	T495E227(1)016A(2)E100		35.2	7.2	100	1414	1273	566
220.0	*E	T495E227(1)016A(2)E150		35.2	7.2	150	1155	1039	462
1.0	I A		olt Rating @ +85°0	0.2 (13 Volt Ratin	g at +125°0 4.0	3000	158	142	63
10.0	В	T495A105(1)020A(2)E3K0 T495B106(1)020A(2)E1K0		2.0	6.0	1000	292	262	117
10.0	С	T495C106(1)020A(2)E400		2.0	6.0	400	524	472	210
10.0	С	T495C106(1)020A(2)E475		2.0	6.0	475	481	433	192
15.0 15.0	C	T495C156(1)020A(2)E375		3.0 2.4	6.0 4.0	375 275	542 738	487 665	217 295
15.0	l b	T495D156(1)020A(2)E275 T495D156(1)020A(2)4095	95158-12(1)(2)	2.4	4.0	275	738	665	295
22.0	D	T495D226(1)020A(2)E180	00100 12(1)(2)	3.5	4.0	180	913	822	365
22.0	D	T495D226(1)020A(2)E225		3.5	4.0	225	816	735	326
22.0	D	T495D226(1)020A(2)4095	95158-13(1)(2)	3.5	4.0	275	739	665	295
33.0 33.0	D D	T495D336(1)020A(2)E100 T495D336(1)020A(2)E150		6.6 6.6	6.0 6.0	100 150	1225 1000	1102 900	490 400
33.0	l b	T495D336(1)020A(2)E200		6.6	6.0	200	866	780	346
47.0	D	T495D476(1)020A(2)E075		9.4	6.0	75	1414	1272	565
47.0	D	T495D476(1)020A(2)E100		9.4	6.0	100	1225	1102	490
47.0	D	T495D476(1)020A(2)E175		9.4	6.0	175	926	833	370
47.0 47.0	X	T495X476(1)020A(2)E065 T495X476(1)020A(2)E100		9.4 9.4	8.0 6.0	65 100	1593 1285	1434 1156	637 514
47.0	x	T495X476(1)020A(2)E125		9.4	6.0	125	1149	1034	460
47.0	x	T495X476(1)020A(2)E150		7.5	4.0	150	1049	944	420
47.0	Х	T495X476(1)020A(2)4095	95158-14(1)(2)	7.5	4.0	150	1049	944	420
68.0 68.0	*D	T495D686(1)020A(2)E150	l	13.6	8.0 6.0	150 120	1000 1173	900 1055	400 469
68.0 68.0	X	T495X686(1)020A(2)E120 T495X686(1)020A(2)E150		13.6 13.6	6.0	120 150	1173 1049	1055 944	469 420
68.0	х	T495X686(1)020A(2)4095	95158-15(1)(2)	13.6	6.0	150	1049	944	420
100.0	Х	T495X107(1)020A(2)E150		20.0	8.0	150	1049	944	420
100.0	E	T495E107(1)020A(2)E085	l	20.0	8.0	85	1534	1381	614
100.0 100.0	E	T495E107(1)020A(2)E100 T495E107(1)020A(2)E200		20.0	8.0 8.0	100 200	1414 1000	1273 900	566 400
		25 V	It Dating @ +05%				.000	550	. +00
			ni Kating @ +05 t	C (17 Volt Ratin	g at +125°0	2)			
0.47	A	T495A474(1)025A(2)E4K5	nt Kating @ +65 t	0.5	g at +125°0 4.0	4500	129	116	52
2.2	С	T495A474(1)025A(2)E4K5 T495C225(1)025A(2)E1K3	on Rating @ +85 C	0.5 0.6	4.0 6.0	4500 1300	291	262	116
2.2 3.3	C	T495A474(1)025A(2)E4K5 T495C225(1)025A(2)E1K3 T495C335(1)025A(2)E750	nt Rating @ +65 (0.5 0.6 0.9	4.0 6.0 6.0	4500 1300 750	291 383	262 345	116 153
2.2	С	T495A474(1)025A(2)E4K5 T495C225(1)025A(2)E1K3	nt Rating @ +65 t	0.5 0.6	4.0 6.0	4500 1300	291	262	116
2.2 3.3 4.7 6.8 6.8	C C C *B	T495A474(1)025A(2)E4K5 T495C225(1)025A(2)E1K3 T495C335(1)025A(2)E750 T495C475(1)025A(2)E575 T495B685(1)025A(2)E1K5 T495C685(1)025A(2)E400	nt rating @ +85 t	0.5 0.6 0.9 1.2 1.7	4.0 6.0 6.0 6.0 6.0 6.0	4500 1300 750 575 1500 400	291 383 437 238 524	262 345 394 214 472	116 153 175 95 210
2.2 3.3 4.7 6.8 6.8 6.8	C C C *B C	T495A474(1)025A(2)E4K5 T495C225(1)025A(2)E1K3 T495C35(1)025A(2)E750 T495C475(1)025A(2)E575 T495B685(1)025A(2)E1K5 T495C685(1)025A(2)E400 T495C685(1)025A(2)E490	on Kating (g. +85 V	0.5 0.6 0.9 1.2 1.7 1.7	4.0 6.0 6.0 6.0 6.0 6.0 6.0	4500 1300 750 575 1500 400 490	291 383 437 238 524 474	262 345 394 214 472 426	116 153 175 95 210 190
2.2 3.3 4.7 6.8 6.8 6.8 6.8	C C *B C C	T495A474(1)025A(2)E4K5 T495C225(1)025A(2)E1K3 T495C335(1)025A(2)E750 T495C475(1)025A(2)E755 T4956685(1)025A(2)E1K5 T495C685(1)025A(2)E1K5 T495C685(1)025A(2)E400 T495C685(1)025A(2)E400	Traung @ +65 V	0.5 0.6 0.9 1.2 1.7 1.7 1.7	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	4500 1300 750 575 1500 400 490 500	291 383 437 238 524 474 469	262 345 394 214 472 426 422	116 153 175 95 210 190 188
2.2 3.3 4.7 6.8 6.8 6.8	C C C *B C	T495A474(1)025A(2)E4K5 T495C225(1)025A(2)E1K3 T495C235(1)025A(2)E750 T495C475(1)025A(2)E575 T495C6475(1)025A(2)E1K5 T495C685(1)025A(2)E400 T495C685(1)025A(2)E400 T495C685(1)025A(2)E500 T495C105(1)025A(2)E500	Trading @ +65 (0.5 0.6 0.9 1.2 1.7 1.7	4.0 6.0 6.0 6.0 6.0 6.0 6.0	4500 1300 750 575 1500 400 490	291 383 437 238 524 474	262 345 394 214 472 426	116 153 175 95 210 190 188 198
2.2 3.3 4.7 6.8 6.8 6.8 6.8 10.0	C C C *B C C C	T495A474(1)025A(2)E4K5 T495C225(1)025A(2)E1K3 T495C336(1)025A(2)E780 T495C475(1)025A(2)E75 T495C885(1)025A(2)E40 T495C885(1)025A(2)E40 T495C885(1)025A(2)E40 T495C885(1)025A(2)E40 T495C865(1)025A(2)E40 T495C186(1)025A(2)E40 T495C186(1)025A(2)E40 T495C186(1)025A(2)E450 T495D156(1)025A(2)E450	95158-16(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 1.7 2.5	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	4500 1300 750 575 1500 400 490 500 450 275 275	291 383 437 238 524 474 469 494	262 345 394 214 472 426 422 445	116 153 175 95 210 190 188 198 295 295
2.2 3.3 4.7 6.8 6.8 6.8 6.8 10.0 15.0 15.0	C C C C D D X	T49SA474(1)025A(2)E4K5 T49SC235(1)025A(2)E1K3 T49SC335(1)025A(2)E1K3 T49SC335(1)025A(2)E750 T49SC475(1)025A(2)E1K5 T49SD885(1)025A(2)E1K5 T49SD885(1)025A(2)E400 T49SC885(1)025A(2)E400 T49SC885(1)025A(2)E400 T49SC885(1)025A(2)E450 T49SD156(1)025A(2)E450 T49SD156(1)025A(2)E450 T49SD156(1)025A(2)E450	95158-16(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 2.5 3.8 3.8 3.0	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0	4500 1300 750 575 1500 400 490 500 450 275 275 200	291 383 437 238 524 474 469 494 738 738 908	262 345 394 214 472 426 422 445 665 665 817	116 153 175 95 210 190 188 198 295 295 363
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0	C C C C C C C X X X	1495A4741 (1025A)2[E4K5 1495C2251 (1025A)2[E1K5 1495C2351 (1025A)2[E1K5 1495C3351 (1025A)2[E575 1495C8851 (1025A)2[E575 1495C8851 (1025A)2[E575 1495C8851 (1025A)2[E500 1495C8851 (1025A)2[E500 1495C8851 (1025A)2[E500 1495C1851 (1025A)2[E500		0.5 0.6 0.9 1.2 1.7 1.7 1.7 2.5 3.8 3.8 3.0 3.0	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0	4500 1300 750 575 1500 400 490 500 450 275 275 200 200	291 383 437 238 524 474 469 494 738 738 908 908	262 345 394 214 472 426 422 445 665 665 817 817	116 153 175 95 210 190 188 198 295 295 363 363
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0	C C C C C D D X X X	T49SA4741 (1025A)2]E4K5 T49SC2251 (1025A)2]E1K3 T49SC2351 (1025A)2]E1K3 T49SC3351 (1025A)2]E1K5 T49SC4751 (1025A)2]E575 T49SC8851 (1025A)2]E400 T49SC8851 (1025A)2]E400 T49SC8851 (1025A)2]E400 T49SC8851 (1025A)2]E400 T49SC1851 (1025A)2]E450	95158-16(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 2.5 3.8 3.0 3.0 5.5	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0	4500 1300 750 575 1500 400 490 500 450 275 275 200 200	291 383 437 238 524 474 469 494 738 738 908 908	262 345 394 214 472 426 422 445 665 665 817 817 545	116 153 175 95 210 190 188 198 295 295 363 363 242
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0 22.0	C C C C C C C C X X X *C *C	1495A4741 (1025A)2[E4K5 1495C2251 (1025A)2[E1K5 1495C2351 (1025A)2[E1K5 1495C3351 (1025A)2[E750 1495C4751 (1025A)2[E750 1495C4851 (1025A)2[E450 1495C68851 (1025A)2[E400 1495C68851 (1025A)2[E400 1495C68851 (1025A)2[E400 1495C16861 (1025A)2[E500 1495C16851 (1025A)2[E500 1495C16851 (1025A)2[E500 1495C16851 (1025A)2[E250 1495C15851 (1025A)2[E350 1495C15851 (1025A)2[E350 1495C15851 (1025A)2[E350 1495C15851 (1025A)2[E350 1495C12861 (1025A)2[E350	95158-16(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 2.5 3.8 3.8 3.0 3.0	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 8.0 6.0	4500 1300 750 575 1500 400 490 500 450 275 275 200 200	291 383 437 238 524 474 469 494 738 738 908 908	262 345 394 214 472 426 422 445 665 665 817 817	116 153 175 95 210 190 188 198 295 295 363 363 242 140
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0	C C C C C D D X X X	T49SA4741 (1025A)2]E4K5 T49SC2251 (1025A)2]E1K3 T49SC2351 (1025A)2]E1K3 T49SC3351 (1025A)2]E1K5 T49SC4751 (1025A)2]E575 T49SC8851 (1025A)2]E400 T49SC8851 (1025A)2]E400 T49SC8851 (1025A)2]E400 T49SC8851 (1025A)2]E400 T49SC1851 (1025A)2]E450	95158-16(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 2.5 3.8 3.0 3.0 5.5 5.5	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0	4500 1300 750 575 1500 400 490 500 450 275 275 200 200 300 900	291 383 437 238 524 474 469 494 738 738 908 908 606 350	262 345 394 214 472 426 422 445 665 665 817 817 545 315	116 153 175 95 210 190 188 198 295 363 363 242 140 346
2.2 3.3 4.7 6.8 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 22.0	C C C C C C C C C C C X X X *C *C D D X X X X X *C *C D D X X X X X X X X X X X X X X X X X	1495A74(1)025A(2)E4K5 1495C225(1)025A(2)E1K5 1495C235(1)025A(2)E1K5 1495C335(1)025A(2)E750 1495C45(1)025A(2)E4T5 1495C45(1)025A(2)E4T5 1495C45(1)025A(2)E4T5 1495C45(1)025A(2)E4T5 1495C45(1)025A(2)E4T5 1495C165(1)025A(2)E4T5 1495C165(1)025A(2)E4T5 1495C156(1)025A(2)E4T5 1495C156(1)025A(2)E4T5 1495C156(1)025A(2)E4T5 1495C156(1)025A(2)E4T5 1495C1256(1)025A(2)E4T5 1495C225(1)025A(2)E3T5 1495C25(1)025A(2)E3T5 1495C25(1)025	95158-16(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 2.5 3.8 3.0 3.0 5.5 5.5 4.4 4.4	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 4.0 4.0	4500 1300 750 575 1500 400 500 450 275 275 200 200 200 200 200 225 225	291 383 437 238 524 474 469 494 738 738 908 606 350 866 856	262 345 394 214 472 426 422 445 665 665 817 817 545 315 780 771	116 153 175 95 210 190 188 198 295 363 363 242 140 346 343 343
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0	C C C C C C C C C C X X *C *C D X X X *D *D	1495A4741 (1025A) ZIE4KS 1495C2351 (1025A) ZIE1KS 1495C2351 (1025A) ZIE1KS 1495C3451 (1025A) ZIE1KS 1495C3451 (1025A) ZIE1KS 1495C8451 (1025A) ZIE1KS 1495C8451 (1025A) ZIE1KS 1495C8451 (1025A) ZIE4KS 1495C8451 (1025A) ZIE4KS 1495C18451 (1025A) ZIE4KS 1495C18451 (1025A) ZIE2KS 1495C1851 (1025A) Z	95158-16(1)(2) 95158-17(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 2.5 3.8 3.0 3.0 5.5 5.5 4.4 4.4 8.3	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 4.0 4.0 6.0	4500 1300 750 575 1500 400 490 500 450 275 275 200 300 900 225 225	291 383 437 238 524 474 469 494 738 738 908 908 606 350 866 856 1291	262 345 394 214 472 426 465 665 665 681 771 545 780 771 1162	116 153 175 95 210 198 198 295 295 363 363 242 140 346 343 343 516
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0	C C C C C C C C C C X X X *C *C D X X X *D	1495A74(1)025A(2)E4K5 1495C225(1)025A(2)E4K5 1495C235(1)025A(2)E4K5 1495C335(1)025A(2)E750 1495C435(1)025A(2)E475 1495C485(1)025A(2)E475 1495C485(1)025A(2)E470 1495C686(1)025A(2)E470 1495C686(1)025A(2)E470 1495C168(1)025A(2)E470 1495C168(1)025A(2)E470 1495C156(1)025A(2)E470	95158-16(1)(2) 95158-17(1)(2)	0.5 0.8 0.9 1.2 1.7 1.7 1.7 2.5 3.8 3.8 3.0 3.0 5.5 5.5 5.5 4.4 4.4 8.3 8.3	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 4.0 4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	4500 1300 750 575 1500 400 490 500 450 275 275 200 300 900 205 225 225 900	291 383 437 238 524 474 469 494 738 738 908 908 606 350 866 856 856 856	262 345 394 214 472 426 665 665 665 771 817 545 315 780 771 771 1162 1102	116 153 175 95 210 190 188 198 295 295 363 363 242 140 346 343 3516 490
2.2 3.3 4.7 6.8 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0 33	C C C C C C C C C X X X *C *C D X X X X *D	1495A474(1)025A(2)E4K5 1495C225(1)025A(2)E1K5 1495C235(1)025A(2)E1K5 1495C335(1)025A(2)E750 1495C485(1)025A(2)E750 1495C485(1)025A(2)E450 1495C6885(1)025A(2)E450 1495C6885(1)025A(2)E450 1495C1865(1)025A(2)E450 1495C1861(1)025A(2)E450 1495C1861(1)025A(2)E250 1495C1861(1)025A(2)E250 1495C1861(1)025A(2)E250 1495C1861(2)E3A(2)E250 1495C1861(2)E3A(2)E256(2)E250 1495C1861(2)E3A(2)E256(2)E	95158-16(1)(2) 95158-17(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 1.7 2.5 3.8 3.0 3.0 3.0 5.5 5.5 4.4 4.4 8.3 8.3 8.3 8.3	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	4500 1300 750 575 1500 490 500 450 275 275 275 270 200 200 300 200 205 225 90 100 225	291 383 437 238 524 474 469 494 738 908 908 908 606 350 866 856 856 1291 1225 816	262 345 394 214 472 426 422 445 665 817 817 545 315 780 771 771 1162 1102 735	116 153 175 95 210 190 188 198 295 295 363 363 242 140 346 343 343 516 490 327
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0	C C C C D D X X X D D X X X D D D Y D D D D D D	1495A7411025A(2)E4K5 1495C2251025A(2)E4K5 1495C2351025A(2)E4K5 1495C335(1025A(2)E750 1495C335(1025A(2)E750 1495C385(1025A(2)E450 1495C165(1025A(2)E450 1495C165(1025A(2)E450 1495C166(1025A(2)E450 1495C166(1025A(2)E450 1495C166(1025A(2)E450 1495C166(1025A(2)E450 1495C156(1025A(2)E450 149	95158-16(1)(2) 95158-17(1)(2)	0.5 0.8 0.9 1.2 1.7 1.7 1.7 2.5 3.8 3.8 3.0 3.0 5.5 5.5 5.5 4.4 4.4 8.3 8.3	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 4.0 4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	4500 1300 750 575 1500 400 490 500 450 275 275 200 300 900 205 225 225 900	291 383 437 238 524 474 469 494 738 738 908 908 606 350 866 856 856 856	262 345 394 214 472 426 665 665 665 771 817 545 315 780 771 771 1162 1102	116 153 175 95 210 190 188 198 295 363 363 242 140 346 343 343 516 490 327 283
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0 33	C C C C C C C C C X X X *C *C D X X X X *D	1495A474(1)025A(2)E4K5 1495C225(1)025A(2)E1K5 1495C235(1)025A(2)E1K5 1495C335(1)025A(2)E750 1495C485(1)025A(2)E750 1495C485(1)025A(2)E450 1495C6885(1)025A(2)E450 1495C6885(1)025A(2)E450 1495C1865(1)025A(2)E450 1495C1861(1)025A(2)E450 1495C1861(1)025A(2)E250 1495C1861(1)025A(2)E250 1495C1861(1)025A(2)E250 1495C1861(2)E3A(2)E250 1495C1861(2)E3A(2)E256(2)E250 1495C1861(2)E3A(2)E256(2)E	95158-16(1)(2) 95158-17(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 1.7 2.5 3.8 3.0 3.0 5.5 5.5 5.5 5.5 4.4 4.4 8.3 8.3 8.3 8.3	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 8.0 6.0 4.0 4.0 4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	4500 1300 750 575 1500 490 490 450 275 275 200 200 300 900 225 225 90 100 225 300	291 383 437 238 524 474 469 494 738 908 606 350 866 856 856 856 856 856 856 856 856 856	262 345 394 214 472 426 422 445 665 665 817 546 315 780 771 711 1162 1102 735 636	116 153 175 95 95 210 190 188 295 295 363 363 343 343 343 343 343 343 343 343
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0 33	C C C C C C C C C C C C C C C C C C C	1495A74(1)025A)2[E4K5 1495C225(1)025A)2[E1K5 1495C235(1)025A)2[E1K5 1495C335(1)025A)2[E750 1495C435(1)025A)2[E750 1495C436(1)025A)2[E575 1495C886(1)025A)2[E400 1495C688(1)025A)2[E400 1495C688(1)025A)2[E400 1495C688(1)025A)2[E400 1495C88(1)025A)2[E400 1495C88(1)025A)2[E400 1495C186(1)025A)2[E500 14	95158-16(1)(2) 95158-17(1)(2) 95158-18(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 1.7 2.5 3.8 3.8 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4	4500 1300 750 750 575 1500 400 490 275 275 270 200 200 200 200 200 205 225 90 100 225 300 225 300 175 175 175	291 383 437 238 524 474 469 908 908 908 606 350 866 856 856 1291 1225 816 707 971 971	262 345 394 214 472 426 422 445 665 665 771 515 780 771 771 1162 1102 735 636 874 874 874	116 153 175 95 210 198 198 295 295 363 242 140 346 343 343 343 3516 490 327 283 388 388 420
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0 33	C C C C C C C C C C C C C C C C C C C	1495A74(1)025A(2)E4K5 1495C225(1)025A(2)E4K5 1495C235(1)025A(2)E4K5 1495C235(1)025A(2)E4K5 1495C335(1)025A(2)E4T5 1495C385(1)025A(2)E4T5 1495C385(1)025A(2)E4T5 1495C385(1)025A(2)E4T5 1495C385(1)025A(2)E4T5 1495C385(1)025A(2)E4T5 1495C136(1)025A(2)E4T5	95158-16(1)(2) 95158-17(1)(2) 95158-18(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 1.7 2.5 3.8 3.0 5.5 5.5 5.5 5.5 4.4 4.4 8.3 8.3 8.3 8.3 8.3 8.6 6.6 11.8	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 6.0 6.0 4.0 4.0 4.0 6.0 6.0 6.0 4.0 4.0 4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	4500 1300 750 575 1500 400 490 500 450 275 275 270 200 200 200 200 225 225 90 100 225 300 175 175 175	291 383 437 238 524 474 469 494 738 908 908 908 606 350 866 856 856 1291 1225 816 707 971 1049 944	262 345 394 214 472 426 422 445 665 665 817 817 545 771 1162 1102 735 636 874 874	116 153 1755 95 210 190 198 295 295 363 363 343 343 343 3516 490 327 283 388 388 420
2.2 3.3 4.7 6.8 6.8 6.8 6.8 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0 33	C C C C C C C C C C C C C C C C C C C	1495A474(1)025A(2)E4K5 1495C225(1)025A(2)E4K5 1495C235(1)025A(2)E1K5 1495C335(1)025A(2)E750 1495C435(1)025A(2)E750 1495C436(1)025A(2)E450 1495C686(1)025A(2)E450 1495C686(1)025A(2)E450 1495C686(1)025A(2)E450 1495C686(1)025A(2)E450 1495C106(1)025A(2)E450 1495C106(1)025A(2)E450 1495C136(1)025A(2)E300 1495D336(1)025A(2)E35 1495D336(1)025A(2)E350 1495D336(1)025A(2)E350 1495D336(1)025A(2)E350 1495D336(1)025A(2)E350 1495D336(1)025A(2)E350 1495D336(1)025A(2)E350 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495C476M025A(2)E300 1495C476M025A(2)E300	95158-16(1)(2) 95158-17(1)(2) 95158-18(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 1.7 2.5 3.8 3.0 5.5 5.5 5.5 4.4 4.4 4.3 8.3 8.3 8.3 8.6 6.6 6.6 6.6 6.1 1.8	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	4500 1300 750 750 575 575 1500 400 490 500 275 275 200 200 300 200 225 225 90 100 225 300 175 175 150 185	291 383 437 238 524 474 469 908 908 908 908 606 350 866 350 866 856 856 856 856 856 870 707 971 1049 944 944 944 947 948 948 949 949 949 949 949 949 949 949	262 345 394 214 472 472 472 426 422 445 665 665 675 7545 315 780 771 771 1162 1102 735 636 874 874 944 850 817	116 1533 95 210 190 188 198 295 295 363 363 363 363 363 363 363 363 363 36
2.2 3.3 4.7 6.8 6.8 6.8 10.0 15.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0 33	C C C C C C C C C C C C C C C C C C C	1495A74(1)025A(2)E4K5 1495C225(1)025A(2)E4K5 1495C235(1)025A(2)E4K5 1495C235(1)025A(2)E4K5 1495C335(1)025A(2)E4T5 1495C385(1)025A(2)E4T5 1495C385(1)025A(2)E4T5 1495C386(1)025A(2)E4T5 1495C386(1)025A(2)E4T5 1495C386(1)025A(2)E4T5 1495C108(1)025A(2)E4T5 1495C108(1)025A(2)E4T5 1495C136(1)025A(2)E4T5	95158-16(1)(2) 95158-17(1)(2) 95158-18(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 1.7 2.5 3.8 3.0 5.5 5.5 5.5 5.5 4.4 4.4 8.3 8.3 8.3 8.3 8.3 8.6 6.6 11.8	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 8.0 6.0 4.0 6.0 4.0 6.0 4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	4500 1300 750 575 1500 400 490 500 450 275 275 275 200 200 200 202 200 202 205 225 225 300 225 300 175 175 175 150	291 383 437 238 524 474 469 494 738 908 908 908 606 350 866 856 856 1291 1225 816 707 971 1049 944	262 345 394 214 472 426 426 445 665 817 545 315 771 1162 1102 735 636 874 874 874 944	116 153 1755 95 210 190 198 295 295 363 363 343 343 343 3516 490 327 283 388 388 420
2.2 3.3 4.7 6.8 6.8 6.8 6.8 10.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 33.0 33.0 33	C C C C C C C C C C C C C C C C C C C	1495A474(1)025A(2)E4K5 1495C225(1)025A(2)E4K5 1495C235(1)025A(2)E1K5 1495C335(1)025A(2)E750 1495C435(1)025A(2)E750 1495C436(1)025A(2)E450 1495C686(1)025A(2)E450 1495C686(1)025A(2)E450 1495C686(1)025A(2)E450 1495C686(1)025A(2)E450 1495C106(1)025A(2)E450 1495C106(1)025A(2)E450 1495C136(1)025A(2)E300 1495D336(1)025A(2)E35 1495D336(1)025A(2)E350 1495D336(1)025A(2)E350 1495D336(1)025A(2)E350 1495D336(1)025A(2)E350 1495D336(1)025A(2)E350 1495D336(1)025A(2)E350 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495D336(1)025A(2)E300 1495C476M025A(2)E300 1495C476M025A(2)E300	95158-16(1)(2) 95158-17(1)(2) 95158-18(1)(2)	0.5 0.6 0.9 1.2 1.7 1.7 1.7 1.7 1.7 2.5 3.8 3.0 3.0 3.0 5.5 5.5 5.5 4.4 4.4 4.4 11.8 11.8 11.8	4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 6.0 6.0 6.0 6.0 6.0 4.0 4.0 4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	4500 1300 750 750 575 575 1500 400 490 500 275 275 200 200 300 200 225 225 90 100 225 300 175 175 150 185	291 383 437 238 524 474 469 494 738 908 908 606 350 866 856 1291 1225 816 707 971 971 971 944 908	262 345 394 214 472 472 472 426 422 445 665 665 675 7545 315 780 771 771 1162 1102 735 636 874 874 944 850 817	116 1533 175 175 175 175 175 175 175 175 175 175

⁽¹⁾ To complete KEMET part number, insert "K" for ±10% or "M" for ±20% capacitance tolerance.
(2) To complete KEMET part number, insert lead material designations per Ordering Information on page 31.

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



T495 SERIES—Low ESR, Surge Robust

T495 RATINGS & PART NUMBER REFERENCE

Capaci- tance µF	Case Size	KEMET Part Number	DSCC Dwg. No. 95158	DC Leakage μA @ 25°C	DF% @ 25°C 120 Hz	ESR mΩ @ 25°C 100 kHz	© 25°C 25°C		Max
			Part Number	Max	Max	Max	25°C	85°C	125°C
			It Rating @ +85°0						
0.47 0.47	B B	T495B474(1)035A(2)E1K5		0.5	4.0 4.0	1500	238 197	214 177	95
1.0	A	T495B474(1)035A(2)E2K2 T495A105(1)035A(2)E3K0		0.5 0.4	4.0	2200 3000	158	142	79 63
1.0	B	T495B105(1)035A(2)E3K0		0.4	4.0	1500	238	214	95
1.0	В	T495B105(1)035A(2)E1K7		0.5	4.0	1700	224	201	89
2.2	В	T495B225(1)035A(2)E1K5		0.8	6.0	1500	238	214	95
2.2	c	T495C225(1)035A(2)E750		0.8	6.0	750	383	345	153
3.3	В	T495B335(1)035A(2)E900		1.2	6.0	900	307	276	123
3.3	С	T495C335(1)035A(2)E525		1.1	6.0	525	457	411	182
3.3	С	T495C335(1)035A(2)E550		1.1	6.0	550	447	402	178
3.3	С	T495C335(1)035A(2)E600		1.2	6.0	600	428	385	171
4.7	*C	T495C475(1)035A(2)E450		1.7	6.0	450	494	445	198
4.7	*C	T495C475(1)035A(2)E500		1.7	6.0	500	469	422	188
4.7	*C	T495C475(1)035A(2)E600	05450 00(4)(0)	1.7	6.0	600	428	385	171
4.7 6.8	*C D	T495C475(1)035A(2)4095	95158-29(1)(2)	1.7	6.0	600 400	428 612	385 551	171 245
6.8	X	T495D685(1)035A(2)E400 T495X685(1)035A(2)E300		1.9	4.0	300	742	667	245
6.8	x	T495X685(1)035A(2)4095	95158-20(1)(2)	1.9	4.0	300	742	667	297
10.0	D	T495D106(1)035A(2)E250	33130-20(1)(2)	3.5	6.0	250	775	697	310
10.0	D	T495D106(1)035A(2)E300		3.5	6.0	300	707	636	283
10.0	D	T495D106(1)035A(2)4095	95158-27(1)(2)	3.5	4.0	300	707	636	283
10.0	х	T495X106(1)035A(2)E175		3.5	6.0	175	971	874	388
10.0	Х	T495X106(1)035A(2)E200		3.5	6.0	200	908	817	363
10.0	Х	T495X106(1)035A(2)E250		2.8	4.0	250	812	731	325
10.0	X	T495X106(1)035A(2)4095	95158-21(1)(2)	2.8	4.0	250	812	731	325
15.0	*D	T495D156(1)035A(2)E225		5.3	6.0	225	816	735	327
15.0	*D	T495D156(1)035A(2)E300		5.3	6.0	300	707	636	283
15.0	*X	T495X156(1)035A(2)E200		5.3	6.0	200	908	817	363
15.0 15.0	*X	T495X156(1)035A(2)E225 T495X156(1)035A(2)4095	95158-22(1)(2)	5.3 5.3	6.0 6.0	225 225	856 856	771 771	343 343
22.0	*D	T495D226(1)035A(2)4095	95158-22(1)(2)	7.7	6.0	125	1095	985	438
22.0	*D	T495D226(1)035A(2)E200		7.7	6.0	200	866	779	346
22.0	*D	T495D226(1)035A(2)E250		7.7	6.0	250	775	697	310
22.0	*D	T495D226(1)035A(2)E300		7.7	6.0	300	707	636	283
22.0	*X	T495X226(1)035A(2)E200		7.7	6.0	200	908	817	363
22.0	*X	T495X226(1)035A(2)E275		7.7	6.0	275	775	697	410
22.0	*X	T495X226(1)035A(2)4095	95158-23(1)(2)	7.7	6.0	300	742	667	297
33.0	*X	T495X336(1)035A(2)E175		11.6	6.0	175	971	874	388
33.0	*X	T495X336(1)035A(2)E250		11.6	6.0	250	812	731	325
47.0	*X	T495X476(1)035A(2)E185		16.5	8.0	185	944	850	378
47.0	*X	T495X476(1)035A(2)E200		16.5	8.0	200	908	817	363
47.0	*X	T495X476(1)035A(2)E300	olt Rating @ +85°0	16.5	8.0	300	742	667	297
1.0	С	T495C105(1)050A(2)E1K3	nt itating @ +65 t	0.5	4.0	1300	291	262	116
2.2	D	T495D225(1)050A(2)E600		1.1	6.0	600	500	450	200
3.3	D	T495D335(1)050A(2)E700		1.7	6.0	700	463	417	185
4.7	D	T495D475(1)050A(2)E275		2.4	6.0	275	739	665	295
4.7	D	T495D475(1)050A(2)E300		2.4	6.0	300	707	636	283
4.7	х	T495X475(1)050A(2)E300		1.9	4.0	300	742	667	297
4.7	X	T495X475(1)050A(2)4095	95158-24(1)(2)	1.9	4.0	300	742	667	297
6.8	*D	T495D685(1)050A(2)E190		3.4	6.0	190	888	799	355
6.8	*D	T495D685(1)050A(2)E200		3.4	6.0	200	866	779	346
6.8	*D	T495D685(1)050A(2)E275		3.4	6.0	275	739	665	295
6.8	*D	T495D685(1)050A(2)E300		3.4	8.0	300	700	600	300
10.0	*X	T495X106(1)050A(2)E250		5.0	8.0	250	774	697	309
10.0	*X	T495X106(1)050A(2)E260		5.0	6.0	260	796	716	318
10.0	*X	T495X106(1)050A(2)E300		5.0	6.0	300	741	667	297
15.0	*X	T495X156(1)050A(2)E300		7.5	8.0	300	742	667	297

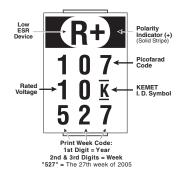
⁽¹⁾ To complete KEMET part number, insert "K" for ±10% or "M" for ±20% capacitance tolerance.
(2) To complete KEMET part number, insert lead material designations per Ordering Information on page 31. *Extended Values

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

CONSTRUCTION



CAPACITOR MARKINGS



T495 SERIES—Low ESR, Surge Robust



T495 TANTALUM CHIP CAPACITANCE VALUES Case Size and Max. ESR $(m\Omega)$ by Capacitance & Voltage Standard Capacitance Values

Capacit	ance			iluaru (ed Voltage @				
μF	Code	2.5	4	6	10	16	20	25	35	50
0.47	474							A,4500	B,1500 B,2200	
1.0	105						A,3000		A,3000 B,1500 B,1700	C,1500
2.2	225							C,1300	B,1500 C,750	D,600
3.3	335					A,3000		C,750	B,900 C,525,550,60 0	D,700
4.7	475				A,1300 B,1300	A,2000 B,700		C,575	C,450,500 C,600	D,275,300 X,300
6.8	685				A,1800 B,900	C,750		B,1500 C,400,490,50 0	D,400 X,300	D,190,200,27 5 D,300
10.0	106				B,750	T,4000	B,1000 C,400,475	C,450	D,250,300 X,175,200 X,250	X,250,300
15.0	156				B,500 C,375,400	B,800	C,375 D,275	D,275 X,200	D,225,300 X,200,225	X,300
22.0	226				V,70 C,290,345		D,180,225 D,275	C, 300,900 D,200 X,225	D,125,200,25 0 D300 X,200,275, 300	
33.0	336				B,450 V,100,150	C,225,275 D,150,175, D,225,250	D,100,150,200	D,90,100 D,225,300 X,175	X,175,250	
47.0	476			B,450 C,250 V,150	B, 500 D,80,90, 200	C,350 D,100,150, 200	D,75,100,17 5 X,65,100 X.125,150	D,120,250 X,150,185, 200	X,185,200, 300	
68.0	686		V,150	D,175	V,100,140 B,600,750 B,900 C,225 D,90,150 X,150	V,180,300 D,150	D,150 X,120,150	X,125,150 200		
100.0	107	Т, 3000	B,500	V,90,150 B,400,700 C,150 D,150	V,150 D,50,65, 80,100 X,100	D,100,125 X,80,100, 125	X,150 E,85,100 200			
150.0	157		B,900 C.250	V,70 C,200 X,100,125	D,50,60,80,1 00 X,85,100 V,100,150	D,100,125,15 0 X,75,100				
220.0	227	D,45		C,225 D,45,100 X,50, 60,70, 100	V,150 D,45,75 D,100,125 X, 45,70, 100	X,100 E,100,150				
330.0	337		C,300,700 D,30,45	X,35,45,65, X,100 D,40,50,70, D,100 E,40,60,100	D,100,125 X,50,60 E,60,100					
470.0	477			X,30,45,50, X,65 D,100,125 E,40,55,100						
680.0	687									
1000.0	108	X,40	X,70 E,35,50	E,50						

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



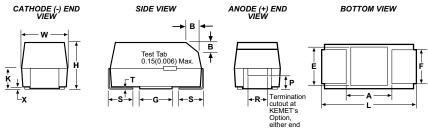
T496 SERIES—Fail-Safe Fused

FEATURES

- Built-in fuse protects against damaging short circuit failure mode
- Precision-molded, laser-marked case
- · Symmetrical, compliant terminations
- Taped and reeled per EIA 481-1
- Case geometry and footprints equivalent to Industrial Grade T491 Series. (Case sizes B, C, D and X only)
- 100% Surge Current test on C, D, X sizes
- Patented fuse assembly
- Operating Temperature: -55°C to +125°C

- Fuse actuation, 25°C; within 1 second at fault currents of 4 amps and higher.
- Continuous current capability: 0.75 amps
- Post-actuation resistance, 25°C: 10 megohms minimum
- Test tabs on the sides of the case bypass the capacitor element to allow direct testing of the fuse assembly.
- RoHS Compliant & Leadfree Terminations (See www.kemet.com for lead transition)

OUTLINE DRAWINGS

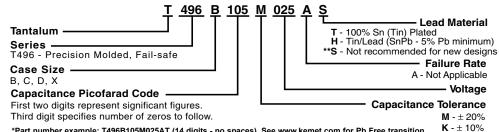


DIMENSIONS — Millimeters (Inches)

CASE	SIZE	COMPONENT													
KEMET	EIA	L	w	н	$\mathbf{K} {}^{\pm 0.20}_{\pm (.008)}$	$\mathbf{F} \stackrel{\pm 0.1}{\pm (.004)}$		B ± 0.15 (Ref)± (.006)		P (Ref)	R (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
В	3528-21	3.5 ± 0.2	2.8 ± 0.2	1.9 ± 0.2	1.1	2.2	0.8	0.4	0.10 ± 0.10	0.5	1.0	0.13	2.1	1.8	2.2
1		$(.138 \pm .008)$	$(.110 \pm .008)$	$(.075 \pm .008)$	(.043)	(.087)	(.031)	(.016)	$(.004 \pm .004)$	(.020)	(.039)	(.005)	(.083)	(.071)	(.087)
С	6032-28	6.0 ± 0.3	3.2 ± 0.3	2.5 ± 0.3	1.4	2.2	1.3	0.5	0.10 ± 0.10		1.0	0.13		2.8	2.4
1		$(.236 \pm .012)$	$(.126 \pm .012)$	$(.098 \pm .012)$	(.055)	(.087)	(.051)	(.020)	$(.004 \pm .004)$	(.035)	(.039)	(.005)	(.122)	(.110)	(.094)
D	7343-31	7.3 ± 0.3	4.3 ± 0.3	2.8 ± 0.3	1.5	2.4	1.3	0.5	0.10 ± 0.10	0.9	1.0	0.13	3.8	3.5	3.5
1		$(.287 \pm .012)$	$(.169 \pm .012)$	$(.110 \pm .012)$	(.059)	(.094)	(.051)	(.020)	$(.004 \pm .004)$	(.035)	(.039)	(.005)	(.150)	(.138)	(.138)
X	7343-43	7.3 ± 0.3	4.3 ± 0.3	4.0 ± 0.3	2.3	2.4	1.3	0.5	0.10 ± 0.10	1.7	1.0	0.13	3.8	3.5*	3.5*
		$(.287 \pm .012)$	(.169 ± .012)	(.157 ± .012)	(.091)	(.094)	(.051)	(.020)	$(.004 \pm .004)$	(.067)	(.039)	(.005)	(.150)	(.138)	(.138)

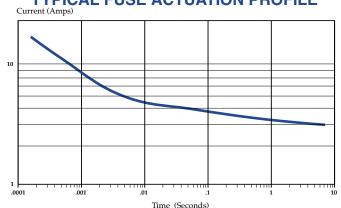
Notes: 1. Metric dimensions govern. 2. (Ref) - Dimensions provided for reference only.

T496 Series – ORDERING INFORMATION



*Part number example: T496B105M025AT (14 digits - no spaces). See www.kemet.com for Pb Free transition. ** "S" Termination codes are converting from 90Sn/10 Pb to 100% tin finishes. Orders including "S" suffix termination codes do not quarantee Pb-free product.

TYPICAL FUSE ACTUATION PROFILE



^{*} Round glue pad: 2.9 ± 0.1 mm (.114" $\pm .004$ ") in diameter at KEMET's option.

T496 SERIES—Fail-Safe Fused



T496 RATINGS & PART NUMBER REFERENCE

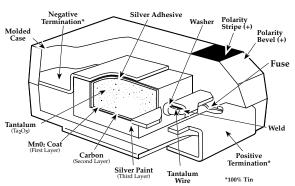
Capaci- Case KEMET DCL μA % @ +25°C Ω@ +25°			ı			
Capacit Case Namber Part Number Part Number Part Number Max. M				DCL uA	DF	ESR
A Volt Rating at +85°C (2.7 Volt Rating at +125°C)						_
Max. Max. Max. Max. Max. Max. A Volt Rating at +85°C (2.7 Volt Rating at +125°C)	tance µF	Size	Part Number	_	120 Hz.	100 kHz
68.0				Wax.	Max.	Max.
68.0 *C T496C866(1)004A(2) 2.7 6.0 1.6		4 \	/olt Rating at +85°C (2.7	Volt Ratin	at +125°C)	
150.0 D T496D157(1)004A(2) 6.0 8.0 0.8	68.0					1.6
150.0 D	100.0	*C	T496C107(1)004A(2)	4.0	8.0	1.2
#330.0 *D T496D337(1)004A(2) 13.2 8.0 0.7 330.0 *X T496X37(1)004A(2) 13.2 8.0 0.7 #470.0 *X T496X477(1)004A(2) 13.2 8.0 0.5 **6 Volt Rating at +85°C (4 Volt Rating at +125°C) 4.7 B T496B475(1)006A(2) 0.5 6.0 3.5 6.8 B T496B685(1)006A(2) 0.5 6.0 3.5 10.0 B T496B685(1)006A(2) 0.6 6.0 3.5 11.0 B T496B106(1)006A(2) 0.6 6.0 3.5 12.0 B T496B26(1)006A(2) 0.9 6.0 2.0 15.0 C T496C226(1)006A(2) 1.3 6.0 2.0 15.0 C T496C236(1)006A(2) 1.4 6.0 2.0 33.0 C T496C336(1)006A(2) 2.9 6.0 1.0 47.0 D T496D476(1)006A(2) 2.9 6.0 1.0 47.0 D T496D476(1)006A(2) 2.9 6.0 1.0 68.0 D T496C866(1)006A(2) 4.1 6.0 1.2 68.0 D T496C866(1)006A(2) 4.1 6.0 1.2 100.0 X T496X107(1)006A(2) 4.1 6.0 1.2 100.0 X T496D107(1)006A(2) 6.0 8.0 0.9 100.0 D T496D107(1)006A(2) 9.0 8.0 0.7 #220.0 *D T496D27(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X27(1)006A(2) 19.8 8.0 0.7 #330.0 *X T496X27(1)006A(2) 19.8 8.0 0.7 #330.0 *X T496X37(1)006A(2) 19.8 8.0 0.7 #330.0 *X T496X37(1)006A(2) 19.8 8.0 0.7 #330.0 *D T496B156(1)010A(2) 0.5 6.0 3.5 4.7 B T496B335(1)010A(2) 0.5 6.0 3.5 6.8 B T496B835(1)010A(2) 0.5 6.0 3.5 6.8 B T496B836(1)010A(2) 0.5 6.0 3.5 6.8 B T496B836(1)010A(2) 0.7 6.0 3.5 6.8 B T496B336(1)010A(2) 1.5 6.0 2.0 15.0 B T496B156(1)010A(2) 1.5 6.0 2.0 22.0 C T496C226(1)010A(2) 1.5 6.0 2.0 33.0 "C T496C366(1)010A(2) 1.5 6.0 2.0 47.0 D T496C16(1)010A(2) 1.5 6.0 2.0 47.0 D T496C366(1)010A(2) 1.5 6.0 3.5 6.8 B T496B336(1)010A(2) 0.7 6.0 3.5 6.8 B T496B336(1)010A(2) 0.7 6.0 3.5 6.8 B T496B336(1)010A(2) 0.5 6.0 3.5 6.8 B T496B336(1)010A(2) 0.5 6.0 3.5 6.8 B T496B356(1)010A(2) 0.5 6.0 3.5 6.8 B T496B356(1)010A(2) 0.5 6.0 3.5 6.8 B T496B336(1)010A(2) 0.5 6.0 3.5 6.8 B T496B365(1)010A(2) 0.5 6.0 3.5 6.8 B T496B365(1)010A(2) 0.5 6.0 3.5 6.8 B T496B365(1)010A(2) 0.5 6.0 3.5 6.8 C T496C226(1)010A(2) 0.5 6.0 3.5 6.8 C T496C366(1)010A(2) 1.6 6.0 2.0 10.0 B T496B356(1)010A(2) 1.6 6.0 2.0 10.0 B T496B365(1)010A(2) 1.6 6.0 2.0 10.0 C T496C106(1)016A(2) 1.6 6.0 2	150.0	D		6.0	8.0	0.8
330.0 *X	220.0	*D	T496D227(1)004A(2)	8.8	8.0	0.7
#470.0 *X	#330.0	*D	T496D337(1)004A(2)		8.0	0.7
**6 Volt Rating at +85°C (4 Volt Rating at +125°C) 4.7 B T496B475(1)006A(2) 0.5 6.0 3.5 6.8 B T496B475(1)006A(2) 0.5 6.0 3.5 10.0 B T496B106(1)006A(2) 1.3 6.0 3.5 11.0 C T496106(1)006A(2) 1.3 6.0 3.5 11.0 C T496106(1)006A(2) 1.3 6.0 2.0 11.0 C T496C226(1)006A(2) 1.4 6.0 2.0 11.0 C T496C226(1)006A(2) 1.4 6.0 2.0 11.0 C T496C336(1)006A(2) 1.4 6.0 2.0 11.0 C T496C336(1)006A(2) 1.4 6.0 2.0 11.0 C T496C336(1)006A(2) 2.9 6.0 1.0 11.0 C T496C476(1)006A(2) 4.1 6.0 1.0 11.0 C T496C176(1)006A(2) 1.3 2 8.0 0.7 11.0 C T496C176(1)006A(2) 1.3 2 8.0 0.7 11.0 C T496C176(1)006A(2) 1.0 6.0 3.5 11.0 C T496C176(1)006A(2) 1.0 6.0 3.5 11.0 C T496C176(1)006A(2) 1.5 6.0 3.5 11.0 C T496C176(1)006A(2) 1.0 6.0 0.0 0.0 11.0 C T496C176(1)006A(2) 1.0 6.0 0.0 0.0 11.0 C T496C176(1)006A(2) 1.0 6.0 0.0 0.0 11.0 C T496C176(1)006A(2) 1.0 0.0 0.0 0.0 11.0 C T496C176(1)006A(2) 1.0 0.0 0.0 0.	330.0		T496X337(1)004A(2)	13.2	8.0	0.7
4.7 B T496B475(1)006A(2) 0.5 6.0 3.5 6.8 B T496B685(1)006A(2) 0.5 6.0 3.5 10.0 B T496B106(1)006A(2) 0.6 6.0 3.5 11.0 B T496B106(1)006A(2) 0.6 6.0 3.5 11.0 C T496C156(1)006A(2) 0.9 6.0 2.0 11.0 C T496C156(1)006A(2) 1.3 6.0 2.0 11.0 C T496C126(1)006A(2) 1.4 6.0 2.0 11.0 C T496C336(1)006A(2) 1.4 6.0 2.0 11.0 C T496C336(1)006A(2) 2.9 6.0 1.0 11.0 C T496C336(1)006A(2) 2.9 6.0 1.0 11.0 C T496C476(1)006A(2) 2.9 6.0 1.0 11.0 C T496C406(1)006A(2) 4.1 6.0 1.2 11.0 C T496C406(1)006A(2) 6.0 8.0 0.9 11.0 D T496D107(1)006A(2) 6.0 8.0 0.8 11.0 D T496D107(1)006A(2) 9.0 8.0 0.7 11.0 C T496C406(1)006A(2) 13.2 8.0 0.7 11.0 C T496C406(1)006A(2) 13.2 8.0 0.7 11.0 C T496C406(1)006A(2) 13.2 8.0 0.7 11.0 C T496C406(1)006A(2) 19.8 8.0 0.5 11.0 C T496C406(1)006A(2) 1.0 6.0 3.5 11.0 C T496C406(1)006A(2) 1.0 6.0 3.5 11.0 C T496C406(1)006A(2) 1.5 6.0 3.5 11.0 C T496C406(1)006A(2) 1.5 6.0 3.5 11.0 C T496C406(1)006A(2) 1.5 6.0 2.0 11.0 C T496C406(1)006A(2) 1.5 6.0 3.5 11.0 C T496C406(1)006A(2) 1.0 6.0 0 3.5 11.0 C T496C406(1)006A(2	#470.0	*X	T496X477(1)004A(2)	18.8	8.0	0.5
6.8 B T496B685(1)006A(2) 0.5 6.0 3.5 10.0 B T496B106(1)006A(2) 0.6 6.0 3.5 122.0 B T496B226(1)006A(2) 1.3 6.0 2.0 15.0 C T496C226(1)006A(2) 1.4 6.0 2.0 22.0 C T496C226(1)006A(2) 1.4 6.0 2.0 33.0 C T496C336(1)006A(2) 2.0 6.0 2.0 47.0 D T496D476(1)006A(2) 2.9 6.0 1.0 47.0 *C T496C476(1)006A(2) 2.9 6.0 1.0 68.0 D T496C866(1)006A(2) 4.1 6.0 1.0 68.0 D T496C866(1)006A(2) 4.1 6.0 1.2 100.0 X T496C156(1)006A(2) 6.0 8.0 0.9 100.0 D T496C106(1)006A(2) 6.0 8.0 0.9 100.0 D T496D157(1)006A(2) 13.2 8.0 0.7 #220.0 *X T496X27(1)006A(2) 13.2 8.0 0.7 #220.0 *X T496X27(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5 10 Volt Rating at +85°C (7 Volt Rating at + 125°C) 3.3 B T496B35(1)010A(2) 0.5 6.0 3.5 4.7 B T496B475(1)010A(2) 0.5 6.0 3.5 6.8 B T496B85(1)010A(2) 1.0 6.0 2.0 2.0 C T496C156(1)010A(2) 1.5 6.0 2.0 3.3.0 C T496C156(1)010A(2) 1.5 6.0 2.0 3.3.0 C T496C336(1)010A(2) 3.3 6.0 1.6 47.0 D T496D36(1)010A(2) 1.5 6.0 2.0 33.0 C T496C366(1)010A(2) 1.5 6.0 2.0 2.0 C T496C156(1)010A(2) 1.5 6.0 2.0 47.0 D T496B336(1)010A(2) 1.5 6.0 2.0 33.0 C T496C36(1)010A(2) 1.5 6.0 2.0 47.0 D T496B36(1)010A(2) 1.5 6.0 2.0 33.0 C T496C36(1)010A(2) 1.5 6.0 2.0 47.0 D T496B36(1)010A(2) 1.5 6.0 2.0 47.0 D T496B36(1)010A(2) 1.5 6.0 2.0 22.0 C T496C256(1)010A(2) 1.5 6.0 2.0 33.0 *C T496C36(1)010A(2) 1.5 6.0 2.0 33.0 *C T496C36(1)010A(2) 1.5 6.0 2.0 22.0 C T496C476(1)010A(2) 1.5 6.0 2.0 33.0 *C T496C36(1)010A(2) 1.5 6.0 2.0 22.0 C T496C36(1)010A(2) 1.5 6.0 2.0 22.0 C T496C36(1)010A(2) 1.5 6.0 3.5 68.0 D T496B36(1)010A(2) 1.0 8.0 0.7 #47.0 D T496B36(1)010A(2) 1.5 6.0 3.5 68.0 C T496C36(1)010A(2) 1.0 8.0 0.7 #50.0 *X T496C36(1)010A(2) 2.2 8.0 0.5 16 *V T496C36(1)010A(2) 2.2 8.0 0.5		**6	Volt Rating at +85°C (4	Volt Rating	g at +125°C)	
10.0 B T496B106(1)006A(2) 0.6 6.0 3.5	4.7	В	T496B475(1)006A(2)	0.5	6.0	3.5
22.0 B T496B226(1)006A(2) 1.3 6.0 3.5 15.0 C T496C156(1)006A(2) 0.9 6.0 2.0 22.0 C T496C226(1)006A(2) 1.4 6.0 2.0 33.0 C T496C336(1)006A(2) 2.0 6.0 2.0 47.0 D T496D476(1)006A(2) 2.9 6.0 1.0 47.0 °C T496C476(1)006A(2) 2.9 6.0 1.6 68.0 D T496D686(1)006A(2) 4.1 6.0 1.2 100.0 X T496C86(1)006A(2) 4.1 6.0 1.2 100.0 X T496C106(1)006A(2) 6.0 8.0 0.9 100.0 D T496D107(1)006A(2) 9.0 8.0 0.7 #220.0 °D T496D127(1)006A(2) 13.2 8.0 0.7 #220.0 °D T496D227(1)006A(2) 13.2 8.0 0.7 #330.0 °X T496X37(1)006A(2) 19.8 8.0 0.5 10 Volt Rating at +85°C (7 Volt Rating at +125°C) 3.3 B T496B35(1)010A(2) 0.5 6.0 3.5 6.8 B T496B65(1)010A(2) 1.5 6.0 3.5 6.8 B T496B65(1)010A(2) 1.5 6.0 2.0 15.0 C T496C166(1)010A(2) 1.5 6.0 2.0 22.0 C T496C26(1)010A(2) 1.5 6.0 2.0 33.0 D T496D336(1)010A(2) 1.5 6.0 2.0 22.0 C T496C36(1)010A(2) 1.5 6.0 2.0 22.0 C T496C36(1)010A(2) 1.5 6.0 2.0 33.0 D T496D336(1)010A(2) 1.5 6.0 2.0 22.0 C T496C36(1)010A(2) 1.5 6.0 2.0 47.0 D T496D336(1)010A(2) 1.5 6.0 2.0 33.0 D T496D336(1)010A(2) 1.5 6.0 2.0 47.0 D T496C36(1)010A(2) 1.5 6.0 2.0 33.0 D T496C36(1)010A(2) 1.5 6.0 2.0 33.0 D T496C36(1)010A(2) 1.5 6.0 2.0 33.0 D T496C36(1)010A(2) 1.5 6.0 2.0 47.0 D T496C36(1)010A(2) 1.5 6.0 2.0 47.0 D T496C36(1)010A(2) 1.5 6.0 2.0 33.0 D T496C36(1)010A(2) 1.5 6.0 2.0 33.0 D T496C36(1)010A(2) 1.5 6.0 2.0 33.0 C T496C36(1)010A(2) 1.5 6.0 2.0 33.0 D T496C36(1)010A(2) 2.2 6.0 2.0 33.0 D T496C36(1)010A(2) 3.3 6.0 3.5 3.5 6.0 3.5 6.0 3.5 6.0 3.5	6.8	В	T496B685(1)006A(2)	0.5	6.0	3.5
15.0		В			6.0	
22.0		В	T496B226(1)006A(2)		6.0	3.5
33.0 C T496C336(1)006A(2) 2.0 6.0 2.0 47.0 D T496D476(1)006A(2) 2.9 6.0 1.0 47.0 *C T496C476(1)006A(2) 2.9 6.0 1.0 68.0 D T496D686(1)006A(2) 4.1 6.0 1.0 #88.0 *C T496C686(1)006A(2) 4.1 6.0 1.2 100.0 X T496X107(1)006A(2) 6.0 8.0 0.9 100.0 D T496D157(1)006A(2) 6.0 8.0 0.8 150.0 *D T496D157(1)006A(2) 9.0 8.0 0.7 #220.0 *X T496X227(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X337(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5 10 Volt Rating at +85°C (7 Volt Rating at +125°C) 3.3 B T496B355(1)010A(2) 0.5 6.0 3.5 6.8 B T496B85(1)010A(2) 0.5 6.0 3.5 10.0 C T496C106(1)010A(2) 1.5 6.0 3.5 15.0 B T496B36(1)010A(2) 1.5 6.0 2.0 15.0 B T496C156(1)010A(2) 1.5 6.0 2.0 33.0 D T496C156(1)010A(2) 2.2 6.0 2.0 33.0 D T496C36(1)010A(2) 3.3 6.0 1.6 47.0 D T496C476(1)010A(2) 4.7 6.0 1.0 47.0 D T496C366(1)010A(2) 5.0 8.0 0.7 150.0 *X T496C36(1)010A(2) 5.0 8.0 0.0 150.0 *X T496C36(1)010A(2) 3.3 6.0 1.6 47.0 D T496C36(1)010A(2) 3.3 6.0 1.6 47.0 D T496C36(1)010A(2) 3.3 6.0 1.6 47.0 *C T496C476(1)010A(2) 3.3 6.0 1.0 30.0 *X T496C36(1)010A(2) 3.3 6.0 1.6 47.0 *C T496C36(1)010A(2) 3.3 6.0 1.6 47.0 *C T496C36(1)010A(2) 3.3 6.0 0.0 150.0 *X T496C36(1)010A(2) 3.3 6.0 0.0 150.0 *D T496D35(1)010A(2) 3.3 6.0 0.0 150.0 *D T496D35(1)010A(2) 3.3 6.0 0.0 150.0 *D T496D36(1)010A(2) 3.3 6.0 0.0 150.0 *D T496C36(1)010A(2) 3.6 6.0 0.0 150.0 *C T496C26(1)016A(2) 3.6 6.0 0.0 150.0 *C T496C226(1)016A(2) 3.6 6.0 0.0 150.0 *C T496C226(1)016A(2) 3.6 6.0 0.0 160.0 *C	15.0	С	T496C156(1)006A(2)	0.9	6.0	2.0
47.0 D T496D476(1)006A(2) 2.9 6.0 1.0 47.0 *C T496C6476(1)006A(2) 2.9 6.0 1.6 68.0 D T496D686(1)006A(2) 4.1 6.0 1.0 #88.0 *C T496C866(1)006A(2) 4.1 6.0 1.2 100.0 X T496D107(1)006A(2) 6.0 8.0 0.9 100.0 D T496D107(1)006A(2) 6.0 8.0 0.8 150.0 *D T496D157(1)006A(2) 9.0 8.0 0.7 #220.0 *X T496X27(1)006A(2) 13.2 8.0 0.7 #230.0 *X T496X337(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5 10 Volt Rating at +85°C (7 Volt Rating at +125°C) 3.3 B T496B335(1)010A(2) 0.5 6.0 3.5 4.7 B T496B475(1)010A(2) 0.7 6.0 3.5 10.0 C T496C106(1)010A(2) 1.0 6.0 2.0 15.0 B T496B156(1)010A(2) 1.5 6.0 2.0 15.0 C T496C26(1)010A(2) 1.5 6.0 2.0 22.0 C T496C26(1)010A(2) 3.3 6.0 1.0 33.0 D T496D336(1)010A(2) 3.3 6.0 1.0 47.0 D T496D336(1)010A(2) 4.7 6.0 1.0 47.0 D T496D36(1)010A(2) 4.7 6.0 1.0 47.0 D T496C476(1)010A(2) 4.7 6.0 1.0 68.0 X T496C476(1)010A(2) 4.7 6.0 1.0 68.0 X T496C67(1)010A(2) 6.8 6.0 0.8 100.0 D T496D36(1)010A(2) 1.0 6.0 0.9 68.0 D T496C36(1)010A(2) 1.0 6.0 0.9 68.0 D T496C36(1)010A(2) 1.0 6.0 0.9 68.0 D T496C36(1)010A(2) 1.0 6.0 0.9 68.0 D T496C35(1)010A(2) 1.0 0.0 0.7 150.0 *X T496C476(1)010A(2) 1.0 0.0 0.0 7 #220.0 *X T496C476(1)010A(2) 1.0 0.0 0.0 7 #250.0 *X T496C476(1)010A(2) 1.0 0.0 0.0 68.0 D T496D35(1)010A(2) 1.0 0.0 0.0 68.0 D T496D35(1)010A(2) 1.0 0.0 0.0 68.0 D T496C35(1)010A(2) 1.0 0.0 0.0 68.0 D T496C36(1)010A(2) 1.0 0.0 0.0 68.0 D T496C36(1)01						
47.0 *C T496C476(1)006A(2) 2.9 6.0 1.6 68.0 D T496C686(1)006A(2) 4.1 6.0 1.0 #68.0 *C T496C686(1)006A(2) 4.1 6.0 1.2 100.0 X T496X107(1)006A(2) 6.0 8.0 0.9 100.0 D T496D157(1)006A(2) 9.0 8.0 0.7 #220.0 *D T496D227(1)006A(2) 13.2 8.0 0.7 #220.0 *X T496X227(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5 #330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5 #330.0 *X T496X337(1)010A(2) 0.5 6.0 3.5 #4.7 B T496B335(1)010A(2) 0.5 6.0 3.5 4.7 B T496B475(1)010A(2) 0.5 6.0 3.5 15.0 C T496C166(1)010A(2) 1.5		_				
68.0 D T496D686(1)006A(2) 4.1 6.0 1.0 #68.0 *C T496C686(1)006A(2) 4.1 6.0 1.2 100.0 X T496X107(1)006A(2) 6.0 8.0 0.9 100.0 D T496D107(1)006A(2) 9.0 8.0 0.8 150.0 *D T496D157(1)006A(2) 13.2 8.0 0.7 #220.0 *X T496X227(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X337(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5 10 Volt Rating at +85°C (7 Volt Rating at +125°C) 3.3 B T496B355(1)010A(2) 0.5 6.0 3.5 4.7 B T496B475(1)010A(2) 1.0 6.0 2.0 15.0 C T496C166(1)010A(2) 1.5 6.0 3.5 15.0 C T496C266(1)010A(2) 1.5 6.0 2.0 22.0 C T496C266(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C36(1)010A(2) 4.7 6.0 1.0 47.0 D T496D476(1)010A(2) 4.7 6.0 1.0 47.0 C T496C464(0)010A(2) 4.7 6.0 1.0 487.0 *C T496C466(1)010A(2) 4.7 6.0 1.0 68.0 X T496C866(1)010A(2) 4.7 6.0 1.0 68.0 D T496D476(1)010A(2) 4.7 6.0 1.0 68.0 D T496D476(1)010A(2) 4.7 6.0 1.0 68.0 D T496D476(1)010A(2) 1.5 0.0 0.0 150.0 *X T496C36(1)010A(2) 1.5 0.0 0.0 68.0 D T496D476(1)010A(2) 1.5 0.0 0.0 68.0 D T496D476(1)010A(2) 1.5 0.0 0.0 68.0 D T496D476(1)010A(2) 1.0 0.0 0.0 150.0 *X T496C36(1)010A(2) 1.0 0.0 0.0 68.0 D T496D476(1)010A(2) 1.0 0.0 0.0 68.0 D T496D476(1)010A(2) 1.0 0.0 0.0 150.0 *X T496C35(1)010A(2) 1.0 0.0 0.0 150.0 *X T496C36(1)010A(2) 1.0 0.0 0.0 15						
#68.0 *C T496C686(1)006A(2) 4.1 6.0 1.2 100.0 X T496X107(1)006A(2) 6.0 8.0 0.9 100.0 D T496D107(1)006A(2) 6.0 8.0 0.8 150.0 *D T496D157(1)006A(2) 9.0 8.0 0.7 #220.0 *X T496X227(1)006A(2) 13.2 8.0 0.7 220.0 *X T496X337(1)006A(2) 19.8 8.0 0.7 #330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5 10 Volt Rating at +85°C (7 Volt Rating at +125°C) 3.3 B T496B355(1)010A(2) 0.5 6.0 3.5 6.8 B T496B35(1)010A(2) 0.5 6.0 3.5 10.0 C T496C106(1)010A(2) 1.5 6.0 3.5 15.0 B T496B156(1)010A(2) 1.5 6.0 2.0 15.0 B T496B35(1)010A(2) 2.2 6.0 2.0 33.0 D T496D36(1)010A(2) 2.2 6.0 2.0 33.0 D T496C36(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C236(1)010A(2) 3.3 6.0 1.6 47.0 D T496D476(1)010A(2) 4.7 6.0 1.2 68.0 X T496C476(1)010A(2) 4.7 6.0 1.2 68.0 X T496C836(1)010A(2) 6.8 6.0 0.9 68.0 D T496D86(1)010A(2) 15.0 8.0 0.7 150.0 B T496B36(1)010A(2) 1.0 6.0 1.0 150.0 B T496B36(1)010A(2) 3.3 6.0 1.6 47.0 D T496C476(1)010A(2) 3.3 6.0 1.6 47.0 T T496C476(1)010A(2) 4.7 6.0 1.2 68.0 X T496C836(1)010A(2) 1.5 8.0 0.7 150.0 *X T496C85(1)010A(2) 1.5 8.0 0.7 150.0 *X T496C85(1)010A(2) 1.0 8.0 0.3.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B35(1)016A(2) 0.5 6.0 3.5 16 *C T496C685(1)016A(2) 1.6 6.0 0.3.5						
100.0						
100.0 D T496D107(1)006A(2) 6.0 8.0 0.8 150.0 *D T496D157(1)006A(2) 9.0 8.0 0.7 #220.0 *D T496D227(1)006A(2) 13.2 8.0 0.7 220.0 *X T496D227(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5						
150.0 *D T496D157(1)006A(2) 9.0 8.0 0.7 #220.0 *D T496D227(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X227(1)006A(2) 13.2 8.0 0.5 #330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5 10 Volt Rating at +85°C (7 Volt Rating at +125°C) 3.3 B T496B335(1)010A(2) 0.5 6.0 3.5 4.7 B T496B335(1)010A(2) 0.5 6.0 3.5 6.8 B T496B685(1)010A(2) 0.7 6.0 3.5 10.0 C T496C106(1)010A(2) 1.0 6.0 2.0 15.0 B T496B156(1)010A(2) 1.5 6.0 3.5 15.0 C T496C156(1)010A(2) 1.5 6.0 2.0 22.0 C T496C26(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C336(1)010A(2) 3.3 6.0 1.0 47.0 D T496D336(1)010A(2) 4.7 6.0 1.0 #47.0 *C T496C476(1)010A(2) 4.7 6.0 1.2 68.0 X T496C86(1)010A(2) 4.7 6.0 0.9 68.0 D T496D107(1)010A(2) 6.8 6.0 0.8 100.0 D T496D107(1)010A(2) 15.0 8.0 0.7 #50.0 *X T496C35(1)010A(2) 15.0 8.0 0.7 #50.0 *X T496C327(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B35(1)016A(2) 0.5 6.0 3.5 6.8 C T496C685(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 0.8 6.0 3.5 10.0 C T496C156(1)016A(2) 1.6 6.0 2.0 10.0 B T496B35(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 3.6 6.0 0.0 15.0						
#220.0 *D T496D227(1)006A(2) 13.2 8.0 0.7 220.0 *X T496X227(1)006A(2) 13.2 8.0 0.7 #330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5 10 Volt Rating at +85°C (7 Volt Rating at +125°C) 3.3 B T496B355(1)010A(2) 0.5 6.0 3.5 4.7 B T496B475(1)010A(2) 0.5 6.0 3.5 6.8 B T496B685(1)010A(2) 1.0 6.0 2.0 15.0 C T496C106(1)010A(2) 1.5 6.0 3.5 15.0 C T496C156(1)010A(2) 1.5 6.0 2.0 22.0 C T496C256(1)010A(2) 2.2 6.0 2.0 33.0 D T496D336(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C336(1)010A(2) 3.3 6.0 1.6 47.0 D T496D476(1)010A(2) 4.7 6.0 1.2 68.0 X T496C856(1)010A(2) 4.7 6.0 1.2 68.0 D T496D866(1)010A(2) 6.8 6.0 0.8 100.0 D T496D36(1)010A(2) 6.8 6.0 0.9 68.0 D T496D866(1)010A(2) 15.0 8.0 0.7 150.0 *X T496C86(1)010A(2) 1.5 8.0 0.7 150.0 *X T496C85(1)010A(2) 1.5 6.0 1.0 12 68.0 X T496C85(1)010A(2) 1.5 6.0 1.0 12 68.0 C T496C85(1)010A(2) 1.5 6.0 1.0 12 68.0 D T496D868(1)010A(2) 1.5 6.0 1.0 15 68.0 C T496C85(1)010A(2) 1.5 6.0 1.0 15 68.0 C T496C85(1)010A(2) 1.0 0.0 0.0 15 68.0 D T496D868(1)010A(2) 1.0 0.0 0.0 15 68.0 D T496D868(1)010A(2) 1.0 0.0 0.0 15 7496C106(1)010A(2) 1.0 0.0 0.0 15 8.0 0.7 15 0.0 *X T496X157(1)010A(2) 1.0 0.0 0.0 15 0.0 *D T496D157(1)010A(2) 1.0 0.0 0.0 15 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.						
220.0 *X		_				
#330.0 *X T496X337(1)006A(2) 19.8 8.0 0.5 10 Volt Rating at +85°C (7 Volt Rating at + 125°C) 3.3 B T496B335(1)010A(2) 0.5 6.0 3.5 4.7 B T496B475(1)010A(2) 0.5 6.0 3.5 6.8 B T496B685(1)010A(2) 0.7 6.0 3.5 10.0 C T496C106(1)010A(2) 1.0 6.0 2.0 15.0 B T496B156(1)010A(2) 1.5 6.0 3.5 15.0 C T496C156(1)010A(2) 1.5 6.0 2.0 22.0 C T496C26(1)010A(2) 3.3 6.0 1.0 33.0 D T496D336(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C336(1)010A(2) 3.3 6.0 1.0 47.0 D T496D336(1)010A(2) 4.7 6.0 1.0 #47.0 *C T496C476(1)010A(2) 4.7 6.0 1.0 #47.0 *C T496C476(1)010A(2) 4.7 6.0 1.0 #47.0 *C T496C476(1)010A(2) 4.7 6.0 1.0 #56.0 X T496C86(1)010A(2) 6.8 6.0 0.8 100.0 D T496D86(1)010A(2) 6.8 6.0 0.8 100.0 D T496D86(1)010A(2) 15.0 8.0 0.7 150.0 *X T496X45(1)010A(2) 15.0 8.0 0.7 #50.0 *X T496X5(1)010A(2) 15.0 8.0 0.7 #50.0 *X T496X5(1)010A(2) 15.0 8.0 0.7 #22.0 *X T496X25(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B325(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B335(1)016A(2) 1.1 6.0 2.0 10.0 B T496C166(1)016A(2) 1.6 6.0 3.5 6.8 C T496C685(1)016A(2) 1.6 6.0 3.5 6.8 C T496C685(1)016A(2) 1.6 6.0 2.0 10.0 C T496C156(1)016A(2) 1.6 6.0 2.0 22.0 D T496D226(1)016A(2) 3.6 6.0 1.0						-
10 Volt Rating at +85°C (7 Volt Rating at +125°C)						
3.3 B T496B335(1)010A(2) 0.5 6.0 3.5 4.7 B T496B475(1)010A(2) 0.5 6.0 3.5 6.8 B T496B685(1)010A(2) 0.7 6.0 3.5 10.0 C T496C106(1)010A(2) 1.0 6.0 2.0 15.0 B T496B166(1)010A(2) 1.5 6.0 3.5 15.0 C T496C156(1)010A(2) 1.5 6.0 2.0 22.0 C T496C226(1)010A(2) 2.2 6.0 2.0 33.0 D T496D336(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C36(1)010A(2) 3.3 6.0 1.6 47.0 D T496D476(1)010A(2) 4.7 6.0 1.0 #47.0 *C T496C476(1)010A(2) 4.7 6.0 1.2 68.0 X T496C36(1)010A(2) 6.8 6.0 0.8 10.0 D T496D476(1)010A(2) 1.5 8.0 0.7 #50.0 *X T496C36(1)010A(2) 1.5 8.0 0.7 150.0 *X T496C36(1)010A(2) 1.0 8.0 0.7 #150.0 *X T496C157(1)010A(2) 1.0 8.0 0.7 #220.0 *X T496C37(1)010A(2) 1.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B355(1)016A(2) 0.5 6.0 3.5 4.7 B T496B355(1)016A(2) 0.5 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 2.0 10.0 C T496C156(1)016A(2) 1.6 6.0 2.0 22.0 D T496D226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.0	#330.0		. , , , ,			0.5
4.7 B T496B475(1)010A(2) 0.5 6.0 3.5 6.8 B T496B685(1)010A(2) 0.7 6.0 3.5 10.0 C T496C106(1)010A(2) 1.0 6.0 2.0 15.0 B T496B156(1)010A(2) 1.5 6.0 3.5 15.0 C T496C156(1)010A(2) 1.5 6.0 2.0 22.0 C T496C226(1)010A(2) 2.2 6.0 2.0 33.0 D T496D336(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C36(1)010A(2) 3.3 6.0 1.0 47.0 D T496D476(1)010A(2) 4.7 6.0 1.0 ##7.0 *C T496C476(1)010A(2) 4.7 6.0 1.0 68.0 X T496C476(1)010A(2) 4.7 6.0 0.0 68.0 D T496D476(1)010A(2) 6.8 6.0 0.8 100.0 D T496D476(1)010A(2) 15.0 8.0 0.7 150.0 *X T496C476(1)010A(2) 15.0 8.0 0.7 ##150.0 *X T496C476(1)010A(2) 15.0 8.0 0.7 ##220.0 *X T496C476(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B225(1)016A(2) 0.5 6.0 3.5 4.7 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B355(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C156(1)016A(2) 1.1 6.0 2.0 15.0 C T496C156(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 3.6 6.0 1.6						
6.8 B T496B685(1)010A(2) 0.7 6.0 3.5 10.0 C T496C106(1)010A(2) 1.0 6.0 2.0 15.0 B T496B156(1)010A(2) 1.5 6.0 3.5 15.0 C T496C156(1)010A(2) 1.5 6.0 2.0 22.0 C T496C226(1)010A(2) 2.2 6.0 2.0 33.0 D T496D336(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C336(1)010A(2) 3.3 6.0 1.6 47.0 D T496D476(1)010A(2) 4.7 6.0 1.0 #47.0 *C T496C46(1)010A(2) 4.7 6.0 1.2 68.0 X T496X686(1)010A(2) 6.8 6.0 0.9 68.0 D T496D46(1)010A(2) 6.8 6.0 0.8 100.0 D T496D476(1)010A(2) 15.0 8.0 0.7 150.0 *X T496X586(1)010A(2) 15.0 8.0 0.7 #50.0 *X T496X57(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X57(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X27(1)010A(2) 2.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B35(1)016A(2) 0.5 6.0 3.5 3.3 B T496B35(1)016A(2) 0.5 6.0 3.5 4.7 B T496B45(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 6.8 C T496C685(1)016A(2) 1.6 6.0 3.5 10.0 C T496C156(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.0						
10.0 C T496C106(1)010A(2) 1.0 6.0 2.0 15.0 B T496B156(1)010A(2) 1.5 6.0 3.5 15.0 C T496C156(1)010A(2) 1.5 6.0 2.0 22.0 C T496C226(1)010A(2) 2.2 6.0 2.0 33.0 D T496D336(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C336(1)010A(2) 3.3 6.0 1.6 47.0 D T496D476(1)010A(2) 4.7 6.0 1.0 #47.0 *C T496C476(1)010A(2) 4.7 6.0 1.2 68.0 X T496C476(1)010A(2) 4.7 6.0 0.9 68.0 D T496D686(1)010A(2) 6.8 6.0 0.9 68.0 D T496D686(1)010A(2) 6.8 6.0 0.9 68.0 D T496D107(1)010A(2) 10.0 8.0 0.7 150.0 *X T496X457(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X257(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B355(1)016A(2) 0.5 6.0 3.5 3.3 B T496B355(1)016A(2) 0.5 6.0 3.5 4.7 B T496B355(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 2.0 10.0 C T496C156(1)016A(2) 1.6 6.0 2.0 15.0 *C T496C266(1)016A(2) 3.6 6.0 1.6 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6 3.5 3.6 6.0 3.6 3.6 6.0 3.6 3.6 6.0 3.6 3.6 6.0 3.6 3.6 6.0 3.6 3.6 6.0 3.6 3.6 6.0 3.6 3.6 6.0 3.6 3.6 6.0 3.6 3.6 6.0 3.6 3.6 6.0 3.6 3.7 3.7 3.7 3.8 4.7 4.7 4.7 3.8 4.7 4.7 4.7 3.8 4.7 4.7 4.7 3.8 4.7 4.7 4.7 3.8 4.7		_				
15.0 B T496B156(1)010A(2) 1.5 6.0 3.5 15.0 C T496C156(1)010A(2) 1.5 6.0 2.0 22.0 C T496C226(1)010A(2) 2.2 6.0 2.0 33.0 D T496C236(1)010A(2) 3.3 6.0 1.0 33.0 °C T496C336(1)010A(2) 3.3 6.0 1.6 47.0 D T496D336(1)010A(2) 4.7 6.0 1.0 ##47.0 °C T496C476(1)010A(2) 4.7 6.0 1.0 ##6.0 X T496C476(1)010A(2) 6.8 6.0 0.9 68.0 D T496B86(1)010A(2) 6.8 6.0 0.9 68.0 D T496B86(1)010A(2) 6.8 6.0 0.9 150.0 °X T496X45(1)010A(2) 15.0 8.0 0.7 150.0 °X T496X157(1)010A(2) 15.0 8.0 0.7 ##50.0 °X T496X25(1)010A(2) 15.0 8.0 0.7 ##50.0 °X T496S25(1)010A(2) 15.0 8.0 0.7 ##50.0 °X T496S25(1)010A(2) 15.0 8.0 0.7 ##220.0 °X T496S25(1)010A(2) 15.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B255(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 2.0 10.0 C T496C156(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 1.6 6.0 2.0 22.0 D T496D226(1)016A(2) 3.6 6.0 1.0						
15.0 C T496C156(1)010A(2) 1.5 6.0 2.0 22.0 C T496C226(1)010A(2) 2.2 6.0 2.0 33.0 D T496D336(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C336(1)010A(2) 4.7 6.0 1.6 47.0 D T496D476(1)010A(2) 4.7 6.0 1.2 68.0 X T496C476(1)010A(2) 4.7 6.0 1.2 68.0 X T496C868(1)010A(2) 6.8 6.0 0.9 68.0 D T496D868(1)010A(2) 6.8 6.0 0.8 100.0 D T496D107(1)010A(2) 10.0 8.0 0.7 #150.0 *X T496X157(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496D157(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X227(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2						
22.0 C T496C226(1)010A(2) 2.2 6.0 2.0 33.0 D T496D336(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C336(1)010A(2) 3.3 6.0 1.6 47.0 D T496D476(1)010A(2) 4.7 6.0 1.0 ##7.0 *C T496C476(1)010A(2) 4.7 6.0 1.0 ##7.0 *C T496C476(1)010A(2) 4.7 6.0 0.1 68.0 X T496S686(1)010A(2) 6.8 6.0 0.9 68.0 D T496D686(1)010A(2) 6.8 6.0 0.8 100.0 D T496D107(1)010A(2) 15.0 8.0 0.7 #150.0 *X T496X157(1)010A(2) 15.0 8.0 0.7 #150.0 *X T496D157(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X27(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B355(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 6.8 C T496C685(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.6		_				
33.0 D T496D336(1)010A(2) 3.3 6.0 1.0 33.0 *C T496C336(1)010A(2) 3.3 6.0 1.6 47.0 D T496D476(1)010A(2) 4.7 6.0 1.0 #47.0 *C T496C476(1)010A(2) 4.7 6.0 1.2 68.0 X T496C866(1)010A(2) 6.8 6.0 0.9 68.0 D T496D686(1)010A(2) 6.8 6.0 0.8 100.0 D T496D107(1)010A(2) 10.0 8.0 0.7 150.0 *X T496X157(1)010A(2) 15.0 8.0 0.7 #150.0 *D T496D107(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X157(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X227(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B325(1)016A(2) 0.5 6.0 3.5 3.3 B T496B351(1)016A(2) 0.5 6.0 3.5 4.7 B T496B45(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C156(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.6						
33.0 *C T496C336(1)010A(2) 3.3 6.0 1.6 47.0 D T496D476(1)010A(2) 4.7 6.0 1.0 #47.0 *C T496C476(1)010A(2) 4.7 6.0 1.2 68.0 X T496X686(1)010A(2) 6.8 6.0 0.9 68.0 D T496D686(1)010A(2) 6.8 6.0 0.8 100.0 D T496D107(1)010A(2) 10.0 8.0 0.7 150.0 *X T496X157(1)010A(2) 15.0 8.0 0.7 #150.0 *X T496X157(1)010A(2) 15.0 8.0 0.7 #150.0 *X T496X257(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X257(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B325(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 2.0 10.0 C T496C156(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.6		_				
47.0 D T496D476(1)010A(2) 4.7 6.0 1.0 #47.0 *C T496C476(1)010A(2) 4.7 6.0 1.2 68.0 X T496X686(1)010A(2) 6.8 6.0 0.9 68.0 D T496D686(1)010A(2) 6.8 6.0 0.8 100.0 D T496D107(1)010A(2) 10.0 8.0 0.7 150.0 *X T496X157(1)010A(2) 15.0 8.0 0.7 #150.0 *D T496D157(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X227(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B25(1)016A(2) 0.5 6.0 3.5 4.7 B T496B35(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C106(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.6						
#47.0 *C T496C476(1)010A(2) 4.7 6.0 1.2 68.0 X T496X686(1)010A(2) 6.8 6.0 0.9 68.0 D T496D686(1)010A(2) 6.8 6.0 0.8 100.0 D T496D107(1)010A(2) 10.0 8.0 0.7 150.0 *X T496X157(1)010A(2) 15.0 8.0 0.7 #150.0 *D T496D157(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X227(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B25(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 1.1 6.0 2.0 10.0 B T496B45(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C106(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.6		-				
68.0 X T496X686(1)010A(2) 6.8 6.0 0.9 68.0 D T496D686(1)010A(2) 6.8 6.0 0.8 100.0 D T496D107(1)010A(2) 10.0 8.0 0.7 150.0 *X T496X157(1)010A(2) 15.0 8.0 0.7 #150.0 *D T496D157(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X227(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X227(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B252(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B36(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6		_				
68.0 D T496D686(1)010A(2) 6.8 6.0 0.8 100.0 D T496D107(1)010A(2) 10.0 8.0 0.7 150.0 *X T496X157(1)010A(2) 15.0 8.0 0.7 #150.0 *D T496D157(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X227(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B225(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B35(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.6						
100.0 D T496D107(1)010A(2) 10.0 8.0 0.7 150.0 *X T496X157(1)010A92) 15.0 8.0 0.7 150.0 *D T496D157(1)010A(2) 15.0 8.0 0.7 150.0 *X T496X227(1)010A(2) 15.0 8.0 0.7 150.0 *X T496X227(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B225(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 0.8 6.0 3.5 6.8 C T496C85(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.6 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6 16.0 1.6 1.6 17.0 17.0 17.0 17.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.			, , , , ,			
150.0			() ()			
#150.0 *D T496D157(1)010A(2) 15.0 8.0 0.7 #220.0 *X T496X227(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B225(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6		_				
#220.0 *X T496X227(1)010A(2) 22.0 8.0 0.5 16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B225(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6						-
16 Volt Rating at +85°C (10 Volt Rating at +125°C) 2.2 B T496B225(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496C256(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6						
2.2 B T496B225(1)016A(2) 0.5 6.0 3.5 3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496D226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6						3.0
3.3 B T496B335(1)016A(2) 0.5 6.0 3.5 4.7 B T496B475(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C106(1)016A(2) 2.4 6.0 2.0 22.0 D T496D226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6	2.2					3.5
4.7 B T496B475(1)016A(2) 0.8 6.0 3.5 6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496D226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6						
6.8 C T496C685(1)016A(2) 1.1 6.0 2.0 10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496C226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6						
10.0 B T496B106(1)016A(2) 1.6 6.0 3.5 10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496D226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6		С	T496C685(1)016A(2)	1.1	6.0	2.0
10.0 C T496C106(1)016A(2) 1.6 6.0 2.0 15.0 C T496C156(1)016A(2) 2.4 6.0 2.0 22.0 D T496D226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6		В				
22.0 D T496D226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6		С				
22.0 D T496D226(1)016A(2) 3.6 6.0 1.0 22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6	15.0	С	T496C156(1)016A(2)	2.4	6.0	2.0
22.0 *C T496C226(1)016A(2) 3.6 6.0 1.6	22.0	D		3.6	6.0	1.0
	22.0	*C		3.6	6.0	1.6
		_	T496D336(1)016A(2)	5.3	6.0	1.0
47.0 X T496X476(1)016A(2) 7.5 6.0 0.9		X			6.0	0.9
47.0 D T496D476(1)016A(2) 7.5 6.0 0.8						
100.0 *X T496X107(1)016A(2) 16.0 8.0 0.7	100.0	*X	T496X107(1)016A(2)	16.0	8.0	0.7

			DCL µA	DF	ESR								
Capaci-	Case	KEMET	@ 25°C	% @ +25°C	Ω@ +25°C								
tance µF	Size	Part Number	Max.	120 Hz.	100 kHz								
			IVIAX.	Max.	Max.								
	20	Volt Rating at +85°C (13	3 Volt Ratin	g at +125°C)									
1.5	В	T496B155(1)020A(2)	0.5	6.0	5.0								
2.2	В	T496B225(1)020A(2)	0.5	6.0	3.5								
3.3	В	T496B335(1)020A(2)	0.7	6.0	3.5								
4.7	С	T496C475(1)020A(2)	1.0	6.0	2.0								
6.8	С	T496C685(1)020A(2)	1.4	6.0	2.0								
10.0	С	T496C106(1)020A(2)	2.0	6.0	2.0								
15.0	D	T496D156(1)020A(2)	3.0	6.0	1.0								
22.0	D	T496D226(1)020A(2)	4.4	6.0	1.0								
33.0	Х	T496X336(1)020A(2)	6.6	6.0	0.9								
47.0	Х	T496X476(1)020A(2)	9.4	6.0	0.3								
	25 Volt Rating at +85°C (17 Volt Rating at +125°C)												
0.68	В	T496B684(1)025A(2)	0.5	4.0	6.5								
1.0	В	T496B105(1)025A(2)	0.5	4.0	5.0								
1.5	В	T496B155(1)025A(2)	0.5	6.0	5.0								
2.2	С	T496C225(1)025A(2)	0.6	6.0	3.5								
3.3	С	T496C335(1)025A(2)	0.9	6.0	2.5								
4.7	С	T496C475(1)025A(2)	1.2	6.0	2.5								
6.8	С	T496C685(1)025A(2)	1.7	6.0	2.0								
10.0	С	T496C106(1)025A(2)	2.5	6.0	0.6								
10.0	D	T496D106(1)025A(2)	2.5	6.0	1.2								
15.0	D	T496D156(1)025A(2)	3.8	6.0	1.0								
22.0	Х	T496X226(1)025A(2)	5.5	6.0	0.9								
22.0	D	T496D226(1)025A(2)	5.5	6.0	0.8								
		Volt Rating at +85°C (23											
0.47	В	T496B474(1)035A(2)	0.5	4.0	8.0								
0.68	В	T496B684(1)035A(2)	0.5	4.0	6.5								
1.0	В	T496B105(1)035A(2)	0.5	4.0	5.0								
1.5	С	T496C155(1)035A(2)	0.5	6.0	4.5								
2.2	С	T496C225(1)035A(2)	0.8	6.0	3.5								
3.3	С	T496C335(1)035A(2)	1.2	6.0	2.5								
4.7	D	T496D475(1)035A(2)	1.7	6.0	1.5								
6.8	D	T496D685(1)035A(2)	2.4	6.0	1.3								
10.0	X	T496X106(1)035A(2)	3.5	6.0	1.0								
15.0	*X	T496X156(1)035A(2)	5.3	6.0	0.9								
22.0	X	T496X226(1)035A(2)	7.7	6.0	0.3								
		Volt Rating at +85°C (33		,									
0.15	В	T496B154(1)050A(2)	0.5	4.0	16.0								
0.22	В	T496B224(1)050A(2)	0.5	4.0	14.0								
0.33	В	T496B334(1)050A(2)	0.5	4.0	10.0								
0.47	С	T496C474(1)050A(2)	0.5	4.0	8.0								
0.68	С	T496C684(1)050A(2)	0.5	4.0	7.0								
1.0	С	T496C105(1)050A(2)	0.5	4.0	5.5								
1.5	С	T496C155(1)050A(2)	0.8	6.0	5.0								
2.2	D D	T496D225(1)050A(2)	1.1	6.0	2.5								
3.3	U	T496D335(1)050A(2)	1.7	6.0	2.0								

- (1) To complete KEMET Part Number, insert M for $\pm 20\%$ tolerance or K for $\pm 10\%$ tolerance.
- (2) To complete KEMET Part Number, insert lead material designation for Ordering Information on page 36.

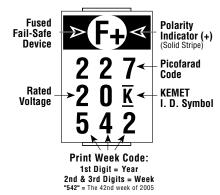
Higher voltage ratings and tighter capacitance tolerance product may be substituted within the same size at KEMET's option. Voltage substitutions will be marked with the higher voltage rating.

T496 SERIES CONSTRUCTION



CAPACITOR MARKINGS

T496 Series — All Case Sizes



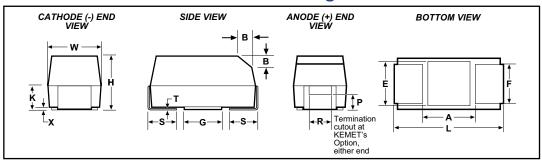


T498 SERIES—HIGH TEMPERATURE (150°)

Features

- 150°C Maximum temperature capability
- Temperature/Voltage derating: 2/3 at 150°C
- · Self-healing mechanism
- Capacitance: 0.47 to 220µF
- Reliability: 0.5%/1000 Hrs. @ rated voltage @ rated temperature
- 100% Accelerated steady state aging
- 100% Surge current testing
- EIA standard case size
- Voltage: 6 to 50 VDC
- RoHS Compliant versions available
- Various termination options

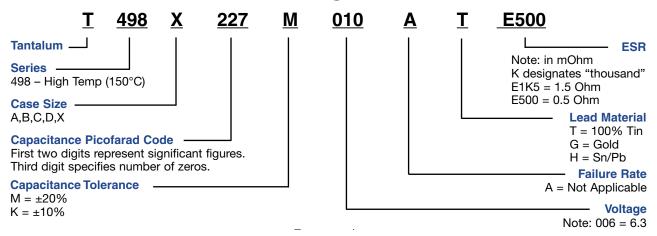
Outline Drawings



Dimensions - Millimeters (Inches)

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

T498 Ordering Information



SOLID TANTALUM CHIP CAPACITORS

T498 SERIES—HIGH TEMPERATURE (150°)



T498 RATINGS & PART NUMBER REFERENCE

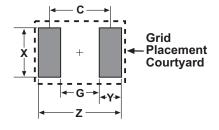
-		ATINGS & PART NUI			
Capaci-			DC	DF %	$ESR\Omega$
-	Case	KEMET	Leakage	@ +25°C	@ +25°C
tance	Size	Part Number	μA @	120 Hz	100 kHz
μF			25°C Max	Max	Max
		**6 Volt Rating at +85°C (4 Volt F	Rating at +15	0°C)	
10.0	В	T498B106(1)006A(2)E2K1	0.7	6.0	2.1
15.0	В	T498B156(1)006A(2)E1K8	1.0	6.0	1.8
22.0	C	T498C226(1)006A(2)E1K3	1.4	6.0	1.3
33.0	В	T498B336(1)006A(2)E1K7	2.1	6.0	1.7
	C	` , ` , ,			
47.0		T498C476(1)006A(2)E800	3.0	6.0	0.8
100.0	ן ט	T498D107(1)006A(2)E600	6.3	8.0	0.6
		10 Volt Rating at +85°C (7 Volt F			
2.2	A	T498A225(1)010A(2)E4K6	0.5	6.0	4.6
3.3	A	T498A335(1)010A(2)E3K6	0.5	6.0	3.6
4.7	A	T498A475(1)010A(2)E2K9	0.5	6.0	2.9
4.7	В	T498B475(1)010A(2)E2K7	0.5	6.0	2.7
10.0	В	T498B106(1)010A(2)E1K8	1.0	6.0	1.8
15.0	В	T498B156(1)010A(2)E1K5	1.5	6.0	1.5
15.0	С	T498C156(1)010A(2)E1K8	1.5	6.0	1.8
22.0	В	T498B226(1)010A(2)E1K5	2.2	6.0	1.5
22.0	С	T498C226(1)010A(2)E1K1	2.2	6.0	1.1
47.0	D	T498D476(1)010A(2)E600	4.7	6.0	0.6
100.0	D	T498D107(1)010A(2)E600	10.0	8.0	0.6
220.0	X	T498X227(1)010A(2)E500	22.0	8.0	0.5
		16 Volt Rating at +85°C (11 Volt F	Rating at +15	0°C)	
1.0	Α	T498A105(1)016A(2)E6K5	0.5	4.0	6.5
3.3	Α	T498A335(1)016A(2)E3K4	0.5	6.0	3.4
4.7	В	T498B475(1)016A(2)E2K1	0.8	6.0	2.1
6.8	A	T498A685(1)016A(2)E2K6	1.1	6.0	2.6
6.8	В	T498B685(1)016A(2)E1K8	1.1	6.0	1.8
10.0	В	T498B106(1)016A(2)E2K8	1.6	6.0	2.8
10.0	l c l	T498C106(1)016A(2)E1K4	1.6	6.0	1.4
15.0	c	T498C156(1)016A(2)E1K1	2.4	6.0	1.1
22.0	c	T498C226(1)016A(2)E1K0	3.6	6.0	1.0
33.0	D	T498D336(1)016A(2)E600	5.3	6.0	0.6
47.0		T498D476(1)016A(2)E600	7.5	6.0	0.6
47.0		20 Volt Rating at +85°C (13 Volt F			0.0
1.0	Α	T498A105(1)020A(2)E5K9	0.5	4.0	5.9
10.0	C	T498C106(1)020A(2)E1K1	2.0	6.0	1.1
10.0		25 Volt Rating at +85°C (17 Volt F			1.1
0.47		T498A474(1)025A(2)E8K5		4.0	0.5
0.47	A B	, , , , ,	0.5		8.5
2.2		T498B225(1)025A(2)E3K0	0.6	6.0	3.0
10.0	С	T498C106(1)025A(2)E1K1	2.5	6.0	1.1
15.0	D	T498D156(1)025A(2)E700	3.8	6.0	0.7
22.0	D	T498D226(1)025A(2)E600	5.5	6.0	0.6
33.0	D	T498D336(1)025A(2)E600	8.3	6.0	0.6
		35 Volt Rating at +85°C (24 Volt F			
0.33	Α	T498A334(1)035A(2)E11K	0.5	4.0	11.0
1.0	A	T498A105(1)035A(2)E10K	0.5	4.0	10.0
1.5	С	T498C155(1)035A(2)E3K3	0.5	6.0	3.3
3.3	С	T498C335(1)035A(2)E1K7	1.2	6.0	1.7
6.8	D	T498D685(1)035A(2)E900	2.4	6.0	0.9
10.0	D	T498D106(1)035A(20E700	3.5	6.0	0.7
22.0	X	T498X226(1)035A(2)E500	7.7	6.0	0.5
33.0	X	T498X336(1)035A(2)E500	11.6	6.0	0.5
		50 Volt Rating at +85°C (34 Volt F		0°C)	
3.3	D	T498D335(1)050A(2)E1K1	1.7	6.0	1.1
10.0	D	T498D106(1)050A(2)E1K0	5.0	6.0	1.0
(4) T		AET port number insert K ± 100/ or M			

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

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

LAND PATTERN DIMENSIONS **FOR REFLOW SOLDER**

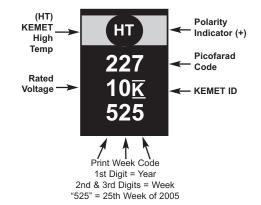
KEMET/ EIA Size		Pad	Dimens	ions	
Code	Z	G	х	Y (Ref)	C (Ref)
A/3216-18	4.70	0.80	1.50	1.95	2.75
B/3528-21	5.00	1.10	2.50	1.95	3.05
C/6032-28	7.60	2.50	2.50	2.55	5.05
D/7343-31	8.90	3.80	2.70	2.55	6.35
X/7343-43	8.90	3.80	4.40	2.55	6.35



PACKAGING SPECIFICATIONS

Case	Codes	1	ape 8	Reel Dim	ensions	
KEMET	EIA	Tape Width		Pitch n ± 0.1	Reel Q	uantity
		(mm)	Part	Sprocket	180mm (7")	330mm (13")
Α	3216-18	8 ± 0.3	8	4	2000	9000
В	3528-21	8 ± 0.3	8	4	2000	8000
С	6032-28	12 ± 0.3	8	4	500	3000
D	7343-31	12 ± 0.3	8	4	500	2500
Х	7343-43	12 ± 0.3	8	4	500	2000

COMPONENT MARKING



⁽²⁾ To complete KEMET part number, insert T for 100% tin, H for Sn/Pb or G for gold.
** 6 volt product equivalent to 6.3 volt product.



SOLID TANTALUM CHIP CAPACITORS

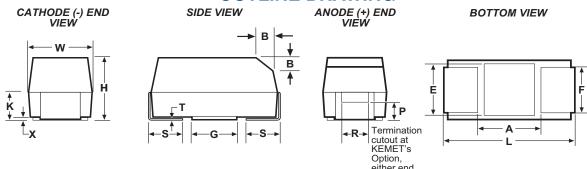
T510 SERIES—High Capacitance-Low ESR

FEATURES

- Ultra Low ESR < 30 mΩ
- New E/7260 Case with ESR < 18 m Ω
- Up to 5 Amps ripple current
- RoHS Compliant & Leadfree Termination (see www. kemet.com for lead transitions)
- Operating Temperature: -55°C to +125°C

- 100% accelerated steady-state aging
- 100% Surge current test
- · Precision molded, laser-marked case
- · Symmetrical compliant terminations
- Taped and reeled per EIA 481-1

OUTLINE DRAWING



DIMENSIONS - Millimeters (Inches)

CASE	SIZE		COMPONENT												
KEMET	EIA	L	W	Н	$\mathbf{K}_{\pm (.008)}^{\pm 0.20}$	$\mathbf{F}_{\pm (.004)}^{\pm 0.1}$	$\mathbf{S}_{\pm (.012)}^{\pm 0.3}$	${f B} \pm 0.15 \ {f (Ref)} \pm (.006)$	X (Ref)	P (Ref)	R (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
Х	7343-43	$7.3 \pm 0.3 \\ (.287 \pm .012)$	4.3 ± 0.3 (.169 ± .012)	4.0 ± 0.3 (.157 ± .012)	2.3 (.091)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
Е	7260-38	7.3 ± 0.3 (.287 \pm .012)	6.0 ± 0.3 (.236 ± .012)	3.6 ± 0.2 (.142 ± .008)	2.3 (.091)	4.1 (.161	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

Notes: Metric Dimensions govern

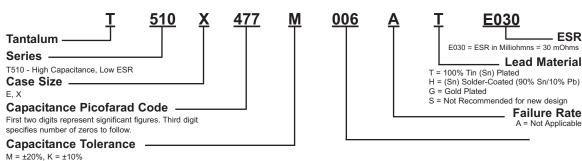
(Ref) - Dimensions provided for reference only.

T510 RATINGS & PART NUMBER REFERENCE

Cap µF	Case Size	KEMET Part Number	DC Leakage μA @ +25°C	DF % @ +25°C 120Hz	ESR mΩ @ +25°C 100 kHz	Arn	ple Cu 1s @ + 0 kHz,	25°C,	Cap µF	Case Size	KEMET Part Number	DC Leakage μA @ +25°C	@ +25°C 120Hz	ESR mΩ @ +25°C 100 kHz	Arn	ople Cu ns @ +: 0 kHz,	25°C,
			Max	Max	Max	25°C	85°C	125°C				Max	Max	Max	25°C	85°C	125°C
		4 Volt Rating at +8	5°C (2.7 Vo	It Rating a	t 125°C)						25 Volt Rating at +8	35°C (17 V	olt Rating	at 125°C)			•
680.0	X	T510X687(1)004A(2)E030	27.2	6.0	30	3.0	2.7	1.2	100.0	Е	T510E107(1)025A(2)E050	25.0	8.0	50	2.4	2.1	1.0
1000.0	X	T510X108(1)004A(2)E018	40.0	6.0	18	3.9	3.5	1.5			35 Volt Rating at +8	5°C (23 V	olt Rating	at 125°C)			
1000.0	X	T510X108(1)004A(2)E023	40.0	6.0	23	3.4	3.0	1.3	22.0	Х	T510X226(1)035A(2)E100	7.7	6.0	100	1.6	1.4	0.6
1000.0	E	T510E108(1)004A(2)E018	40.0	6.0	18	4.0	3.6	1.6	22.0	Х	T510X226(1)035A(2)E080	7.7	6.0	80	1.8	1.7	0.7
1000.0	E	T510E108(1)004A(2)E010	40.0	6.0	10	5.3	4.8	2.1	22.0	Х	T510X226(1)035A(2)E060	7.7	6.0	60	2.1	1.9	0.8
		6/6.3 Volt Rating at							33.0	Х	T510X336(1)035A(2)E065	11.6	6.0	65	2.0	1.8	0.8
470.0	Х	T510X477(1)006A(2)E030	28.2	6.0	30	3.0	2.7	1.2	33.0	Х	T510X336(1)035A(2)E050	11.6	6.0	50	2.3	2.1	0.9
680.0	Е	T510E687(1)006A(2)E023	40.8	6.0	23	3.5	3.2	1.4	47.0	Х	T510X476(1)035A(2)E055	16.5	8.0	55	2.2	2.0	0.9
680.0	E	T510E687(1)006A(2)E012	40.8	6.0	12	4.8	4.3	1.9	47.0	Х	T510X476(1)035A(2)E065	16.5	8.0	65	2.0	1.8	0.8
		10 Volt Rating at +							47.0	Е	T510E476(1)035A(2)E050	16.5	8.0	50	2.4	2.1	1.0
330.0	Х	T510X337(1)010A(2)E035	33.0	6.0	35	2.8	2.5	1.1			50 Volt Rating at +8	35°C (33 V	olt Rating	at 125°C)			
		16 Volt Rating at +8	· · · · · · · · · · · · · · · · · · ·						10.0	Х	T510X106(1)050A(2)E120	5.0	8.0	120	1.5	1.3	0.6
150.0	X	T510X157(1)016A(2)E030	24.0	6.0	30	3.0	2.7	1.2	10.0	Х	T510X106(1)050A(2)E090	5.0	8.0	90	1.7	1.6	0.7
150.0		T510X157(1)016A(2)E040	24.0	6.0	40	2.6	2.3	1.0			•				•		
220.0	Х	T510X227(1)016A(2)E040	35.2	10.0	40	2.6	2.3	1.0									
220.0	Х	T510X227(1)016A(2)E025	35.2	10.0	25	3.3	3.0	1.3									
20 Volt Rating at +85°C (13.4 Volt Rating at 125°C)																	
100.0	Х	T510X107(1)020A(2)E035	20.0	8.0	35.0	7.7	6.9	3.1									
100.0	X	T510X107(1)020A(2)E040	20.0	6.0	40.0	2.6	2.3	1.0									
100.0	X	T510X107(1)020A(2)E045	20.0	6.0	45.0	2.4	2.2	0.9									

(1) To complete KEMET part number insert "K" - ±10% or "M" - ±20% capacitance tolerance. (2) To complete KEMET part number, insert H (SnPb) or T 100% tin.

T510 ORDERING INFORMATION

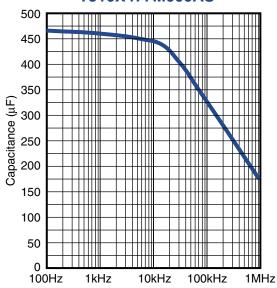


SOLID TANTALUM CHIP CAPACITORS

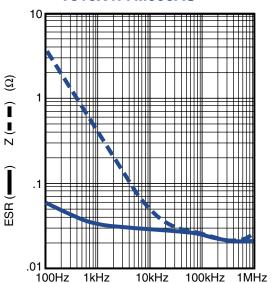
T510 SERIES—High Capacitance



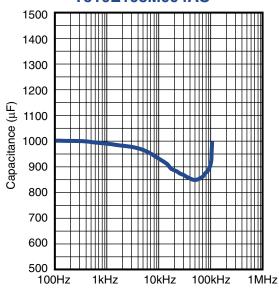
TYPICAL CAP FREQUENCY SCAN @25°C T510X477M006AS



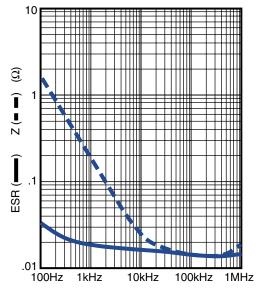
TYPICAL ESR/Z FREQUENCY SCAN @25°C T510X477M006AS



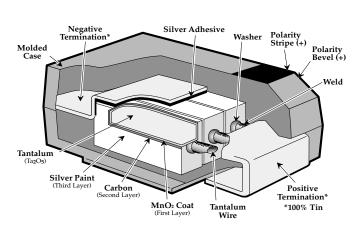
TYPICAL CAP FREQUENCY SCAN @ 25°C T510E108M004AS



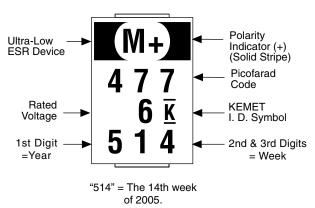
TYPICAL ESR/Z FREQUENCY SCAN @ 25°C T510E108M004AS



T510X SERIES CONSTRUCTION



T510
CAPACITOR MARKINGS



COMPONENT PERFORMANCE CHARACTERISTICS

Introduction

KEMET has developed a new type of tantalum capacitor that replaces the solid manganese dioxide electrode with a solid conductive polymer. This product is named the KO-CAP for KEMET Organic Capacitor. The basic families are the T520, T525 and T530 series. A separate detail of performance characteristics is presented here as there are some differences between the polymer tantalums and the standard MnO2 types. Like all KEMET tantalum chips, these series are 100% screened for all electrical parameters: Capacitance @ 120 Hz, Dissipation Factor (DF) @ 120 Hz, ESR @ 100 kHZ and DC Leakage. It is also 100% surge current tested at full rated voltage through a low impedance circuit. The advantages of the polymer include very low ESR and elimination of the potentially catastrophic failure mode that may occur with standard tantalum capacitors in a high current application. Although the natural KO-CAP series failure mechanism is a short circuit, it does not exhibit an explosive failure mode.

ELECTRICAL

1. Operating Temperature Range

• -55°C to +105°C for T520; -55°C to +125°C for T525 and T530

For T525 and T530 Series above 105°C, the voltage rating is reduced linearly from 1.0 x rated voltage to 0.8 x rated voltage at 125°C.

2. Non-Operating Temperature Range

- -55°C to +105°C for T520
- -55°C to +125°C for T525 and T530

3. Capacitance and Tolerance

- 15μF to 1500μF
- ±20% Tolerance

Capacitance is measured at 120 Hz, up to 1.0 volt rms maximum and up to 2.5V DC maximum. DC bias causes only a small reduction in capacitance, up to about 2% when full rated voltage is applied. DC bias is not commonly used for room temperature measurements but is more commonly used when measuring at temperature extremes.

Capacitance does decrease with increasing frequency, but not nearly as much or as quickly as standard tantalums. Figure 1 compares the frequency induced cap roll-off between the KO-CAP and traditional MnO2 types. Capacitance also increases with increasing temperature. See section 12 for temperature coefficients.

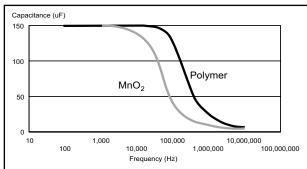
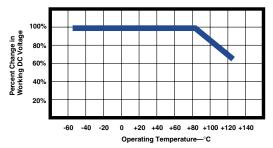


FIGURE 1

4. Voltage Ratings

• 2V-25V DC Rated Voltage

This is the maximum peak DC operating voltage from -55°C to +105°C for continuous duty. Above 105°C, this voltage is derated linearly to 2/3 the rated voltage for operation at 125°C for T525 and T530 Series.



• Surge Voltage Ratings

Surge voltage capability is demonstrated by application of 1000 cycles of the relevant voltage, at 25°C, 85°C or 105°C. The parts are charged through a 33 ohm resistor for 30 seconds and then discharged through a 33 ohm resistor for 30 seconds for each cycle.

• Voltage Ratings • Table 1

10.1490			
Rated	Surge	Derated	Derated
Voltage	Voltage	Voltage	Surge
			Voltage
-55°C t	o +105°C	+12	25°C
2V	2.6V	1.6V	2.1V
2.5V	3.3V	2.0V	2.6V
3V	3.9V	2.4V	3.1V
4V	5.2V	3.2V	4.2V
6.3V	8.2V	5V	6.5V
8V	10.4V	6.4V	8.3V
10V	13V	8V	10.4V
16V	20.8V	12.8V	16.6V
25V	32.5V	20V	26V

5. Reverse Voltage Rating & Polarity

Polymer capacitors are polar devices and may be permanently damaged or destroyed if connected in the wrong polarity. The positive terminal is identified by a laser-marked stripe and may also include a beveled edge. These capacitors will withstand a small degree of transient voltage reversal for short periods as shown in the following table. Please note that these parts may not be operated continuously in reverse, even within these limits.

Table 2

Temperature	Permissible Transient Reverse Voltage
25°C	15% of Rated Voltage
55°C	10% of Rated Voltage
85°C	5% of Rated Voltage
85°C	5% of Rated Voltage
105°C	3% of Rated Voltage
125°C	1% of Rated Voltage

6. DC Leakage Current

Because of the high conductivity of the polymer, the KO-CAP family has higher leakage currents than traditional MnO2 type Tantalum caps. The DC Leakage limits at 25°C are calculated as 0.1 x C x V, where C is cap in μF and V is rated voltage in Volts. Limits for all part numbers are listed in the ratings tables.

DC Leakage current is the current that flows through the capacitor dielectric after a five minute charging period at rated voltage. Leakage is measured at 25°C with full rated voltage applied to the capacitor through a 1000 ohm resistor in series with the capacitor.

ESR

CONDUCTIVE POLYMER CHIP CAPACITORS KEMET

COMPONENT PERFORMANCE CHARACTERISTICS

DC Leakage current does increase with temperature. The limits for 85°C @ Rated Voltage and 105°C @ 0.8 x Rated Voltage are both 10 times the 25°C limit.

7. Surge Current Capability

Certain applications may induce heavy surge currents when circuit impedance is very low (<0.1 ohm per volt). Driving inductance may also cause voltage ringing. Surge currents may appear as transients during turn-on of equipment.

The KO-CAP has a very high tolerance for surge current. And although the failure mechanism is a short circuit, they do not ignite as may occur with standard tantalums in such applications.

The KO-CAP series receives 100% screening for surge current in our production process. Capacitors are surged 4 times at full rated voltage applied through a total circuit resistance of <0.5 ohms. Failures are removed during subsequent electrical testing.

8. Dissipation Factor (DF)

Refer to part number tables for maximum DF limits.

Dissipation factor is measured at 120 Hz, up to 1.0 volt rms maximum, and up to 2.5 volts DC maximum at +25°C. The application of DC bias causes a small reduction in DF, about 0.2% when full rated voltage is applied. DF increases with increasing frequency.

Dissipation factor is the ratio of the equivalent series resistance (ESR) to the capacitive reactance, (X_c) and is usually expressed as a percentage. It is directly proportional to both capacitance and frequency. Dissipation factor loses its importance at higher frequencies, (above about 1 kHz), where impedance (Z) and equivalent series resistance (ESR) are the normal parameters of concern.

$$DF = \frac{R}{X_c} = 2 \pi f CR \qquad \Box$$

DF= Dissipation Factor

R= Equivalent Series
Resistance (Ohms)

X_c= Capacitive Reactance (Ohms)

f= Frequency (Hertz)

C= Series Capacitance (Farads)

DF is also referred to as $\tan \delta$ or "loss tangent." The "Quality Factor," "Q," is the reciprocal of DF.

9. Equivalent Series Resistance (ESR) and Impedance (Z)

The Equivalent Series Resistance (ESR) of the KO-CAP is much lower than standard Tantalum caps because the polymer cathode has much higher conductivity. ESR is not a pure resistance, and it decreases with increasing frequency.

Total impedance of the capacitor is the vector sum of capacitive reactance (X_c) and ESR, below resonance; above resonance total impedance is the vector sum of inductive reactance (X_l) and ESR.

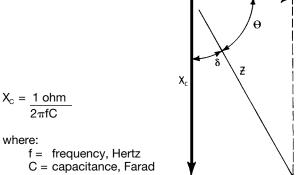


FIGURE 2a Total Impedance of the Capacitor Below Resonance

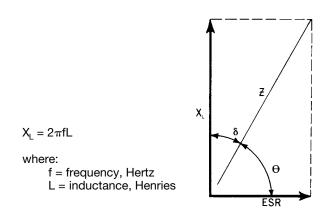


FIGURE 2b Total Impedance of the Capacitor Above

To understand the many elements of a capacitor, see Figure 3.

COMPONENT PERFORMANCE CHARACTERISTICS

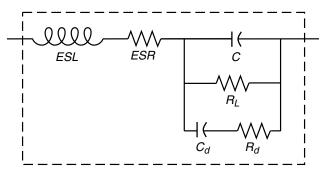


FIGURE 3 The Real Capacitor

A capacitor is a complex impedance consisting of many series and parallel elements, each adding to the complexity of the measurement system.

ESL — Represents lead wire and construction inductance. In most instances (especially in solid tantalum and monolithic ceramic capacitors) it is insignificant at the basic measurement frequencies of 120 and 1000 Hz.

ESR— Represents the actual ohmic series resistance in series with the capacitance. Lead wires and capacitor electrodes are contributing sources.

 $R_{\scriptscriptstyle L}$ — Capacitor Leakage Resistance. Typically it can reach 50,000 megohms in a tantalum capacitor. It can exceed 10^{12} ohms in monolithic ceramics and in film capacitors.

R_d — The dielectric loss contributed by dielectric absorption and molecular polarization. It becomes very significant in high frequency measurements and applications. Its value varies with frequency.

 $C_{\scriptscriptstyle d}$ — The inherent dielectric absorption of the solid tantalum capacitor which typically equates to 1-2% of the applied voltage.

As frequency increases, $\rm X_c$ continues to decrease according to its equation above. There is unavoidable inductance as well as resistance in all capacitors, and at some point in frequency, the reactance ceases to be capacitive and becomes inductive. This frequency is called the self-resonant point. In solid tantalum capacitors, the resonance is damped by the ESR, and a smooth, rather than abrupt, transition from capacitive to inductive reactance follows.

Figure 4 compares the frequency response of a KO-CAP to a standard Tantalum chip. Maximum limits for 100 kHz ESR are listed in the part number tables for each series.

The T530 Capacitance, Impedance and ESR vs. Frequency Comparisions are located on page 56. Maximum limits for 100 kHz are listed in the part number table on page 55.

ESR and Impedance

T495D 150 uF (MnO₂) vs. T520D 150 uF (Polymer)

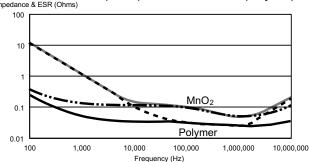


FIGURE 4

10. AC Power Dissipation

Power dissipation is a function of capacitor size and materials. Maximum power ratings have been established for all case sizes to prevent overheating. In actual use, the capacitor's ability to dissipate the heat generated at any given power level may be affected by a variety of circuit factors. These include board density, pad size, heat sinks and air circulation.

Table 3
Power Dissipation Ratings

Power Dissipation Ratings								
Case	e Code	Maximum Power Dissipation						
KEMET	EIA	mWatts @ +25°C w/+20°C Rise						
T520/T	3528-12	70						
T520/A	3216-18	75						
T52x/B	3528-21	85						
T520/U	6032-15	90						
T520/C	6032-28	110						
T520/W	7343-15	120						
T520/V	7343-20	125						
T52x/D	7343-31	150						
T520/Y	7343-40	161						
T520/X	7343-43	165						
T530/D	7343-31	255						
T530/Y	7343-40	263						
T530/X	7343-43	270						
T530/E	7260-38	285						

11. Ripple Current/ Ripple Voltage

Permissible AC ripple voltage and current are related to equivalent series resistance (ESR) and power dissipation capability.

Permissible AC ripple voltage which may be applied is limited by three criteria:

- a. The positive peak AC voltage plus the DC bias voltage, if any, must not exceed the DC voltage rating of the capacitor.
- b. The negative peak AC voltage, in combination with bias voltage, if any, must not exceed the permissible reverse voltage ratings presented in Section 5.
- c. The power dissipated in the ESR of the capacitor must not exceed the appropriate value specified in Section 10.

CONDUCTIVE POLYMER CHIP CAPACITORS KEMET

COMPONENT PERFORMANCE CHARACTERISTICS

Actual power dissipated may be calculated from the following:

 $P = I^2R$

Substituting $I = \underline{E}$, Z

where:

I = rms ripple current (amperes)

E = rms ripple voltage (volts)

P = power (watts)

Z = impedance at specified frequency (ohms)

R = equivalent series resistance at specified frequency (ohms)

Using P max from Table 3, maximum allowable rms ripple current or voltage may be determined as follows:

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

ENVIRONMENTAL

12. Temperature Stability

Mounted capacitors withstand extreme temperature testing at a succession of continuous steps at +25°C, -55°C, +25°C, +85°C, +105°C, +25°C in that order*. Capacitors are allowed to stabilize at each temperature before measurement, Cap. DF. and DCL are measured at each temperature except DC Leakage is not measured at -55°C.

*Maximum temperature 125°C for T525 and T530 series.

Table 4 Acceptable limits are as follows:

Step	Temp.	∆Cap	DCL	DF
1	+25°C	Specified	Catalog	Catalog
		Tolerance	Limit	Limit
2	-55°C	±20% of	N/A	Catalog
		initial value		Limit
3	+25°C	±10% of	Catalog	Catalog
		initial value	Limit	Limit
4	+85°C	±20% of	10x Catalog	1.2x Catalog
		initial value	Limit	Limit
5	+105°C	±30% of	10x Catalog	1.5x Catalog
	(125°C for	initial value	Limit	Limit
	T525, T530)			
6	+25°C	±10% of	Catalog	Catalog
		initial value	Limit	Limit

13. Standard Life Test

• 85°C, Rated Voltage, 2000 Hours

Post Test Performance:

a. Capacitance: within -20%/+10% of initial value

b. DF: within initial limit

c. DC Leakage: within initial limit

d. ESR: within initial limit

14. High Temperature Life Test

• 105°C, 0.8 x Rated Voltage, 2000 hours, 125°C for T525, T530 Series

Post Test Performance:

- a. Capacitance: within -20%/+10% of initial value
- b. DF: within initial limit
- c. DC Leakage: within 1.25 initial limits for T520; 2 x initial limit for T525, T530
- d. ESR: within 2 x initial limit for T520, T530 ESR: within initial limit for T525

15. Storage Life Test

• 105°C, 0VDC, 2000 Hours for T520; 125°C for T525, T530

Post Test Perfomance:

- a. Capacitance: within -20%/+10% of initial value
- b. DF: within initial limit
- c. DC Leakage: within 1.25 initial limits for T520; 2 x initial limit for T525, T530
- d. ESR: within 2 x initial limit for T520. T530 ESR: within initial limit for T525

16. Thermal Shock

• Mil-Std-202, Method 107, Condition B

Minimum temperature is -55°C

Maximum temperature is +105°C for T520: 125°C for T525, T530

500 Cycles

Post Test Performance:

- a. Capacitance: within +10%/-20% of initial value
- b. DF: within initial limit
- c. DC Leakage: within initial limit
- d. ESR: within 2 x initial limit

17. Moisture Resistance Testing

• J-Std-020

Steps 7a and 7b excluded, 0V, 21 cycles

Post Test Performance:

- a. Capacitance: within ±30% of initial value
- b. DF: within initial limit
- c. DC Leakage: within initial limit
- d. ESR: within initial limit
- e. JEDEC J-STD-020C Meets MSL Level 3

18. Load Humidity

• 85°C, 85% RH, Rated Voltage, 500 Hours

Post Test Performance:

- a. Capacitance: within +35%/-5% of initial value
- b. DF: within initial limit
- c. DC Leakage: within 5 x initial limit
- d. ESR: within 2 x initial limit

19. **ESD**

 Polymer tantalum capacitors are not sensitive to Electro-Static Discharge (ESD).

20. Failure Mechanism and Reliability

The normal failure mechanism is dielectric breakdown. Dielectric failure can result in high DC Leakage current and may proceed to the level of a short circuit. With sufficient time to charge, healing may occur by one of two potential mechanisms. The polymer adjacent to the dielectric fault site may overheat and vaporize, disconnecting the fault site from the circuit. The polymer may also

COMPONENT PERFORMANCE CHARACTERISTICS

oxidize into a more resistive material that eliminates the defect site in the dielectric and reduces the flow of current.

Capacitor failure may be induced by exceeding the rated conditions of forward DC voltage, reverse DC voltage, surge current, power dissipation or temperature. Excessive environmental stress, such as prolonged or high temperature reflow processes may also trigger dielectric failure.

Failure rates may be improved in application by derating the voltage applied to the capacitor. KEMET recommends that KO-CAPs be derated to 90% or less of the rated voltage in application for part types \leq 10V. Parts > 10V should be derated to 80% or less of the rated voltage.

KO-CAPs exhibit a benign failure mode in that they do not fail catastophically even under typical fault conditions. If a shorted capacitor is allowed to pass unlimited current, it may overheat and the case may discolor. But this is distinctly different from the "ignition" that may occur with standard MnO2 cathode tantalums. Replacement of the MnO2 by the polymer removes the oxygen that fuels ignition during a failure event.

MECHANICAL

21. Resistance to Solvents

• Mil-Std-202, Method 215

Post Test Performance:

- a. Capacitance within $\pm 10\%$ of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit
- d. ESR within initial limit
- e. Physical no degradation of case, terminals or marking

22. Fungus

• Mil-Std-810, Method 508

23. Flammability

• UL94 VO Classification

Encapsulant materials meet this classifaction

24. Resistance to Soldering Heat

- Maximum Reflow
 - +240 ±5°C, 10 seconds
- Typical Reflow
 - +230 ±5°C, 30 seconds

Post Test Performance:

- a. Capacitance within ±10% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit
- d. ESR within initial limit

25. Solderability

- Mil-Std-202, Method 208
- ANSI/J-STD-002, Test B

Applies to Solder Coated terminations only.

26. Vibration

• Mil-Std-202, Method 204, Condition D, 10 Hz to 2,000 Hz, 20G Peak

Post Test Performance:

- a. Capacitance within ±10% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit
- d. ESR within initial limit

27. Shock

• Mil-Std-202, Method 213, Condition I, 100 G Peak

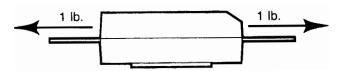
Post Test Performance:

- a. Capacitance within ±10% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor within initial limit
- d. ESR within initial limit

28. Terminal Strength

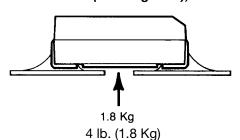
Pull Force

• One Pound (454 grams), 30 Seconds



• Tensile Force

• Four Pounds (1.8 kilograms), 60 Seconds



• Shear Force Table 5 Maximum Shear Loads

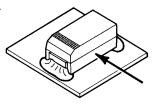
Cas	se Code	Maximum Shear Loads			
KEMET	EIA	Kilograms	Pounds		
Α	3216-18	3.2	7.0		
Т	3528-12	3.6	8.0		
В	3528-21	3.6	8.0		
С	6032-28	4.5	10.0		
V	7343-20	5.0	11.0		
W	7343-15	5.0	11.0		
D	7343-31	5.0	11.0		
Y	7343-40	5.0	11.0		
X	7343-43	5.0	11.0		

Post Test Performance:

- a. Capacitance within ±5% of initial value
- b. DC Leakage within initial limit
- c. Dissipation Factor -

within initial limit

d. ESR - within initial limit



CONDUCTIVE POLYMER CHIP CAPACITORS KEMET

COMPONENT PERFORMANCE CHARACTERISTICS

APPLICATIONS

29. Handling

Automatic handling of encapsulated components is enhanced by the molded case which provides compatibility with all types of high speed pick and place equipment. Manual handling of these devices presents no unique problems. Care should be taken with your fingers, however, to avoid touching the solder-coated terminations as body oils, acids and salts will degrade the solderability of these terminations. Finger cots should be used whenever manually handling all solderable surfaces.

30. Termination Coating

KEMET's standard termination finish is 100% Sn. Standard terminations can be ordered with a "T" suffix in the lead material designator of the KEMET part number. Components ordered with the "T" suffix are Pb-Free/RoHS compliant and are backward and forward compatible with SnPb and Pb-Free soldering processes.

90Sn/10Pb terminations are also available and can be ordered with an "H" suffix.

KEMET's "S" suffix remains an active termination designator for current designs but is not recommended for new designs. Parts ordered with an "S" suffix are not guaranteed to be Pb-Free or RoHS compliant. Refer to www.kemet.com for information on Pb-Free transition.

31. Recommended Mounting Pad Geometries

Proper mounting pad geometries are essential for successful solder connections. These dimensions are highly process sensitive and should be designed

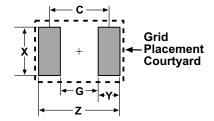


Table 6 - Land Pattern Dimensions for Reflow Solder

	Pad Dimensions						
KEMET/EIA Size Code				Υ	С		
	Z	G	X	(ref)	(ref)		
B/3528-21, T/3528-12	5.00	1.10	2.50	1.95	3.05		
C/6032-28	7.60	2.50	2.50	2.55	5.05		
D/7343-31, V/7343-20,	8.90	3.80	2.70	2.55	6.35		
W/7343-15, X/7343-43,							
Y/7343-40							

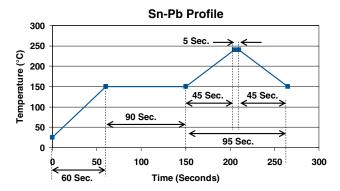
to maximize the intergrity of the solder joint, and to minimize component rework due to unacceptable solder joints.

Figure 5 illustrates pad geometry. The table provides recommended pad dimensions for reflow soldering techniques. These dimensions are intended to be a starting point for circuit board designers, to be fine tuned, if necessary, based upon the peculiarities of the soldering process and/or circuit board design.

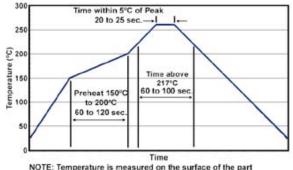
Visit KEMET.com for Engineering Bulletin Number F-2100 entitled "Surface Mount Mounting Pad Dimensions and Considerations" for further details on this subject.

32. Soldering

The T52X KO-CAP family has been designed for reflow solder processes. Solder-coated terminations have excellent wetting characteristics for high integrity solder fillets. Preheating of these components is recommended to avoid extreme thermal stress. Pb (lead) Free peak temperature is 260°C (with up to 3x reflow capabilities).



Pb-Free Profile 260°C Peak Temperature (3 Passes)



Time/Temperature Soldering Profile

Hand-soldering should be avoided. If necessary, it should be performed with care due to the difficulty in process control. 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. The iron should be removed. "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 is not harmful to the product. Marking permanency is not affected by this change.

The EIA standards for conductive polymer capacitors allows an ESR movement to 1.1 times (or 3 milliohms, whichever is greater) the catalog limit past mounting.

33. Washing

Standard washing techniques and solvents are compatible with all KEMET surface mount tantalum capacitors. Solvents such as Freon TMC and TMS, Trichlorethane, methylene chloride, prelete, and isopropyl alcohol are not harmful to these components. Please note that we are not endorsing the use of banned or restricted solvents. We are simply stating that they would not be harmful to the components.

If ultrasonic agitation is utilized in the cleaning process, care should be taken to minimize energy levels and exposure times to avoid damage to the terminations.

KEMET tantalum chips are also compatible with newer aqueous and semi-aqueous processes.

34. Encapsulations

Under normal circumstances, potting or encapsulation of KEMET tantalum chips is not required.

35. Storage Environment

Conductive polymer series (T520, T525, T530) are shipped in moisture barrier bags with a desiccant and moisture indicator card. These series are classified as MSL (Moisture Sensitivity Level 3). Upon opening the moisture barrier bag, parts should be mounted within 7 days to prevent moisture absorption and outgassing. If the 7 day window is exceeded, the parts can be baked per the instructions on the bag (168 hours at 40±5°C).

Polymer 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 degrees C, and the maximum storage humidity not exceed 60% relative humidity. In addition, temperature fluctuations should be minimized to avoid condensation on the parts, and atmospheres should be free of chlorine and sulfur bearing compounds. For optimized solderability, chip stock should be used promptly. preferably within 1.5 years of receipt.

COMPONENT WEIGHTS

Series	Case Size	Typical Weight (mg)
T52x	A/3216-18	35
T52x	B/3528-21	65
T52x	C/6032-28	130
T52x	D/7343-31	325
T52x	X/7343-43	500
T52x	T/3528-12	38
T52x	W/7343-15	172
T52x	V/7343-20	210
T530	D/7343-31	342
T530	Y/7343-40	480
T530	X/7343-43	515
T530	E/7360-38	650

CONDUCTIVE POLYMER CHIP CAPACITORS KEMET

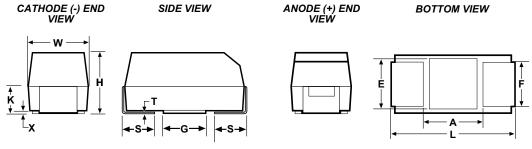
T520 Series - KO Cap

- Polymer Cathode Technology
- Low ESR
- High Frequency Cap Retention
- No-Ignition Failure Mode
- Use Up to 90% of Rated Voltage (10% Derating)
 EIA Standard Case Sizes for part types ≤ 10 Volts
- Halogen Free Epoxy
- 100% Accelerated Steady State Aging
- Volumetrically Efficient

- **FEATURES**
 - Use Up to 80% of Rated Voltage (20% Derating) for part types > 10 Volts
 - Capacitance 15 to 1000µF (±20%)
 - Voltage 2V to 25V

 - 100% Surge Current Tested
 - Operating Temperature -55°C to +105°C
 - Self Healing Mechanism
 - RoHS Compiant & Leadfree Terminations (see www.kemet.com for lead transition)

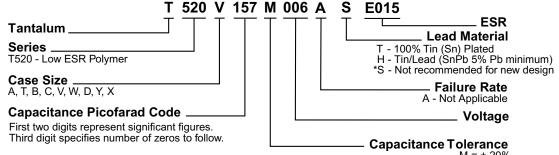
OUTLINE DRAWING



DIMENSIONS - MILLIMETERS

Cas	se Size											
KEMET	EIA	L	W	Н	K ± 0.20	F ± 0.1	S ± 0.3	X(Ref)	T(Ref)	A(Min)	G(ref)	E(ref)
Α	3216-18	3.2 ± 0.2	1.6 ± 0.2	1.6 ± 0.2	0.9	1.2	0.8	0.10 ± 0.10	0.13	8.0	1.1	1.3
T	3528-12	3.5 ± 0.2	2.8 ± 0.2	1.2 max	0.3	2.2	0.8	0.05	0.13	1.1	1.8	2.2
В	3528-21	3.5 ± 0.2	2.8 ± 0.2	1.9 ± 0.2	0.9	2.2	0.8	0.10 ± 0.10	0.13	1.1	1.8	2.2
С	6032-28	6.0 ± 0.3	3.2 ± 0.3	2.5 ± 0.3	1.4	2.2	1.3	0.10 ± 0.10	0.13	2.5	2.8	2.4
U	6032-15	6.0 ± 0.3	3.2 ± 0.3	1.5 max	0.5	2.2	1.3	0.05	0.13	3.1	2.8	2.4
W	7343-15	7.3 ± 0.3	4.3 ± 0.3	1.5 max	0.6	2.4	1.3	0.05	0.13	3.8	3.5	3.5
V	7343-20	7.3 ± 0.3	4.3 ± 0.3	1.9 max	0.9	2.4	1.3	0.05	0.13	3.8	3.5	3.5
D	7343-31	7.3 ± 0.3	4.3 ± 0.3	2.8 ± 0.3	1.5	2.4	1.3	0.10 ± 0.10	0.13	3.8	3.5	3.5
Y	7343-40	7.3 ± 0.3	4.3 ± 0.3	4.0 max	1.9	2.4	1.3	0.10 ± 0.10	0.13	3.8	3.5	3.5
X	7343-43	7.3 ± 0.3	4.3 ± 0.3	4.0 ± 0.3	2.3	2.4	1.3	0.10 ± 0.10	0.13	3.8	3.5	3.5

T520 ORDERING INFORMATION

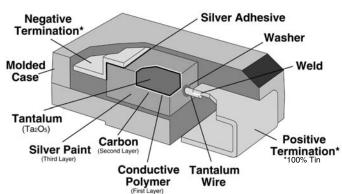


^{*}See www.kemet.com for Pb Free transition information.

KEMET Polarity (+) **Organic** Indicator **Picofarad** Code Rated **KEMET ID** Voltage 512 **PWC**

COMPONENT MARKING

512 = 12th week of 2005





T520 RATINGS & PART NUMBER REFERENCE

Capaci-	Case	KEMET Part Number	DC Leakage	DF% @ 25°C	ESR mΩ @ 25°C	Ripple (Arm 100 kH	s @
tance μF	Size		μA @ 25°C Max	120 Hz Max	100 kHz Max	w/∆T=20°C @ -55°C to 85°C	w/∆T= 2° @ 105°0
470.0	V	2 Volt T520V477M002A(1)E040	Rating @ 105°C	10	40	1.8	0.6
		2.5 Vol	Rating @ 105°	С			
47.0 56.0	A T	T520A476M2R5A(1)E090 T520T566M2R5A(1)E070	12 14	8	90 70	0.9 1.0	0.3
68.0	Α	T520A686M2R5A(1)E070	17	8	70	1.0	0.3
68.0 100.0	A T	T520A686M2R5A(1)E080 T520T107M2R5A(1)E070	17 25	8	80 70	1.0 1.0	0.3
100.0	В	T520B107M2R5A(1)E035	25	8	35	1.6	0.5
100.0 100.0	B B	T520B107M2R5A(1)E040 T520B107M2R5A(1)E070	25 25	8 8	40 70	1.5 1.1	0.5 0.3
150.0	Ū	T520U157M2R5A(1)E055	38	8	55	1.3	0.4
220.0 220.0	B B	T520B227M2R5A(1)E025 T520B227M2R5A(1)E030	55 55	8	25 30	1.8 1.7	0.6 0.5
220.0	В	T520B227M2R5A(1)E035	55	8	35	1.6	0.5
220.0 220.0	B C	T520B227M2R5A(1)E070 T520C227M2R5A(1)E025	55 55	8 8	70 25	1.1 2.1	0.3 0.7
220.0	c	T520C227M2R5A(1)E025	55	8	45	1.6	0.7
220.0 220.0	V V	T520V227M2R5A(1)E007 T520V227M2R5A(1)E009	55 55	10 10	7 9	4.2 3.7	1.3 1.2
220.0	v	T520V227M2R5A(1)E009	55	10	12	3.2	1.0
220.0	V V	T520V227M2R5A(1)E015	55 55	10	15 25	2.9	0.9
220.0 220.0	v	T520V227M2R5A(1)E025 T520V227M2R5A(1)E045	55 55	10 10	25 45	2.2 1.7	0.7 0.5
220.0	D	T520D227M2R5A(1)E007	55	10	7	4.6	1.5
220.0 330.0	D B	T520D227M2R5A(1)E040 T520B337M2R5A(1)E045	55 83	10 8	40 45	1.9 1.4	0.6
330.0	В	T520B337M2R5A(1)E070	83	8	70	1.1	0.3
330.0 330.0	C	T520C337M2R5A(1)E025 T520C337M2R5A(1)E045	83 83	8 8	25 45	2.1 1.6	0.7 0.5
330.0	W	T520W337M2R5A(1)E040	83	10	40	1.7	0.5
330.0 330.0	V	T520V337M2R5A(1)E006 T520V337M2R5A(1)E007	83 83	10 10	6 7	4.6 4.2	1.4 1.3
330.0	V	T520V337M2R5A(1)E009	83	10	9	3.7	1.2
330.0 330.0	V	T520V337M2R5A(1)E012 T520V337M2R5A(1)E015	83 83	10 10	12 15	3.2 2.9	1.0 0.9
330.0	v	T520V337M2R5A(1)E018	83	10	18	2.6	0.8
330.0 330.0	V V	T520V337M2R5A(1)E025 T520V337M2R5A(1)E040	83 83	10 10	25 40	2.2 1.8	0.7 0.6
330.0	D	T520D337M2R5A(1)E006	83	10	6	5.0	1.7
330.0 470.0	D V	T520D337M2R5A(1)E007 T520V477M2R5A(1)E007	83 118	10 10	7	4.6 4.2	1.5 1.3
470.0	v	T520V477M2R5A(1)E007 T520V477M2R5A(1)E009	118	10	9	3.7	1.3
470.0	V	T520V477M2R5A(1)E012	118	10 10	12	3.2	1.0
470.0 470.0	V	T520V477M2R5A(1)E015 T520V477M2R5A(1)E018	118 118	10	15 18	2.9 2.6	0.9
470.0	С	T520C477M2R5A(1)E025	118	8	25	2.0	0.6
470.0 470.0	C D	T520C477M2R5A(1)E045 T520D477M2R5A(1)E006	118 118	8 10	45 6	1.5 5.0	0.5 1.7
470.0	D	T520D477M2R5A(1)E007	118	10	7	4.6	1.5
470.0 680.0	D D	T520D477M2R5A(1)E009 T520D687M2R5A(1)E010	118 170	10 10	9 10	4.1 3.9	1.3
680.0	D	T520D687M2R5A(1)E015	170	10	15	3.2	1.0
680.0 680.0	D Y	T520D687M2R5A(1)E040 T520Y687M2R5A(1)E015	170 170	10 10	40 15	1.9 3.3	0.6 1.0
680.0	Y	T520Y687M2R5A(1)E025	170	10	25	2.5	0.8
1000.0 1000.0	D D	T520D108M2R5A(1)E015 T520D108M2R5A(1)E030	250 250	8 10	15 30	3.2 2.2	1.1 0.7
1000.0	Y	T520Y108M2R5A(1)E010	250	10	10	4.0	1.3
1000.0 1000.0	Y	T520Y108M2R5A(1)E015 T520Y108M2R5A(1)E025	250 250	10 10	15 25	3.3 2.5	1.0 0.8
1000.0	Х	T520X108M2R5A(1)E010	250	10	10	4.1	1.3
100.0	В	T520B107M003A(1)E035	Rating @ 105°C	8	35	1.6	0.5
100.0	В	T520B107M003A(1)E040	30	8	40	1.5	0.5
100.0 150.0	B B	T520B107M003A(1)E070 T520B157M003A(1)E035	30 45	8	70 35	1.1 1.6	0.3
150.0	В	T520B157M003A(1)E040	45	8	40	1.5	0.5
150.0 330.0	B V	T520B157M003A(1)E070 T520V337M003A(1)E009	45 99	8 10	70 9	1.1 3.7	1.2
330.0	v	T520V337M003A(1)E012	99	10	12	3.2	1.0
330.0 330.0	V	T520V337M003A(1)E015 T520V337M003A(1)E025	99 99	10 10	15 25	2.9 2.2	0.9 0.7
	D	T520D687M003A(1)E015	204	10	15	3.2	1.0
680.0		T520D687M003A(1)E040	204 300	10 10	40 15	1.9 3.3	0.6 1.0
680.0	D X	T520X108M003A(1)F015				2.3	0.7
	X	T520X108M003A(1)E015 T520X108M003A(1)E030	300	10	30		
680.0 1000.0 1000.0	X X	T520X108M003A(1)E030 4 Volt	300 Rating @ 105°C				0.3
680.0 1000.0 1000.0 15.0 33.0	X X	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070	300 Rating @ 105°C 6 13	8	100 70	0.8	0.3
680.0 1000.0 1000.0	X X	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E080	300 Rating @ 105°C 6 13 13	8 8 8	100	0.8 1.0 1.0	0.3 0.3
680.0 1000.0 1000.0 15.0 33.0 33.0 47.0 47.0	X X	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E080 T520A476M004A(1)E070 T520A476M004A(1)E080	300 Rating @ 105°C 6 13 13 19 19	8 8 8 8	100 70 80 70 80	0.8 1.0 1.0 1.0	0.3 0.3 0.3 0.3
680.0 1000.0 1000.0 15.0 33.0 33.0 47.0 47.0 47.0	X X T A A A T	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E080 T520A476M004A(1)E080 T520A476M004A(1)E080 T520A476M004A(1)E080	300 Rating @ 105°C 6 13 13 19 19 19	8 8 8 8 8	100 70 80 70 80 70	0.8 1.0 1.0 1.0 1.0	0.3 0.3 0.3 0.3 0.3
680.0 1000.0 1000.0 15.0 33.0 33.0 47.0 47.0 47.0 68.0 68.0	X X A A A T T B	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A356M004A(1)E080 T520A476M004A(1)E080 T520A476M004A(1)E080 T520A476M004A(1)E070 T520T686M004A(1)E070 T520T686M004A(1)E070	300 Rating @ 105°C 6 13 13 19 19 19 27 27	8 8 8 8 8	100 70 80 70 80 70 70 70	0.8 1.0 1.0 1.0 1.0 1.0 1.0	0.3 0.3 0.3 0.3 0.3 0.3
680.0 1000.0 1000.0 15.0 33.0 33.0 47.0 47.0 47.0 68.0 68.0 68.0	X X X A A A A T T B B	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E080 T520A476M004A(1)E080 T520A476M004A(1)E080 T520T476M004A(1)E070 T520T686M004A(1)E070 T520T686M004A(1)E075 T520B686M004A(1)E035 T520B686M004A(1)E035	300 Rating @ 105°C 6 13 13 19 19 27 27 27	8 8 8 8 8 8	100 70 80 70 80 70 70 70 35 40	0.8 1.0 1.0 1.0 1.0 1.0 1.0 1.5	0.3 0.3 0.3 0.3 0.3 0.3 0.5 0.5
680.0 1000.0 1000.0 15.0 33.0 33.0 47.0 47.0 68.0 68.0 68.0 68.0 68.0	X X X A A A T T B B B U	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E070 T520A476M004A(1)E070 T520A476M004A(1)E070 T520T686M004A(1)E070 T520T686M004A(1)E070 T520B686M004A(1)E035 T520B686M004A(1)E040 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070	300 Rating @ 105°C 6 13 13 19 19 27 27 27 27 27 27 27	8 8 8 8 8 8 8	100 70 80 70 80 70 70 35 40 70 55	0.8 1.0 1.0 1.0 1.0 1.0 1.0	0.3 0.3 0.3 0.3 0.3 0.3
680.0 1000.0 1000.0 15.0 33.0 33.0 47.0 47.0 47.0 68.0 68.0 68.0 68.0 100.0	X X X A A A T T B B B U B	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E080 T520A476M004A(1)E080 T520A476M004A(1)E080 T520T476M004A(1)E070 T520T476M004A(1)E070 T520T686M004A(1)E070 T520T686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E055	300 Rating @ 105°C 6 13 13 19 19 27 27 27 27 40	8 8 8 8 8 8 8	100 70 80 70 80 70 70 35 40 70 55	0.8 1.0 1.0 1.0 1.0 1.0 1.0 1.5 1.1 1.3	0.3 0.3 0.3 0.3 0.3 0.5 0.5 0.5 0.4
680.0 1000.0 1000.0 15.0 33.0 33.0 47.0 47.0 68.0 68.0 68.0 68.0 68.0	X X X A A A T T B B B B B B B B	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E070 T520A476M004A(1)E070 T520A476M004A(1)E070 T520T686M004A(1)E070 T520T686M004A(1)E070 T520B686M004A(1)E035 T520B686M004A(1)E040 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070	300 Rating @ 105°C 6 13 13 19 19 27 27 27 27 40 40 40	8 8 8 8 8 8 8 8 8	100 70 80 70 80 70 70 35 40 70 55 35 40 70	0.8 1.0 1.0 1.0 1.0 1.0 1.0 1.6 1.5 1.1	0.3 0.3 0.3 0.3 0.3 0.3 0.5 0.5 0.5
680.0 1000.0 1000.0 15.0 33.0 47.0 47.0 47.0 68.0 68.0 68.0 68.0 68.0 100.0 100.0	X X A A A T T B B B U B B U	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E080 T520A476M004A(1)E080 T520A476M004A(1)E070 T520T476M004A(1)E070 T520T476M004A(1)E070 T520T686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E035 T520B686M004A(1)E035 T520B686M004A(1)E035 T520B686M004A(1)E035 T520B686M004A(1)E035 T520B686M004A(1)E035 T520B107M004A(1)E035 T520B107M004A(1)E035	300 Rating @ 105°C 6 6 13 13 13 19 19 27 27 27 27 27 40 40 40 40	8 8 8 8 8 8 8 8 8 8 8 8	100 70 80 70 80 70 70 35 40 70 55 35 40 70 55	0.8 1.0 1.0 1.0 1.0 1.0 1.0 1.6 1.5 1.1 1.3	0.3 0.3 0.3 0.3 0.3 0.5 0.5 0.5 0.5 0.3 0.4
680.0 1000.0 1000.0 15.0 33.0 33.0 47.0 47.0 68.0 68.0 68.0 68.0 100.0 100.0	X X X A A A T T B B B U B B B B B B B B B B B B	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E070 T520A476M004A(1)E070 T520A476M004A(1)E070 T520T886M004A(1)E070 T520T886M004A(1)E070 T520T886M004A(1)E035 T520B868M004A(1)E035 T520B868M004A(1)E035 T520B868M004A(1)E035 T520B868M004A(1)E035 T520B868M004A(1)E035 T520B80M004A(1)E035 T520B107M004A(1)E035 T520B107M004A(1)E035	300 Rating @ 105°C 6 13 13 19 19 27 27 27 27 40 40 40	8 8 8 8 8 8 8 8 8	100 70 80 70 80 70 70 35 40 70 55 35 40 70	0.8 1.0 1.0 1.0 1.0 1.0 1.0 1.6 1.5 1.1 1.3	0.3 0.3 0.3 0.3 0.3 0.5 0.5 0.5 0.4 0.5 0.5
680.0 1000.0 1000.0 115.0 33.0 47.0 47.0 47.0 68.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0	X X X A A A T T B B B B U B B B B B B B B B B B B B	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E070 T520A476M004A(1)E070 T520A476M004A(1)E070 T520A476M004A(1)E070 T520T476M004A(1)E070 T520T696M004A(1)E070 T520B686M004A(1)E035 T520B686M004A(1)E035 T520B686M004A(1)E035 T520B686M004A(1)E035 T520B107M004A(1)E035 T520B107M004A(1)E035 T520B107M004A(1)E035 T520B107M004A(1)E035 T520B157M004A(1)E055 T520B157M004A(1)E055 T520B157M004A(1)E055 T520B157M004A(1)E055	300 Rating @ 105°C 6 13 13 19 19 27 27 27 27 27 40 40 40 60 60 60	8 8 8 8 8 8 8 8 8 8 8 8 8	100 70 80 70 80 70 70 35 40 70 55 35 40 70 55 25 30 35	0.8 1.0 1.0 1.0 1.0 1.0 1.0 1.6 1.5 1.1 1.3 1.6 1.5 1.1 1.3	0.3 0.3 0.3 0.3 0.3 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5
680.0 1000.0 1000.0 15.0 33.0 47.0 47.0 68.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0	X X X A A A T T B B B U B B B B B B B B B B B B B B	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E080 T520A476M004A(1)E080 T520A476M004A(1)E080 T520A476M004A(1)E080 T520T476M004A(1)E080 T520T476M004A(1)E070 T520T868M0004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E070 T520B686M004A(1)E035 T520B107M004A(1)E035 T520B107M004A(1)E035 T520B157M004A(1)E070 T520B157M004A(1)E025 T520B157M004A(1)E025	300 Rating @ 105°C 6 6 13 13 13 19 19 27 27 27 27 27 40 40 40 40 60 60	8 8 8 8 8 8 8 8 8 8 8 8	100 70 80 70 80 70 70 70 35 40 70 55 35 40 70 55 35	0.8 1.0 1.0 1.0 1.0 1.0 1.6 1.5 1.1 1.3 1.6 1.5 1.1 1.3	0.3 0.3 0.3 0.3 0.3 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5
680.0 1000.0 11000.0 15.0 33.0 33.0 47.0 47.0 68.0 68.0 68.0 68.0 100.0 100.0 100.0 150.0 150.0 150.0	X X X A A A T T B B B B U B B B B B B B B B B B B B	T520X108M003A(1)E030 4 Volt T520T156M004A(1)E100 T520A336M004A(1)E070 T520A336M004A(1)E070 T520A476M004A(1)E070 T520A476M004A(1)E070 T520T686M004A(1)E070 T520T686M004A(1)E070 T520T686M004A(1)E070 T520B686M004A(1)E035 T520B686M004A(1)E040 T520B686M004A(1)E040 T520B686M004A(1)E055 T520B107M004A(1)E040 T520B107M004A(1)E040 T520B107M004A(1)E040 T520B107M004A(1)E040 T520B157M004A(1)E057 T520B157M004A(1)E057 T520B157M004A(1)E057 T520B157M004A(1)E055 T520B157M004A(1)E055	300 Rating @ 105°C 6 13 13 19 19 27 27 27 27 27 27 40 40 40 60 60 60 60	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	100 70 80 70 80 70 70 35 40 70 55 35 40 70 55 30 34 40 40	0.8 1.0 1.0 1.0 1.0 1.0 1.0 1.6 1.5 1.1 1.3 1.6 1.5 1.1 1.3 1.6 1.5 1.1 1.3	0.3 0.3 0.3 0.3 0.3 0.5 0.5 0.5 0.5 0.3 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5

⁽¹⁾ To complete KEMET Part Number, insert letter designation for lead material from page 49. Higher voltage ratings and tighter tolerance product may be substituted within the same size at KEMET'S option. Voltage substitutions will be marked with the higher voltage rating.

CONDUCTIVE POLYMER CHIP CAPACITORS KEMET T520 Series - KO Cap

T520 RATINGS & PART NUMBER REFERENCE

Capaci-	Case	KEMET Part Number	DC Leakage	DF% @ 25°C	ESR mΩ @ 25°C	Ripple Arm 100 kF	ıs @
tance µF	Size		μA @ 25°C Max	120 Hz Max	100 kHz Max	w/∆T=20°C @ -55°C to 85°C	w/∆T= 2°0 @ 105°C
450.0			ting @ 105°C co		400		
150.0	C	T520C157M004A(1)E100	60	8	100	1.0	0.3
150.0	V	T520V157M004A(1)E007	60	10	7	4.2	1.3
150.0 150.0	V V	T520V157M004A(1)E009 T520V157M004A(1)E012	60 60	10 10	9 12	3.7 3.2	1.2 1.0
150.0	v	T520V157M004A(1)E015	60	10	15	2.9	0.9
150.0	v	T520V157M004A(1)E025	60	10	25	2.2	0.7
150.0	D	T520D157M004A(1)E007	60	10	7	4.6	1.5
220.0	В	T520B227M004A(1)E035	88	8	35	1.6	0.5
220.0	В	T520B227M004A(1)E045	88	8	45	1.4	0.4
220.0	В	T520B227M004A(1)E070	88	8	70	1.1	0.3
220.0	С	T520C227M004A(1)E025	88	8	25	2.1	0.7
220.0	С	T520C227M004A(1)E045	88	8	45	1.6	0.5
220.0 220.0	C W	T520C227M004A(1)E055	88 88	8 10	55 40	1.4 1.7	0.4 0.5
220.0	V V	T520W227M004A(1)E040 T520V227M004A(1)E007	88	10	7	4.2	1.3
220.0	v	T520V227M004A(1)E009	88	10	9	3.7	1.2
220.0	v	T520V227M004A(1)E012	88	10	12	3.2	1.0
220.0	v	T520V227M004A(1)E015	88	10	15	2.9	0.9
220.0	V	T520V227M004A(1)E018	88	10	18	2.6	0.8
220.0	V	T520V227M004A(1)E025	88	10	25	2.2	0.7
220.0	V	T520V227M004A(1)E040	88	10	40	1.8	0.6
220.0	V	T520V227M004A(1)E045	88	10	45	1.7	0.5
220.0	D	T520D227M004A(1)E006	88	10	6	5.0	1.7
220.0	D	T520D227M004A(1)E007	88	10	7	4.6	1.5
220.0	D	T520D227M004A(1)E012	88	10	12	3.5	1.1
220.0	D	T520D227M004A(1)E065	88 132	10	65 25	1.5 2.0	0.5
330.0 330.0	C V	T520C337M004A(1)E025 T520V337M004A(1)E007	132	8 10	25 7	2.0 4.2	1.3
330.0	v	T520V337M004A(1)E007	132	10	9	3.7	1.2
330.0	v	T520V337M004A(1)E012	132	10	12	3.2	1.0
330.0	v	T520V337M004A(1)E018	132	10	18	2.6	0.8
330.0	v	T520V337M004A(1)E025	132	10	25	2.2	0.7
330.0	v	T520V337M004A(1)E040	132	10	40	1.8	0.6
330.0	D	T520D337M004A(1)E006	132	10	6	5.0	1.7
330.0	D	T520D337M004A(1)E007	132	10	7	4.6	1.5
330.0	D	T520D337M004A(1)E009	132	10	9	4.1	1.3
330.0	D	T520D337M004A(1)E015	132	10	15	3.2	1.0
330.0	D	T520D337M004A(1)E040	132	10	40	1.9	0.6
330.0	D	T520D337M004A(1)E045	132	8	45	1.5	0.5
470.0 470.0	D D	T520D477M004A(1)E010 T520D477M004A(1)E012	188 188	10 10	10 12	3.9 3.5	1.2 1.1
470.0	D	T520D477M004A(1)E012	188	10	15	3.2	1.0
470.0	D	T520D477M004A(1)E018	188	10	18	2.9	0.9
470.0	D	T520D477M004A(1)E025	188	10	25	2.4	0.8
470.0	D	T520D477M004A(1)E040	188	10	40	1.9	0.6
680.0	D	T520D687M004A(1)E012	272	10	12	3.5	1.2
680.0	D	T520D687M004A(1)E015	272	10	15	3.2	1.1
680.0	D	T520D687M004A(1)E025	272	10	25	2.4	0.8
680.0	Y	T520Y687M004A(1)E010	272	10	10	4.0	1.3
680.0 680.0	Y	T520Y687M004A(1)E015 T520Y687M004A(1)E025	272 272	10 10	15 25	3.3 2.5	1.0 0.8
680.0	χ	T520X687M004A(1)E010	272	10	10	4.1	1.3
680.0	x	T520X687M004A(1)E015	272	10	15	3.3	1.0
680.0	х	T520X687M004A(1)E035	272	10	35	2.2	0.7
		6.3 Vol	t Rating @ 105°	c			
15.0	T	T520T156M006A(1)E100	9.5	8	100	0.8	0.3
22.0	A	T520A226M006A(1)E090	14	8	90	0.9	0.3
22.0	A	T520A226M006A(1)E100	14	8	100	0.9	0.3
33.0	A A	T520A336M006A(1)E070	21 21	8 8	70 80	1.0 1.0	0.3
33.0 33.0	T	T520A336M006A(1)E080 T520T336M006A(1)E070	21	8	70	0.9	0.3
33.0	В		21	0			
33.0	В	T520B336M006A(1)E040		8	40	1.5	0.5
		T520B336M006A(1)E040 T520B336M006A(1)E070	21	8 8	40 70	1.5 1.1	0.5
47.0	Т						
47.0 47.0	Т	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E070	21 30 30	8	70 40 70	1.1	0.3 0.4 0.3
47.0 47.0 47.0	T B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E070 T520B476M006A(1)E035	21 30 30 30 30	8 8 8 8	70 40 70 35	1.1 1.3 1.0 1.6	0.3 0.4 0.3 0.5
47.0 47.0 47.0 47.0	T B B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E070 T520B476M006A(1)E035 T520B476M006A(1)E040	21 30 30 30 30 30	8 8 8 8	70 40 70 35 40	1.1 1.3 1.0 1.6 1.5	0.3 0.4 0.3 0.5 0.5
47.0 47.0 47.0 47.0 47.0	T B B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E070 T520B476M006A(1)E035 T520B476M006A(1)E040 T520B476M006A(1)E070	21 30 30 30 30 30 30	8 8 8 8	70 40 70 35 40 70	1.1 1.3 1.0 1.6 1.5	0.3 0.4 0.3 0.5 0.5
47.0 47.0 47.0 47.0 47.0 68.0	T B B B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E070 T520B476M006A(1)E070 T520B476M006A(1)E040 T520B476M006A(1)E070 T520B476M006A(1)E070 T520B486M006A(1)E040	21 30 30 30 30 30 30 43	8 8 8 8 8	70 40 70 35 40 70	1.1 1.3 1.0 1.6 1.5 1.1	0.3 0.4 0.3 0.5 0.5 0.3 0.5
47.0 47.0 47.0 47.0 47.0 68.0 68.0	T B B B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E070 T520B476M006A(1)E035 T520B476M006A(1)E035 T520B476M006A(1)E040 T520B46M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040	21 30 30 30 30 30 30 43 43	8 8 8 8 8 8	70 40 70 35 40 70 40 40	1.1 1.3 1.0 1.6 1.5 1.1	0.3 0.4 0.3 0.5 0.5 0.3 0.5
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0	T B B B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E030 T520B476M006A(1)E030 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070	21 30 30 30 30 30 30 43 43 43	8 8 8 8 8 8	70 40 70 35 40 70 40 40 55	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.5	0.3 0.4 0.3 0.5 0.5 0.3 0.5
47.0 47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0	T B B B B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E070 T520B476M006A(1)E035 T520B476M006A(1)E035 T520B476M006A(1)E040 T520B46M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040	21 30 30 30 30 30 30 43 43	8 8 8 8 8 8	70 40 70 35 40 70 40 40	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.5 1.5 1.5	0.3 0.4 0.3 0.5 0.5 0.3 0.5 0.3
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0	T B B B B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B6476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B686M006A(1)E070	21 30 30 30 30 30 30 43 43 43 63	8 8 8 8 8 8	70 40 70 35 40 70 40 40 55	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.5	0.3 0.4 0.3 0.5 0.5 0.3 0.5 0.4 0.5
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0	T B B B U B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E035 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B107M006A(1)E040 T520B107M006A(1)E040	21 30 30 30 30 30 43 43 43 63 63	8 8 8 8 8 8 8	70 40 70 35 40 70 40 40 55 40 70 55 40	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.5 1.3	0.3 0.4 0.3 0.5 0.5 0.3 0.5 0.5 0.4 0.5 0.3
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0	T B B B B U B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E030 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B107M006A(1)E040 T520B107M006A(1)E070 T520B107M006A(1)E070 T520B107M006A(1)E070	21 30 30 30 30 30 43 43 43 63 63 63	8 8 8 8 8 8 8	70 40 70 35 40 70 40 40 55 40 70 55 40 70	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2	0.3 0.4 0.3 0.5 0.5 0.3 0.5 0.5 0.4 0.5 0.4
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0	T B B B B U B B V V V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E030 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B6476M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B167M006A(1)E070 T520B167M006A(1)E070 T520B107M006A(1)E070 T520B107M006A(1)E070 T520B107M006A(1)E070 T520B107M006A(1)E070 T520B107M006A(1)E070 T520B107M006A(1)E070 T520B107M006A(1)E070	21 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 10 10	70 40 70 35 40 70 40 40 55 40 70 55 40 70 55	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 3.7	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.4 0.5 0.3 0.4 0.5 1.3
47.0 47.0 47.0 47.0 47.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0	T B B B U W V V V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E035 T520B476M006A(1)E035 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520W107M006A(1)E040 T520W107M006A(1)E040 T520W107M006A(1)E040 T520W107M006A(1)E040 T520W107M006A(1)E040 T520W107M006A(1)E040	21 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 10 10	70 40 70 35 40 70 40 55 40 70 55 40 70 55 40 70	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.5 1.3 1.5 1.3 1.7 1.7	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.4 0.5 0.3 0.4 0.5 1.3 1.2 0.5
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	T B B B U W V V V V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E070 T520U686M006A(1)E070 T520U686M006A(1)E070 T520U1077M006A(1)E040 T520B1077M006A(1)E040 T520B1077M006A(1)E040 T520V1077M006A(1)E040 T520V107M006A(1)E040 T520V107M006A(1)E040 T520V107M006A(1)E040 T520V107M006A(1)E040 T520V107M006A(1)E045	21 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 10 10 10 10	70 40 70 35 40 70 40 40 55 40 70 55 40 7 9 45 12	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.5 1.1 1.3 1.7 4.2 3.7 1.7 3.2	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.4 0.5 1.3 1.2 0.5 1.0
47.0 47.0 47.0 47.0 47.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	T B B B U W V V V C C	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E035 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E055 T520W107M006A(1)E040	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 10 10 10 10 10 10 8	70 40 70 35 40 40 40 55 40 70 55 40 7 9 45 12 25	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 3.7 1.7	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.4 0.5 0.3 0.4 0.5 0.3 0.4 0.5 0.3 0.4 0.5 0.3 0.5 0.7 0.5 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	T B B B B U W V V V C C C	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E030 T520B476M006A(1)E030 T520B476M006A(1)E040 T520B486M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520V107M006A(1)E040 T520V107M006A(1)E040 T520V107M006A(1)E040 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 8 10 10 10 10 10 10 8 8	70 40 70 35 40 70 40 40 55 40 70 55 40 7 9 45 12 25 45	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.5 1.1 1.7 4.2 3.7 1.7 3.2 2.1 1.6	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.4 0.5 1.3 1.2 0.5 1.0 0.7 0.5
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	T B B B U W V V V C C C D	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E030 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520C107M006A(1)E040 T520C107M006A(1)E045 T520C107M006A(1)E055 T520C107M006A(1)E045 T520C107M006A(1)E045 T520C107M006A(1)E045 T520C107M006A(1)E045 T520C107M006A(1)E045	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 8 10 10 10 10 10 8 8 8 10	70 40 70 35 40 40 40 55 40 70 55 40 7 9 45 12 25 45 7	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.5 1.3 1.5 1.1 1.3 1.7 4.2 3.7 1.7 4.2 3.7 1.7 4.2 3.7 1.1 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6	0.3 0.4 0.3 0.5 0.5 0.5 0.4 0.5 0.3 0.5 0.4 0.5 1.3 1.2 0.5 1.0 0.5 1.0 1.3
47.0 47.0 47.0 47.0 47.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	T B B B B U W V V V C C C	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E035 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B86M006A(1)E070 T520B86M006A(1)E070 T520B86M006A(1)E070 T520B107M006A(1)E040	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 8 10 10 10 10 10 10 8 8	70 40 70 35 40 70 40 55 40 70 55 40 7 9 45 12 25 45 7	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.5 1.1 1.7 4.2 3.7 1.7 3.2 2.1 1.6	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.4 0.5 0.3 0.4 0.5 1.3 1.2 0.5 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	T B B B B U W V V C C C D B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B167M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E045 T520B107M006A(1)E045 T520B107M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 10 10 10 10 10 10 8 8 8	70 40 70 35 40 40 40 55 40 70 55 40 7 9 45 12 25 45 7	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 3.7 1.7 3.2 2.1 1.6 4.6	0.3 0.4 0.3 0.5 0.5 0.5 0.4 0.5 0.3 0.4 0.5 1.3 1.2 0.5 1.0 0.7 0.5 1.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0	T B B B U W V V V C C C D B B B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E035 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B86M006A(1)E070 T520B86M006A(1)E070 T520B86M006A(1)E070 T520B107M006A(1)E040	21 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 100 100 100 100 100 8 8 100 8 8 8	70 40 70 35 40 70 40 55 40 70 55 40 7 9 45 12 25 45 7	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.1 1.3 1.7 4.2 3.7 1.7 3.2 2.1 1.6 4.6 4.6	0.3 0.4 0.3 0.5 0.5 0.5 0.4 0.5 0.3 0.4 0.5 1.2 0.5 1.0 0.7 0.5 1.0 0.7 0.5 1.0 0.5 0.4 0.5 0.5 0.4 0.5 0.5 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0	T B B B B U W V V V C C C D B B B B	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E030 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E055 T520W107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520W107M006A(1)E040 T520W107M006A(1)E040 T520W107M006A(1)E040 T520W107M006A(1)E040 T520B157M006A(1)E040 T520B157M006A(1)E057 T520B157M006A(1)E047 T520B157M006A(1)E047	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 10 10 10 10 10 8 8 110 8 8 8 8	70 40 70 35 40 70 40 55 40 70 55 40 7 9 45 12 25 45 7 35 45 7	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 2.7 1.7 3.7 1.7 3.7 1.7 4.6 4.6 4.6 1.6	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.5 0.4 0.5 0.3 0.4 0.5 1.3 1.2 0.5 1.0 0.7 0.5 1.5 0.6 0.4 0.7 0.7 0.5 0.8 0.8 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0	T B B B B U W V V C C D B B B C C	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B1077M006A(1)E040 T520B1077M006A(1)E040 T520B1077M006A(1)E040 T520B1077M006A(1)E040 T520V1077M006A(1)E040 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520D107M006A(1)E045 T520D107M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045	21 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 63 63 63 63	8 8 8 8 8 8 8 8 8 10 10 10 10 10 10 8 8 8 8	70 40 70 35 40 70 40 40 55 40 70 55 40 7 7 9 45 12 25 45 7 35 45 7 35 45 45 45 45 45 46 47 47 47 47 47 47 47 47 47 47 47 47 47	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.5 1.1 1.5 1.1 1.7 4.2 2.1 1.6 4.6 1.6 4.6	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.4 0.5 1.3 1.2 0.5 1.0 0.7 0.5 1.0 0.7 0.5 0.7 0.7 0.5 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0 150.0	T B B B B U W V V V C C D B B B C C W V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E045 T520B167M006A(1)E045 T520B167M006A(1)E045 T520B167M006A(1)E045 T520B167M006A(1)E045 T520B167M006A(1)E045 T520B167M006A(1)E045 T520B167M06A(1)E045	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	70 40 70 35 40 70 40 40 55 40 70 55 40 7 9 45 12 25 45 7 7 35 45 7 7 25 45 40 7 7 7 7 8 40 7 7 8 40 7 8 40 7 8 40 7 8 40 7 8 40 7 8 40 7 8 40 7 8 40 8 40	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.3 1.7 4.2 2.3 7 1.7 4.2 2.1 1.6 4.6 1.6 1.4 1.1 1.1 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.4 0.5 0.3 0.4 0.5 1.3 1.2 0.5 1.0 0.7 0.5 1.5 0.4 0.3 0.7 0.5 1.5 0.5 1.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0 150.0 150.0 150.0	T B B B B U B B U V V V C C C D B B B C C W V V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E055 T520W107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520W107M006A(1)E040 T520W107M006A(1)E040 T520W107M006A(1)E040 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E046 T520W157M006A(1)E047	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	70 40 70 35 40 70 40 55 40 7 7 9 45 12 25 45 7 7 35 40 7 7 9 45 12 40 7 7 9 40 7 7 9 40 7 7 9 40 7 7 9 40 7 7 9 40 7 7 9 40 7 7 9 40 7 7 9 40 7 7 9 40 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.3 1.7 4.2 2.1 1.6 4.6 1.6 1.4 1.1 2.1 1.6 1.7 4.2 2.1 1.7 4.6 4.6 1.6 1.7 4.6 1.7 4.6 1.7 4.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.4 0.5 0.5 1.3 0.4 0.5 1.0 0.7 0.5 1.5 0.5 0.5 0.5 1.5 1.0 0.7 0.5 1.5 1.1 0.3 0.7 0.5 1.5 0.5 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 1.3 0.7 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 150	T B B B B U W V V V C C D B B B C C W V V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E070 T520U686M006A(1)E070 T520U686M006A(1)E070 T520U686M006A(1)E070 T520U107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520V107M006A(1)E040 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520U107M006A(1)E045 T520U107M006A(1)E045 T520U107M006A(1)E045 T520U107M006A(1)E045 T520U107M006A(1)E055 T520U107M006A(1)E056 T520U107M006A(1)E056 T520U107M006A(1)E056 T520U107M006A(1)E056 T520U107M006A(1)E056	21 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	70 40 70 35 40 70 40 55 40 70 55 40 7 9 45 12 25 45 7 35 45 7 7 35 40 7 7 9 45 40 7 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 8 40 8 40	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 2.1 1.6 4.6 1.4 1.1 1.1 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1.7	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.4 0.5 0.3 0.4 0.5 1.3 1.2 0.5 1.0 0.7 0.7 0.7 0.5 1.3 1.2 1.5 1.5 1.5 1.0 1.5 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0	T B B B B U W V V V C C D B B B C C C W V V V V V V V V V V V V V V V V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E045 T520B167M006A(1)E046 T520B167M006A(1)E046 T520B167M006A(1)E046 T520B167M006A(1)E046 T520B167M006A(1)E046 T520B167M006A(1)E046 T520B167M006A(1)E046 T520B167M006A(1)E046	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 100 100 100 100	70 40 70 35 40 70 40 55 50 70 55 40 7 9 45 12 25 45 7 7 35 45 7 7 9 45 40 7 7 9 40 7 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 40 40 40 40 40 40 40 40 40 40 40 40	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 2.1 1.6 1.6 1.6 1.4 4.6 1.1 2.1 1.1 2.1 1.1 1.2 3.7 3.7 3.2 2.1 1.6 1.6 1.7 4.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.5 0.6 0.5 0.5 0.7 0.5 1.0 0.7 0.5 0.5 0.4 0.5 1.0 0.7 0.5 1.1 0.5 0.5 0.1 0.7 0.5 0.5 0.4 0.3 0.7 0.5 0.5 0.4 0.3 0.7 0.5 0.5 0.4 0.3 0.7 0.5 0.5 0.9 0.9 0.9
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150	T B B B B B U W V V V C C D B B B C C W V V V V V V V V V V V V V V V V V	T520B336M006A(1)E070 T520B476M006A(1)E070 T520B476M006A(1)E070 T520B476M006A(1)E070 T520B476M006A(1)E070 T520B476M006A(1)E070 T520B476M006A(1)E070 T520B686M006A(1)E070 T520B686M006A(1)E070 T520B107M006A(1)E070 T520B107M006A(1)E070 T520B107M006A(1)E070 T520U107M006A(1)E040 T520B107M006A(1)E040 T520V107M006A(1)E040 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520D107M006A(1)E045 T520B157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045	21 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	70 40 70 35 40 70 40 40 55 40 70 55 40 7 7 9 45 12 25 45 7 7 35 45 7 7 9 45 45 7 9 45 45 45 46 47 47 47 47 47 47 47 47 47 47 47 47 47	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 2.1 1.6 4.6 1.6 1.6 1.6 1.7 4.2 2.1 1.6 1.6 1.7 4.2 2.1 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1	0.3 0.4 0.3 0.5 0.5 0.5 0.5 0.5 0.4 0.5 1.2 0.5 1.0 0.7 0.5 1.5 0.4 0.3 0.7 0.5 1.5 0.4 0.3 0.7 0.9 0.9 0.9
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0	T B B B B U W V V V C C D B B B C C W V V V V V V V V V V V V V V V V V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E045 T520C107M006A(1)E045 T520C107M006A(1)E045 T520C107M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520B157M006A(1)E045 T520C157M006A(1)E045	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	70 40 70 35 40 70 40 40 55 40 70 55 40 7 9 45 25 45 7 7 35 45 7 7 9 25 45 47 7 7 25 45 40 7 7 40 40 7 7 8 40 40 40 40 40 40 40 40 40 40 40 40 40	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 2.1 1.6 1.6 1.6 1.4 1.1 2.1 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1	0.3 3 0.5 5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0	T B B B B B U W V V V C C D D B B B C C W V V V V V V V V V V V V V V V V V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B107M006A(1)E040 T520B157M006A(1)E040 T520B157M006A(1)E045	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	70 40 70 35 40 70 40 55 40 7 7 9 45 12 25 45 7 7 35 45 7 7 9 45 40 7 7 9 45 40 7 7 9 45 40 7 7 9 40 7 7 7 7 7 7 8 40 7 7 7 8 7 8 7 8 7 8 8 7 8 7 8 8 8 8 8	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.3 1.7 4.2 2.1 1.6 4.6 1.6 1.4 1.1 2.1 1.6 1.7 4.2 2.1 1.6 1.7 3.7 1.7 3.7 2.1 1.6 1.6 1.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3	0.3.3 0.5.5 0.3.3 0.5.5 0.4.4 0.5.5 0.4.4 0.5.5 1.3.0 1.5.7 0.5.5 1.0.7 0.5.5 0.4.4 0.5.7 0.5.5 1.3.3 1.3.3 1.5.5 1.0.7 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 1.3.3 0.5.5 0.5 0
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0	T B B B B B U W V V V V C C C D B B B C C C C W V V V V V V V V V V V V V V V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E070 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520B107M006A(1)E040 T520V107M006A(1)E040 T520V107M006A(1)E045 T520V107M006A(1)E045 T520V107M006A(1)E045 T520B157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E045 T520W157M006A(1)E046	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	70 40 70 35 40 70 40 55 40 70 55 40 7 9 45 12 25 45 7 7 35 45 7 7 9 25 45 45 40 7 7 9 45 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 8 40 7 7 8 40 7 8 7 8 40 7 8 40 7 8 40 7 8 40 7 8 40 7 8 40 7 8 40 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 3.7 1.7 4.2 3.7 1.7 4.2 3.7 1.6 4.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1	0.3 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0	T B B B B B U W V V V C C C D B B B B C C C W V V V V V D D D	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 8 100 100 100 10	70 40 70 35 40 70 40 55 40 7 7 9 45 12 25 45 7 35 45 40 7 7 9 45 45 45 40 7 7 9 45 45 46 46 47 48 48 48 48 48 48 48 48 48 48 48 48 48	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 2.1 1.6 1.6 1.4 1.1 2.1 1.6 1.7 4.2 2.9 2.9 2.9 2.9 2.9 1.8 1.7 5.0 4.6	0.3.3 0.5.5 0.3.3 0.5.5 0.4.4 0.5.5 0.4.4 0.5.5 0.4.4 0.5.5 1.0.0 0.7 0.5.5 0.5.5 1.0.0 1.0.7 0.5.5 1.0.
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0	T B B B B B U W V V V V C C C D B B B C C C C W V V V V V V V V V V V V V V V	T520B336MO06A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E045 T520B476M006A(1)E045 T520B476M06A(1)E045 T520B476M06A(1)E046	21 30 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	70 40 70 35 40 70 40 55 40 70 55 40 7 9 45 12 25 45 7 7 35 45 7 7 9 25 45 45 40 7 7 9 45 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 9 40 7 8 40 7 7 8 40 7 8 7 8 40 7 8 40 7 8 40 7 8 40 7 8 40 7 8 40 7 8 40 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.3 1.5 1.1 1.3 1.7 4.2 3.7 1.7 4.2 3.7 1.7 4.2 3.7 1.6 4.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1	0.3 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5
47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0	T B B B B B B U W V V V V C C C D D B B B C C C W V V V V V V V V V V V V V V V V	T520B336M006A(1)E070 T520T476M006A(1)E040 T520T476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B476M006A(1)E040 T520B686M006A(1)E040 T520B686M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E040 T520B167M006A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E045 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046 T520B167M06A(1)E046	21 30 30 30 30 30 43 43 43 63 63 63 63 63 63 63 63 63 6	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	70 40 70 35 40 70 40 55 40 70 55 40 7 9 45 12 25 45 7 35 45 7 7 35 45 40 7 7 9 45 45 40 7 7 7 8 45 40 40 40 40 40 40 40 40 40 40 40 40 40	1.1 1.3 1.0 1.6 1.5 1.1 1.5 1.1 1.5 1.1 1.5 1.1 1.3 1.7 4.2 2.1 1.6 4.6 1.6 1.4 1.1 1.6 1.6 1.7 4.2 2.1 1.6 1.6 1.7 4.2 2.1 1.6 1.6 1.6 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1.7	0.3.3 0.5.5 0.3.3 0.5.5 0.4.4 0.5.5 0.3.3 0.5.5 0.4.4 0.5.5 1.3.3 1.2.2 1.0.5 0.5.5 0.4.4 0.5.5 1.0.7 0.5.5 0.5.5 1.0.7 0.5.5 0.5.5 1.0.7 1.0.7 1.

T520 RATINGS & PART NUMBER REFERENCE

					ESR	Ripple Current Arms @		
Capaci- tance µF	Case Size	KEMET Part Number	DC Leakage µA @ 25°C	DF% @ 25°C 120 Hz	mΩ @ 25°C	100 kH		
шпос рі	GIZE		Max	Max	100 kHz Max	w/∆T=20°C @ -55°C to 85°C	w/ΔT= 2° @ 105°	
220.0	V	6.3 Volt Ra T520V227M006A(1)E007	ting @ 105°C c	ont. 10	7	4.2	1.3	
220.0	V	T520V227M006A(1)E009	139	10	9	3.7	1.2	
220.0	V	T520V227M006A(1)E012	139	10	12	3.2	1.0	
220.0	V	T520V227M006A(1)E015	139	10	15 25	2.9 2.2	0.9	
220.0 220.0	V	T520V227M006A(1)E025 T520V227M006A(1)E040	139 139	10 10	40	1.8	0.7	
220.0	D	T520D227M006A(1)E006	139	10	6	5.0	1.7	
220.0	D	T520D227M006A(1)E007	139	10	7	4.6	1.5	
220.0	D	T520D227M006A(1)E009	139	10	9	4.1	1.3	
220.0	D D	T520D227M006A(1)E015	139	10	15 40	3.2	1.0 0.6	
220.0 220.0	D	T520D227M006A(1)E040 T520D227M006A(1)E050	139 139	10 10	40 50	1.9 1.7	0.6	
330.0	V	T520V337M006A(1)E035	208	10	25	2.2	0.3	
330.0	V	T520V337M006A(1)E040	208	10	40	1.8	0.6	
330.0	V	T520V337M006A(1)E045	208	10	45	1.7	0.5	
330.0	D	T520D337M006A(1)E009	208	10	9	4.1	1.4	
330.0 330.0	D D	T520D337M006A(1)E010 T520D337M006A(1)E015	208 208	10 10	10 15	3.9 3.2	1.2 1.1	
330.0	D	T520D337M006A(1)E025	208	10	25	2.4	0.8	
330.0	D	T520D337M006A(1)E040	208	10	40	1.9	0.6	
330.0	D	T520D337M006A(1)E045	208	10	45	1.8	0.6	
330.0	Y	T520Y337M006A(1)E015	208	10	15	3.3	1.0	
330.0 330.0	Y	T520Y337M006A(1)E025 T520Y337M006A(1)E040	208 208	10 10	25 40	2.5 2.0	0.8 0.6	
470.0	Y	T520Y477M006A(1)E040	208	10	10	4.0	1.3	
470.0	Υ	T520Y477M006A(1)E015	296	10	15	3.3	1.0	
470.0	Υ	T520Y477M006A(1)E018	296	10	18	3.0	0.9	
470.0	Y	T520Y477M006A(1)E025	296	10	25	2.5	0.8	
470.0 470.0	Y D	T520Y477M006A(1)E035	296 296	10 10	35 25	2.1 2.4	0.7 0.8	
470.0 470.0	D	T520D477M006A(1)E025 T520D477M006A(1)E030	296	10 10	30	2.4	0.8	
470.0	X	T520X477M006A(1)E010	296	10	10	4.1	1.3	
470.0	Х	T520X477M006A(1)E018	296	10	18	3.0	1.0	
470.0	Х	T520X477M006A(1)E035	296	10	35	2.2	0.7	
470.0	Х	T520X477M006A(1)E040	296 Rating @ 105°C	10	40	2.0	0.6	
33.0	Т	T520T336M008A(1)E070	1 26	8	70	1.0	0.3	
33.0	Ť	T520T336M008A(1)E080	26	8	80	0.9	0.3	
33.0	В	T520B336M008A(1)E040	26	8	40	1.5	0.5	
33.0	В	T520B336M008A(1)E070	26	8	70	1.1	0.3	
33.0 47.0	U B	T520U336M008A(1)E070	26 38	8	70 35	1.1	0.4	
47.0	B	T520B476M008A(1)E035 T520B476M008A(1)E070	38	8	70	1.6	0.5	
150.0	D	T520D157M008A(1)E025	120	10	25	2.4	0.8	
150.0	D	T520D157M008A(1)E040	120	10	40	1.9	0.6	
150.0	D	T520D157M008A(1)E055	120	10	55	1.7	0.5	
150.0	V	T520V157M008A(1)E040	120 Rating @ 105°	10	40	3.1	1.0	
10.0	Α	T520A106M010A(1)E080	10	8	80	1.0	0.3	
15.0	Α	T520A156M010A(1)E080	15	8	80	1.0	0.3	
33.0	T	T520T336M010A(1)E070	33	8	70	1.0	0.3	
33.0	T	T520T336M010A(1)E080	33	8	80	0.9	0.3	
33.0 33.0	B B	T520B336M010A(1)E040 T520B336M010A(1)E070	33 33	8 8	40 70	1.5 1.1	0.5 0.3	
33.0	Ü	T520U336M010A(1)E070	33	8	70	1.1	0.4	
47.0	В	T520B476M010A(1)E035	47	8	35	1.6	0.5	
47.0	В	T520B476M010A(1)E070	47	8	70	1.1	0.3	
68.0 68.0	W	T520W686M010A(1)E025 T520W686M010A(1)E040	68 68	10 10	25 40	2.2 1.7	0.7 0.5	
68.0	C	T520C686M010A(1)E045	68	8	45	1.6	0.5	
68.0	v	T520V686M010A(1)E025	68	10	25	2.2	0.7	
68.0	V	T520V686M010A(1)E040	68	10	40	1.8	0.6	
68.0	V	T520V686M010A(1)E045	68	10	45	1.7	0.5	
68.0 68.0	V	T520V686M010A(1)E060 T520V686M010A(1)E100	68 68	10 10	60 100	1.4 1.1	0.5 0.4	
68.0	D D	T520D686M010A(1)E100	68	10	100	1.1	0.4	
100.0	V	T520V107M010A(1)E018	100	10	18	2.6	0.8	
100.0	V	T520V107M010A(1)E025	100	10	25	2.2	0.7	
100.0	V	T520V107M010A(1)E045	100	10	45 50	1.7	0.5	
100.0 100.0	V D	T520V107M010A(1)E050 T520D107M010A(1)E018	100 100	10 10	50 18	1.6 2.9	0.5 0.9	
100.0	D	T520D107M010A(1)E015	100	10	55	1.7	0.5	
100.0	D	T520D107M010A(1)E080	100	10	80	1.4	0.4	
150.0	D	T520D157M010A(1)E025	150	10	25	2.4	0.8	
150.0 150.0	D	T520D157M010A(1)E040 T520D157M010A(1)E055	150 150	10 10	40 55	1.9	0.6 0.5	
220.0	D Y	T520Y227M010A(1)E040	220	10	40	1.7 2.0	0.6	
220.0	D	T520D227M010A(1)E018	220	10	18	2.9	0.9	
220.0	D	T520D227M010A(1)E025	220	10	25	2.4	0.8	
220.0	D	T520D227M010A(1)E040	220	10	40	1.9	0.6	
330.0	Y X	T520Y337M010A(1)E015 T520X337M010A(1)E010	330 330	10 10	15 10	3.3	1.0	
330.0 330.0	×	T520X337M010A(1)E010 T520X337M010A(1)E025	330	10	10 25	4.1 2.6	1.3 0.8	
330.0	x	T520X337M010A(1)E040	330	10	40	2.0	0.6	
		16 Volt	Rating @ 105°	c				
33.0	W	T520W336M016A(1)E045	53	10	60	1.6	0.5	
33.0	V	T520V336M016A(1)E045	53	10	45	1.7	0.5	
33.0 47.0	V W	T520V336M016A(1)E060 T520W476M016A(1)E045	53 75	10 10	60 45	1.4 1.6	0.5	
47.0	VV V	T520V476M016A(1)E045	75	10	45 45	1.6	0.5	
47.0	v	T520V476M016A(1)E070	76	10	70	1.3	0.4	
47.0	D	T520D476M016A(1)E035	75	10	35	2.1	0.7	
47.0	D	T520D476M016A(1)E070	75	10	70	1.5	0.5	
20.0			Rating @ 105°		40	10	^^	
22.0 22.0	V V	T520V226M020A(1)E040 T520V226M020A(1)E090	44 44	10 10	40 90	1.8 1.2	0.6 0.4	
22.0	· v		Rating @ 105°		30	1.2	0.4	
15.0	V	T520V156M025A(1)E090	38	10	90	1.2	0.4	
15.0	D	T520D156M025A(1)E060	38	10	60	1.6	0.5	
15.0	D	T520D156M025A(1)E080	38	10	80	1.4	0.4	

⁽¹⁾ To complete KEMET Part Number, insert letter designation for lead material from page 49. Higher voltage ratings and tighter tolerance product may be substituted within the same size at KEMET'S option. Voltage substitutions will be marked with the higher voltage rating.

52

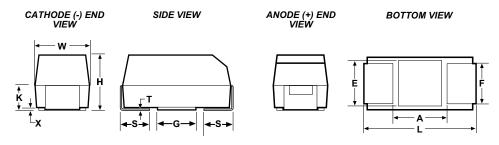
CONDUCTIVE POLYMER CHIP CAPACITORS KEMET T525 SERIES - High Temperature

FEATURES

- · Polymer Cathode Technology
- 125°C Maximum Temperature Capability
- High Frequency Capacitance Retention
- · Non-Ignition Failure Mode
- Capacitance: 33 680µF
- · Voltage: 2.5 to 16 volts
- Use up to 90% of Rated Voltage (10% Derating) for part types ≤ 10 Volts
- Use up to 80% of Rated Voltage (20% Derating) for part types >10 Volts

- Operating Temperature -55°C to +125°C
- 100% Accelerated Steady State Aging
- 100% Surge Current Testing
- · Self-Healing Mechanism
- · Volumetrically Efficient
- Extremely Stable ESR at 125°C
- EIA Standard Case Size
- RoHS Compliant / Leadfree Termination (See www.kemet.com for lead transition)

OUTLINE DRAWING

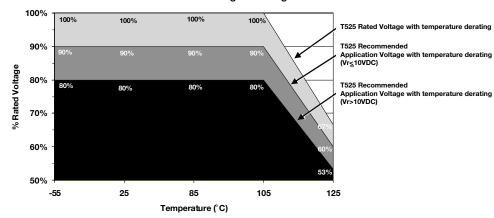


DIMENSIONS - MILLIMETERS

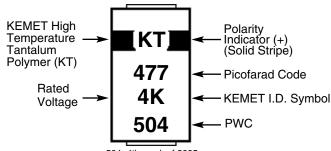
Case	e Size	1	w	н	K ±0.20	F ±0.1	S ±0.3	X (Ref)	T (Ref)	A (Min)	G (Ref)	F (Ref)
KEMET	EIA		•••		IX 10.20	1 10.1	0 10.5	X (Rei)	i (itei)	A (WIIII)	o (itel)	L (IXCI)
Т	3528-12	3.5 ± 0.2	2.8 ± 0.2	1.2 max.	0.3	2.2	0.8	0.05	0.13	1.1	1.8	2.2
В	3528-21	3.5 ± 0.2	2.8 ± 0.2	1.9 ± 0.1	0.9	2.2	0.8	0.10 ± 0.10	0.13	1.1	1.8	2.2
D	7343-31	7.3 ± 0.3	4.3 ± 0.3	2.8 ± 0.3	1.5	2.4	1.3	0.10 ± 0.10	0.13	3.8	3.5	3.5

RECOMMENDED TEMPERATURE/VOLTAGE DERATING

T525 Temperature/Application Recommended Voltage Derating



COMPONENT MARKING



504=4th week of 2005

T525 SERIES - High Temperature

T525 RATINGS & PART NUMBER REFERENCE

Capaci- tance µF	Case Size	KEMET Part Number	DC Leakage µA @ 25°C	DF% @ 25°C 120 Hz	ESR mΩ @ 25°C 100 kHz	(Arı	Current ms) Iz Max
tance µi	Size		.) Max	Max	Max	w/∆T= 20°C @ -55°C to 105°C	w/ΔT= 2°C @ 125°C
		2.5 Volt Rating at 105					
100.0	T	T525T107M2R5A(1)E080	25	8.0	80	0.9	0.3
330.0	D	T525D337M2R5A(1)E025	83	10.0	25	2.4	8.0
470.0	D	T525D477M2R5A(1)E025	118	10.0	25	2.4	0.8
680.0	D	T525D687M2R5A(1)E025	170	10.0	25	2.4	0.8
		3 Volt Rating at 105	5°C (2 Volt Rat	ing at 125°C	;)		
100.0	В	T525B107M003A(1)E080	30	8.0	80	1.0	0.3
150.0	В	T525B157M003A(1)E080	45	8.0	80	1.0	0.3
330.0	D	T525D337M003A(1)E025	99	10.0	25	2.4	8.0
470.0	D	T525D477M003A(1)E025	141	10.0	25	2.4	0.8
680.0	D	T525D687M003A(1)E025	204	10.0	25	2.4	0.8
		4 Volt Rating at 105°	°C (2.7 Volt Ra	iting at 125°	C)		
68.0	T	T525T686M004A(1)E080	27	8.0	80	0.9	0.3
68.0	В	T525B686M004A(1)E080	28	8.0	80	1.0	0.3
100.0	В	T525B107M004A(1)E080	40	8.0	80	1.0	0.3
220.0	D	T525D227M004A(1)E025	88	10.0	25	2.4	0.8
330.0	D	T525D337M004A(1)E025	132	10.0	25	2.4	0.8
470.0	D	T525D477M004A(1)E025	188	10.0	25	2.4	0.8
470.0	D	T525D477M004A(1)E040	188	10.0	40	1.9	0.6
		6.3 Volt Rating at 105	5°C (4.2 Volt R	ating at 125	°C)		
33.0	В	T525B336M006A(1)E080	21	8.0	80	1.0	0.3
47.0	Т	T525T476M006A(1)E080	30	8.0	80	0.9	0.3
47.0	В	T525B476M006A(1)E080	30	8.0	80	1.0	0.3
68.0	В	T525B686M006A(1)E080	43	8.0	80	1.0	0.3
150.0	D	T525D157M006A(1)E025	95	10.0	25	2.4	0.8
220.0	D	T525D227M006A(1)E025	139	10.0	25	2.4	0.8
330.0	D	T525D337M006A(1)E025	208	10.0	25	2.4	0.8
330.0	D	T525D337M006A(1)E040	208	10.0	40	1.9	0.6
		8 Volt Rating at 105°	°C (5.3 Volt Ra	iting at 125°	C)		
33.0	Τ	T525T336M008A(1)E080	26	8.0	80	0.9	0.3
		10 Volt Rating at 105	°C (6.6 Volt R	ating at 125°	°C)		
22.0	В	T525B226M010A(1)E080	22	8.0	80	1.0	0.3
33.0	T	T525T336M010A(1)E080	33	8.0	80	0.9	0.3
33.0	В	T525B336M010A(1)E080	33	8.0	80	1.0	0.3
100.0	D	T525D107M010A(1)E025	100	10.0	25	2.4	8.0
100.0	D	T525D107M010A(1)E055	100	10.0	55	1.7	0.5
150.0	D	T525D157M010A(1)E025	150	10.0	25	2.4	8.0
150.0	D	T525D157M010A(1)E055	150	10.0	55	1.7	0.5
220.0	D	T525D227M010A(1)E025	220	10.0	25	2.4	8.0
	-	16 Volt Rating at 105°		ating at 125	°C)		
47.0	D	T525D476M016A(1)E035	76	10.0	35	2.1	0.7
47.0	D	T525D476M016A(1)E065	76	10.0	65	1.5	0.5

⁽¹⁾ To complete KEMET Part Number, insert lead material designation for ordering information below. Higher voltage ratings and tighter tolerance product may be substituted within the same size at KEMET'S option. Voltage substitutions will be marked with the higher voltage rating.

T525 ORDERING INFORMATION 525 D 337 M 006 A E040 Tantalum -**ESR** Expressed in milliohms Series Lead Material T525 - High Temperature T - 100% Tin Tantalum Polymer (KT) H - Tin/Lead (SnPb 5% Pb minimum) Case Size B, D, T **Failure Rate** A - Not Applicable **Capacitance Picofarad Code** Voltage First two digits represent significant figures. Note: 006 - 6.3 Third digit specifies number of zeros to follow. **Capacitance Tolerance** $M = \pm 20\%$

CONDUCTIVE POLYMER CHIP CAPACITORS KEMET

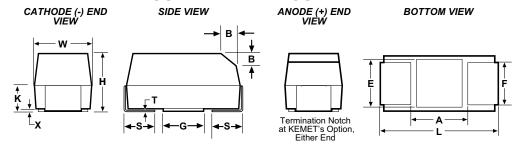
T530 SERIES - High Capacitance/Ultra-Low ESR

FEATURES

- Highest CV in Standard EIA Size
- Extremely Low ESR
- Operating Temperature: -55°C to 125°C
- Polymer Cathode Technology
- High Frequency Capacitance Retention
- Non-Ignition Failure Mode
- Capacitance: 150 to 1500 μF
- Voltage: 2.5V to 10V
- Molded Case (pick-and-place precision)

- 100% Accelerated Steady State Aging
- 100% Surge Current Testing
- Utilizes Multiple Tantalum Anode Technology
- Volumetric Efficiency
- Use Up to 90% of Rated Voltage (10% Derating)
- Self-Healing Mechanism
- True SMT Čapability
- RoHS Compliant/Lead Free

OUTLINE DRAWINGS



DIMENSIONS - MILLIMETERS (INCHES)

Case	e Size											
KEMET	EIA	L	W	Н	K ±0.20	F ±0.1	S ±0.3	X(Ref)	T(Ref)	A(Min)	G(ref)	E(ref)
D	7343-31	7.3 ± 0.3	4.3 ± 0.3	2.8 ± 0.3	1.5	2.4	1.3	0.10 ± 0.10	0.13	3.8	3.5	3.5
Y	7343-40	7.3 ± 0.3	4.3 ± 0.3	4.0 max	1.9	2.4	1.3	0.10 ± 0.10	0.13	3.8	3.5	3.5
X	7343-43	7.3 ± 0.3	4.3 ± 0.3	4.0 ± 0.3	2.3	2.4	1.3	0.10 ± 0.10	0.13	3.8	3.5	3.5
1										l		

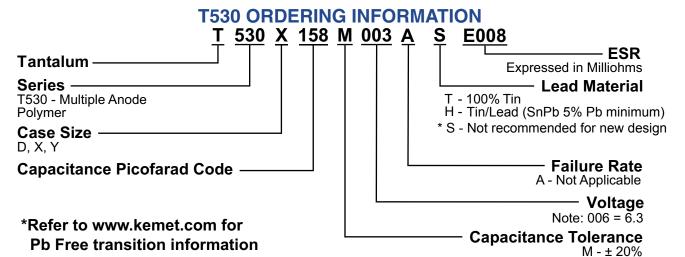
T530 RATINGS & PART NUMBER REFERENCE

Capaci-	Case	VENET But Number	DCL	DF %	ESR mΩ @100		5°C to W/∆T= 2°C
tance µF	Size	KEMET Part Number	V _R	120Hz	kHz 25°C Max	w/∆T= 20°C @ -55°C to 105°C	
		2.5 Volt Rating at 10	5°C (1.7 V	olt Rating	at 125°C)	<u>.</u>	
470.0	D	T530D477M2R5A(1)E005	118µA	8.0	5.0	7.1	2.3
470.0	D	T530D477M2R5A(1)E006	118µA	8.0	6.0	6.5	2.1
470.0	D	T530D477M2R5A(1)E010	118µA	10.0	10.0	5.0	1.6
560.0	D	T530D567M2R5A(1)E005	140µA	8.0	5.0	7.1	2.3
680.0	Υ	T530Y687M2R5A(1)E005	170µA	8.0	5.0	7.2	2.3
680.0	Υ	T530Y687M2R5A(1)E006	170µA	8.0	6.0	6.6	2.1
680.0	D	T530D687M2R5A(1)E006	170µA	8.0	6.0	6.5	2.1
680.0	D	T530D687M2R5A(1)E010	170µA	8.0	10.0	5.0	1.6
680.0	Х	T530X687M2R5A(1)E006	170µA	8.0	6.0	6.7	2.1
1000.0	Υ	T530Y108M2R5A(1)E005	250µA	8.0	5.0	7.2	2.3
1000.0	Υ	T530Y108M2R5A(1)E006	250µA	8.0	6.0	6.6	2.1
1000.0	Х	T530X108M2R5A(1)E004	250µA	8.0	4.0	8.2	2.6
1000.0	Х	T530X108M2R5A(1)E005	250µA	8.0	5.0	7.3	2.3
1000.0	Х	T530X108M2R5A(1)E006	250µA	8.0	6.0	6.7	2.1
1500.0	Х	T530X158M2R5A(1)E005	375µA	8.0	5.0	7.3	2.3
		3 Volt Rating at 10	5°C (2 Vol	t Rating at	125°C)		
470.0	D	T530D477M003A(1)E010	141µA	8.0	10.0	5.0	1.6
680.0	D	T530D687M003A(1)E010	204µA	8.0	10.0	5.0	1.6
1000.0	Х	T530X108M003A(1)E010	300µA	8.0	10.0	5.2	1.6
1500.0	Х	T530X158M003A(1)E008	450µA	8.0	8.0	5.8	1.8
		4 Volt Rating at 105	°C (2.7 Vo	It Rating a	t 125°C)		
330.0	D	T530D337M004A(1)E005	132µA	8.0	5.0	7.1	2.3
330.0	D	T530D337M004A(1)E006	132µA	8.0	6.0	6.5	2.1
470.0	D	T530D477M004A(1)E006	188µA	8.0	6.0	6.5	2.1
470.0	D	T530D477M004A(1)E010	188µA	8.0	10.0	5.0	1.6
470.0	Υ	T530Y477M004A(1)E005	188µA	8.0	5.0	7.2	2.3
470.0	Υ	T530Y477M004A(1)E006	188µA	8.0	6.0	6.6	2.1
680.0	Υ	T530Y687M004A(1)E005	272µA	8.0	5.0	7.2	2.3
680.0	Х	T530X687M004A(1)E004	272µA	8.0	4.0	8.2	2.6
680.0	Χ	T530X687M004A(1)E005	272µA	8.0	5.0	7.3	2.3
680.0	X	T530X687M004A(1)E006	272µA	8.0	6.0	6.7	2.1
680.0	Χ	T530X687M004A(1)E010	272µA	8.0	10.0	5.2	1.6
1000.0	Χ	T530X108M004A(1)E006	400µA	8.0	6.0	6.7	2.1

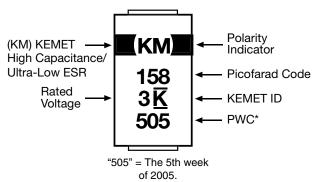
Capaci-	Case		DCL	DF %	ESR mΩ @100	Ripple Curi @ 100	
tance µF	Size	KEMET Part Number	V _R	120Hz	kHz 25°C Max	w/ΔT= 20°C @ -55°C to 105°C	w/∆T= 2°C @ 125°C
		6.3 Volt Rating at 10	5°C (4.2 V	olt Rating	at 125°C)		
220.0	D	T530D227M006A(1)E005	139µA	8.0	5.0	7.1	2.3
220.0	D	T530D227M006A(1)E006	139µA	8.0	6.0	6.5	2.1
330.0	D	T530D337M006A(1)E006	208µA	8.0	6.0	6.5	2.1
330.0	D	T530D337M006A(1)E010	208µA	8.0	10.0	5.0	1.6
330.0	Υ	T530Y337M006A(1)E005	208µA	8.0	5.0	7.2	2.3
330.0	Υ	T530Y337M006A(1)E006	208µA	8.0	6.0	6.6	2.1
330.0	Υ	T530Y337M006A(1)E010	208µA	8.0	10.0	5.1	1.6
470.0	Υ	T530Y477M006A(1)E005	296µA	8.0	5.0	7.2	2.3
470.0	Х	T530X477M006A(1)E004	296µA	8.0	4.0	8.2	2.6
470.0	Х	T530X477M006A(1)E005	296µA	8.0	5.0	7.3	2.3
470.0	Х	T530X477M006A(1)E006	296µA	8.0	6.0	6.7	2.1
470.0	Х	T530X477M006A(1)E010	296µA	8.0	10.0	5.2	1.6
		10 Volt Rating at 10	5°C (6.6 V	olt Rating	at 125°C)		
150.0	D	T530D157M010A(1)E005	150µA	8.0	5.0	7.1	2.3
150.0	D	T530D157M010A(1)E006	150µA	8.0	6.0	6.5	2.1
150.0	D	T530D157M010A(1)E010	150µA	8.0	10.0	5.0	1.6
220.0	D	T530D227M010A(1)E006	220µA	8.0	6.0	6.5	2.1
220.0	D	T530D227M010A(1)E010	220µA	8.0	10.0	5.0	1.6
220.0	Υ	T530Y227M010A(1)E006	220µA	8.0	6.0	6.6	2.1
330.0	Х	T530X337M010A(1)E004	330µA	8.0	4.0	8.2	2.6
330.0	Х	T530X337M010A(1)E005	330µA	8.0	5.0	7.3	2.3
330.0	Х	T530X337M010A(1)E006	330µA	8.0	6.0	6.7	2.1
330.0	Х	T530X337M010A(1)E010	330µA	8.0	10.0	5.2	1.6
		16 Volt Rating at 105	°C (10.6 V	olt Rating	at 125°C)	<u>.</u>	,
150.0	Х	T530X157M016A(1)E015	240µA	8.0	15.0	4.2	1.3
150.0	Х	T530X157M016A(1)E025	240µA	8.0	25.0	3.3	1.0
150.0	Х	T530X157M016A(1)E040	240µA	8.0	40.0	2.6	0.8

⁽¹⁾ To complete KEMET Part Number, insert lead material designation from ordering information on page 58. Higher voltage ratings and tighter tolerance product may be substituted within the same size at KEMET's option. Voltage substitutions will be marked with the higher voltage rating.

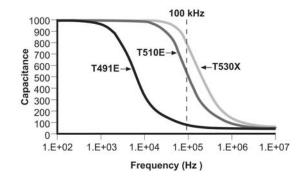
T530 SERIES - High Capacitance/Ultra-Low ESR



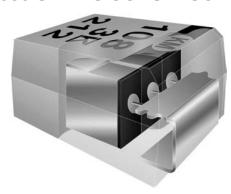
COMPONENT MARKING



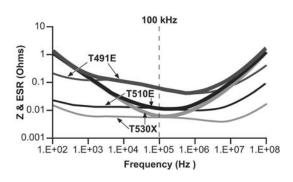
T530X/T510E/T491E 1,000μF Capacitance vs. Frequency



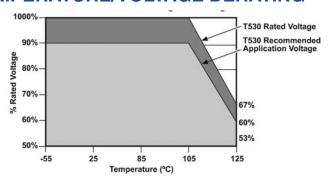
T530 SERIES CONSTRUCTION



T530X/T510E/T491E 1,000μF Impedance & ESR vs. Frequency



RECOMMENDED TEMPERATURE/VOLTAGE DERATING

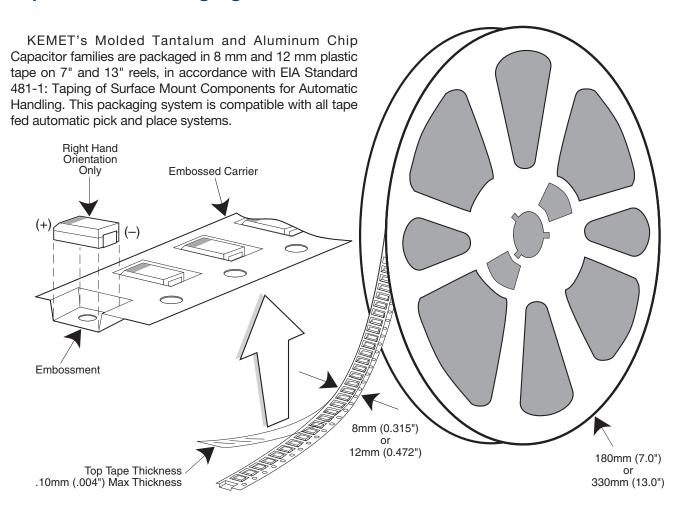


TANTALUM AND ALUMINUM CHIP CAPACITORS

Packaging Information



Tape & Reel Packaging



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

QUANTITIES PACKAGED PER REEL

Cas	e Code	Tape		
KEMET	EIA	Width-mm	7" Reel*	13" Reel*
R	2012-12	8	2,500	10,000
S	3216-12	8	2,500	10,000
Т	3528-12	8	2,500	10,000
U	6032-15	12	1,000	5,000
W	7343-15	12	1,000	3,000
V	7343-20	12	1,000	3,000
Α	3216-18	8	2,000	9,000
В	3528-21	8	2,000	8,000
С	6032-28	12	500	3,000
D	7343-31	12	500	2,500
Υ	7343-40	12	500	2,000
X	7343-43	12	500	2,000
Е	7260-38	12	500	2,000

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

TANTALUM, CERAMIC AND ALUMINUM CHIP CAPACITORS



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 Newton to 1.0 Newton (10g to 100g) 12 mm 0.1 Newton to 1.3 Newton (10g to 130g)

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

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

Embossed Carrier Tape Configuration: Figure 1

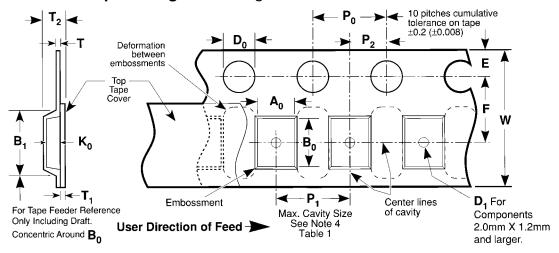


Table 1 — EMBOSSED TAPE DIMENSIONS (Metric will govern)

		C	onstant	Dimensions –	- Millimeters (I	nches)					
Tape Size	D_{0}		E	P_{o}	P ₂	T Max	T₁ Max				
8 mm and	1.5 +0.10 -0		5 ±0.10	4.0 ±0.10	2.0 ±0.05	0.600	0.100				
12 mm	(0.059 +0.004, -0	(0.069	9 ±0.004)	(0.157 ±0.004)	(0.079 ±0.002)	(0.024)	(0.004)				
	Variable Dimensions — Millimeters (Inches)										
Tape Size	Pitch	B₁ Max.	D₁ Min.	F	P ₁	R Min.	T ₂ Max	W	A ₀ B ₀ K ₀		
		Note 1	Note 2			Note 3			Note 4		
8 mm	Single (4 mm)	4.4	1.0	3.5 ±0.05	4.0 ±0.10	25.0	2.5	8.0 ±0.30			
		(0.173)	(0.039)	(0.138 ±0.002)	(0.157 ±0.004)	(0.984)	(0.098)	(.315 ±0.012)			
12 mm	Double (8 mm)	8.2 (0.323)	1.5 (0.059)	5.5 ±0.05 (0.217 ±0.002)	8.0 ±0.10 (0.315 ±0.004)	30.0 (1.181)	4.6 (0.181)	12.0 ±0.30 (0.472 ±0.012)			

NOTES

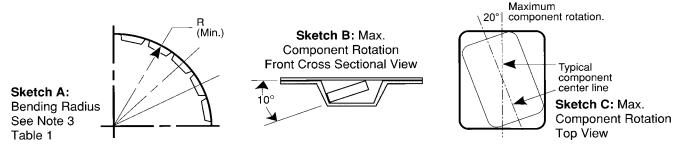
- 1. B1 dimension is a reference dimension for tape feeder clearance only.
- 2. The embossment hole location shall be measured from the sprocket hole controlling the location of the embossment. Dimensions of embossment location and hole location shall be applied independent of each other.
- 3. Tape with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



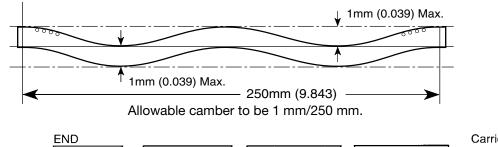
TANTALUM, CERAMIC AND ALUMINUM CHIP CAPACITORS

Packaging Information

Embossed Carrier Tape Configuration (cont.)



Sketch D: Tape Camber (Top View)



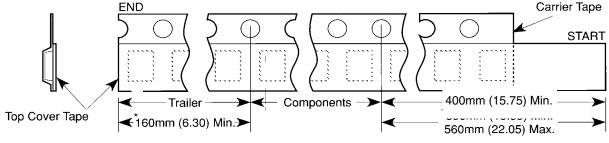


Figure 2: Tape Leader & Trailer Dimensions (Metric Dimensions Will Govern)

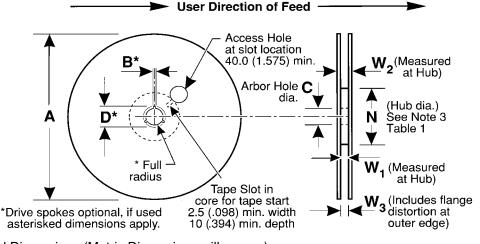


Figure 3: Reel Dimensions (Metric Dimensions will govern)

Table 2 – REEL DIMENSIONS (Metric will govern)

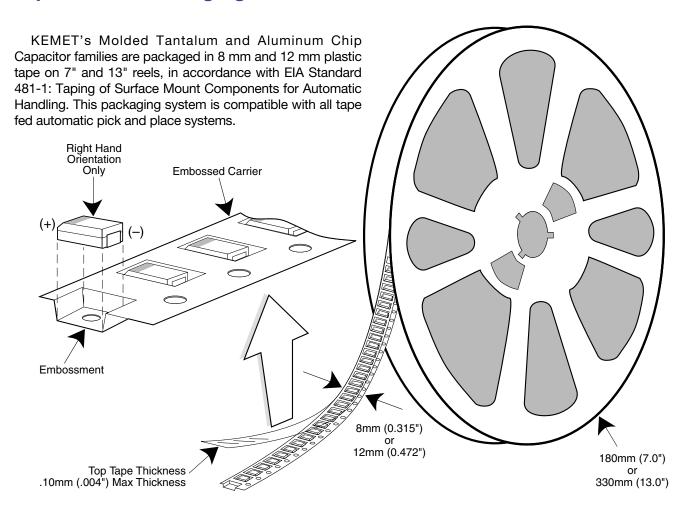
Tape Size	A Max	B* Min	С	D* Min	N Min	W ₁	W ₂ Max	W ₃
8 mm	330.0 (12.992)	1.5 (0.059)	13.0 ± 0.20 (0.512 ± 0.008)	20.2 (0.795)	50.0 (1.969) See Note 3	8.4 +1.5, -0.0 (0.331 +0.059, -0.0)	14.4 (0.567)	7.9 Min (0.311) 10.9 Max (0.429)
12 mm	330.0 (12.992)	1.5 (0.059)	13.0 ± 0.20 (0.512 ± 0.008)	20.2 (0.795)	Table 1	12.4 +2.0, -0.0 (0.488 +0.078, -0.0)	18.4 (0.724)	11.9 Min (0.469) 15.4 Max (0.606)

TANTALUM AND ALUMINUM CHIP CAPACITORS

Packaging Information



Tape & Reel Packaging



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

QUANTITIES PACKAGED PER REEL

Cas	e Code	Tape			
KEMET	EIA	Width-mm	7" Reel*	13" Reel*	
R	2012-12 8		2,500	10,000	
S	3216-12	8	2,500	10,000	
Т	3528-12	8	2,500	10,000	
U	6032-15	12	1,000	5,000	
W	7343-15	12	1,000	3,000	
V	7343-20	12	1,000	3,000	
Α	3216-18	8	2,000	9,000	
В	3528-21	8	2,000	8,000	
С	6032-28	12	500	3,000	
D	7343-31	12	500	2,500	
Υ	7343-40	12	500	2,000	
X	7343-43	12	500	2,000	
Е	7260-38	12	500	2,000	

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

TANTALUM, CERAMIC AND ALUMINUM CHIP CAPACITORS



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 Newton to 1.0 Newton (10g to 100g) 12 mm 0.1 Newton to 1.3 Newton (10g to 130g)

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

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

Embossed Carrier Tape Configuration: Figure 1

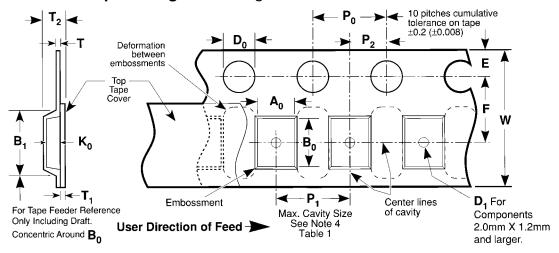


Table 1 — EMBOSSED TAPE DIMENSIONS (Metric will govern)

Constant Dimensions — Millimeters (Inches)									
Tape Size	D_{0}		E	P_{o}	P ₂	T Max	T₁ Max		
8 mm and	1.5 +0.10 -0		5 ±0.10	4.0 ±0.10	2.0 ±0.05	0.600	0.100		
12 mm	(0.059 +0.004, -0	(0.069	9 ±0.004) (0.157 ±0.004)		(0.079 ±0.002) (0.0		(0.004)		
	Variable Dimensions — Millimeters (Inches)								
Tape Size	Pitch	B₁ Max.	D₁ Min.	F	P ₁	R Min.	T ₂ Max	W	A ₀ B ₀ K ₀
		Note 1	Note 2			Note 3			Note 4
8 mm	Single (4 mm)	4.4	1.0	3.5 ±0.05	4.0 ±0.10	25.0	2.5	8.0 ±0.30	
		(0.173)	(0.039)	(0.138 ±0.002)	(0.157 ±0.004)	(0.984)	(0.098)	(.315 ±0.012)	
12 mm	Double (8 mm)	8.2 (0.323)	1.5 (0.059)	5.5 ±0.05 (0.217 ±0.002)	8.0 ±0.10 (0.315 ±0.004)	30.0 (1.181)	4.6 (0.181)	12.0 ±0.30 (0.472 ±0.012)	

NOTES

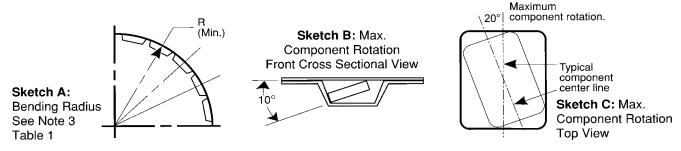
- 1. B1 dimension is a reference dimension for tape feeder clearance only.
- 2. The embossment hole location shall be measured from the sprocket hole controlling the location of the embossment. Dimensions of embossment location and hole location shall be applied independent of each other.
- 3. Tape with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



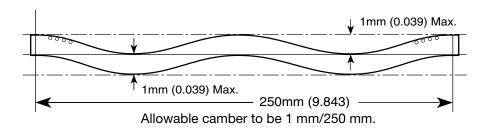
TANTALUM, CERAMIC AND ALUMINUM CHIP CAPACITORS

Packaging Information

Embossed Carrier Tape Configuration (cont.)



Sketch D: Tape Camber (Top View)



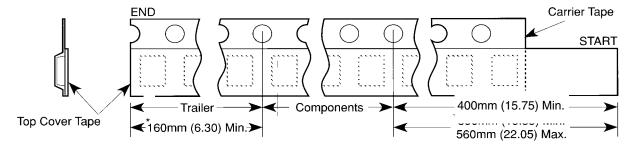


Figure 2: Tape Leader & Trailer Dimensions (Metric Dimensions Will Govern)

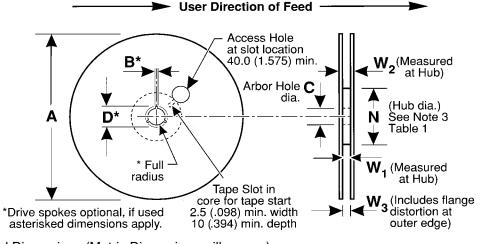


Figure 3: Reel Dimensions (Metric Dimensions will govern)

Table 2 – REEL DIMENSIONS (Metric will govern)

Tape Size	A Max	B* Min	С	D* Min	N Min	W ₁	W ₂ Max	W ₃
8 mm	330.0 (12.992)	1.5 (0.059)	13.0 ± 0.20 (0.512 ± 0.008)	20.2 (0.795)	50.0 (1.969) See Note 3	8.4 +1.5, -0.0 (0.331 +0.059, -0.0)	14.4 (0.567)	7.9 Min (0.311) 10.9 Max (0.429)
12 mm	330.0 (12.992)	1.5 (0.059)	13.0 ± 0.20 (0.512 ± 0.008)	20.2 (0.795)	Table 1	12.4 +2.0, -0.0 (0.488 +0.078, -0.0)	18.4 (0.724)	11.9 Min (0.469) 15.4 Max (0.606)