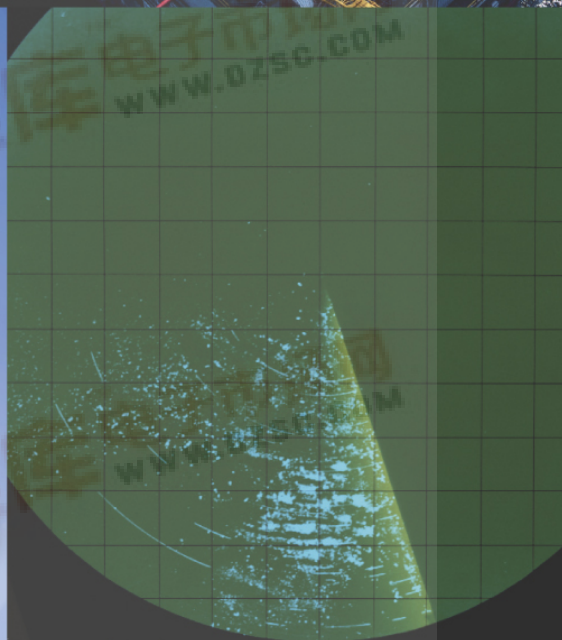
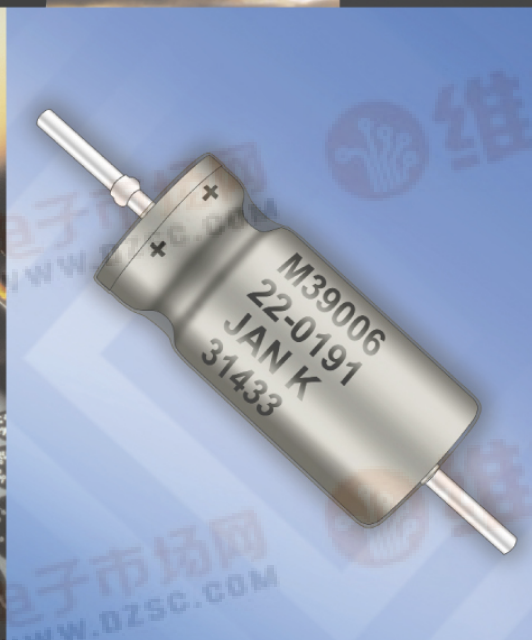
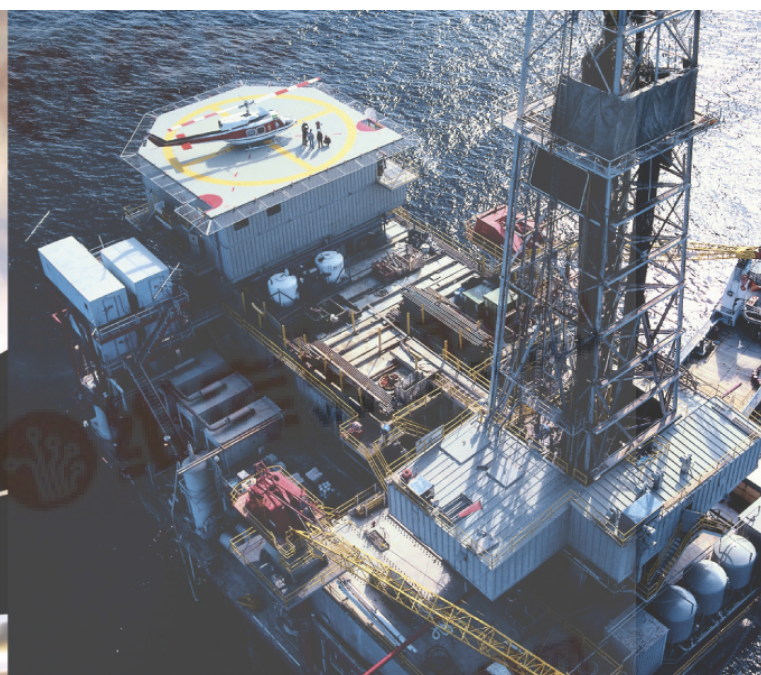


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### IMPORTANT NOTICE

KEMET Electronics Corporation disclaims all warranties, whether express, implied, or statutory as to any manner whosoever, including the condition of the equipment, its compatibility with specific requirements, its merchantability, or fitness for any particular purpose which extend beyond the description on the face thereof.

Furthermore, under no circumstances shall KEMET Electronics Corporation be liable for consequential, special, incidental or indirect damages resulting from the use or handling of this product.

Finally, KEMET Electronics Corporation does not assume any responsibility for the correctness of the information contained in this catalog. All design characteristics, specifications, tolerances, and the like are subject to change without notice.

### Introduction

KEMET wet tantalum capacitors are identified by the initial "T", followed by a "Series" number. T19X designates commercial product; T29X is military grade in accordance with Military Specification, MIL-PRF-39006. For detailed performance characteristics of the T29X series, please refer to the latest issue of the Military Specification. MIL-PRF-39006 establishes 1000 hour failure rate levels of 1%, 0.1%, and 0.01%. T29X series components are available in M, P, and R failure rates (1.0, 0.1, and 0.01, respectively).

Specific requirements are set forth in the respective Product Series in this catalog. All Military products are 100% electrically screened for the parameters shown in the respective product section. For non-military product, all series are 100% screened for leakage, capacitance and dissipation factor. All Series are inspected to electrical limits using a minimum .1% AQL sampling plans, 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.

These Notes apply generally to all KEMET wet tantalum capacitors and illustrate typical performance under normal application conditions, except where noted. The intent of these Notes is to provide generalized information concerning performance characteristics.

### 1. General Application Class

Wet 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. If two of these polar capacitors are connected "back-to-back" (i.e., negative-to-negative or positive-to-positive), the pair may be used in AC applications (as a non-polar device).

### 2. Storage Conditions

Capacitors may be stored without applied voltage over the operating temperature range specified in the catalogs for each Series. The range is from -55 to +125°C for all Series.

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.

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.

This Series 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.

### 3. Polarity

These capacitors are inherently polar devices and may be permanently damaged or destroyed if connected with the wrong polarity. The positive terminal is identified on the capacitor body by a polarity mark and the capacitor body may include an obvious geometrical shape. See paragraph 11 for Reverse Voltage capabilities.

### 4. Operating Environment

Most of the discussion under "Storage Conditions" will apply also when capacitors are operated within the applicable electrical ratings described below. The temporary increase in leakage current (at standard conditions) following elevated-temperature exposure is not observed, however, if the capacitors are operated with adequate DC voltage applied.

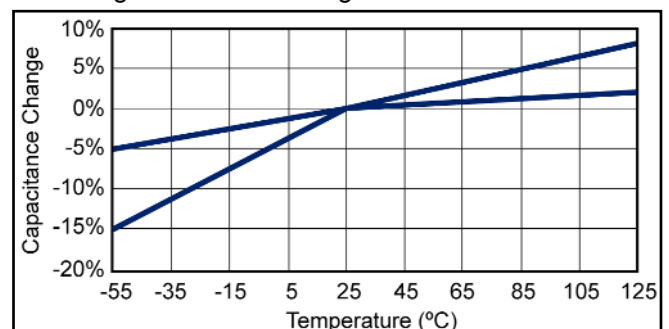
### 5. Capacitance

Capacitance is measured at 120 Hz and 25°C with up to 1 volt rms applied. Measured circuits are of high impedance, however, and under these conditions 1 volt rms may be applied even to 6 volt capacitors (23% peak reversal) without a DC bias. DC bias is thus normally not used, except when rated voltage is below 6 volts and the AC signal level exceeds 0.3 vrms. However, MIL-PRF-39006 provides for up to 2.2 volts DC. DC bias is not commonly used at room temperature, but is more commonly used at elevated temperatures.

DC bias causes a small reduction in capacitance, up to about 2% when full rated voltage is applied as bias. DF is also reduced by the presence of DC.

Capacitance changes very little below 1 kHz but decreases more noticeably at higher frequencies. Larger capacitance values decline more rapidly than small ratings.

Capacitance typically changes with temperature according to the curve of Figure 1.



**Figure 1. Typical Effect of Temperature upon Capacitance**

## 6. Dissipation Factor (DF)

DF is measured at 120 Hz and 25°C with up to 1 volt rms applied. Note that, in either operation, peak AC plus DC bias must not exceed either rated voltage. Measurement circuits are of high impedance, however, and under these conditions 1 volt rms may be applied even to 6 volt capacitors (23% peak reversal) without a DC bias. DC bias is thus normally not used, except when rated voltage is below 6 volts and the AC signal level exceeds 0.3 vrms. However, MIL-PRF-39006 provides for up to 2.2 volts DC. DC bias is not commonly used at room temperature, but is more commonly used at elevated temperatures.

Dissipation Factor (DF) is a useful low-frequency measure of the resistive component in capacitors. It is the ratio of the unavoidable resistance to the capacitive reactance, usually expressed in percent. DF increases 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. Catalogs for the respective series list DF limits under various conditions.

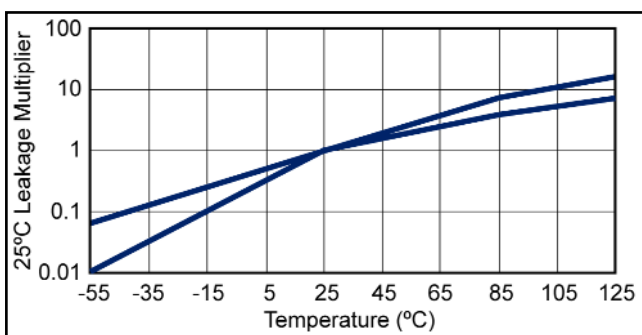
Dissipation factor increases with increasing frequency as would be expected from the decreasing capacitive reactance. DF is not a very useful parameter above about 1 kHz. The DF of larger capacitance values increases more rapidly than that of smaller ratings.

DC bias causes a small reduction in capacitance, up to about 2% when full rated voltage is applied, as bias, DF is also reduced by the presence of DC bias. Rated voltage may cause a decrease in DF of about 0.2% (e.g., a decrease from 3.6 to 3.4% DF).

DF is defined as  $\frac{X_c}{Z}$  and is also referred to occasionally, as  $\tan \delta$  or "loss tangent." The Quality Factor, Q, is the reciprocal of DF (DF is not expressed in percent in this calculation). Another expression, rarely used is the "power factor," or  $\cos \phi$ . Power factor is  $\cos \phi$ , while DF is  $\cot \phi$ .

## 7. DC Leakage (DCL)

DC leakage is affected by voltage to a much larger extent, and this effect can frequently be used to advantage in circuits where only very low leakage currents can be tolerated.



**Figure 2. Typical Effect of Temperature upon DC Leakage Current**

DC leakage current (DCL) increases with increasing temperature according to the typical curve of Figure 2.

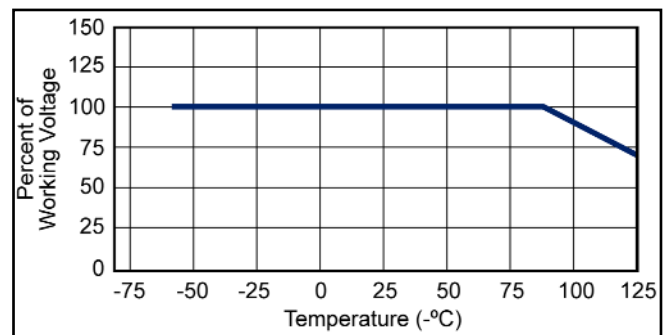
Leakage current is measured at a rated voltage through +85°C and may also be measured at +125°C with 2/3 of rated voltage applied.

## 8. Rated Voltage

This term refers to the maximum continuous DC working voltage permissible at temperatures of +85°C or below. The lower operating temperature is specified as -55°C. Operation above +85°C is permissible, with reduced working voltage. The typical working voltage reduction is to 2/3 of rated voltage at +125°C.

## 9. Working Voltage

This is the maximum recommended peak DC operating voltage for continuous duty at or below 85°C without DC voltage surges or AC ripple superimposed. No voltage derating is required below 85°C. Capacitors may be operated to 125°C with working voltage linearly derated to 2/3 of the 85°C rating at 125°C.



**Figure 3. Working Voltage Change with Temperature**

## 10. Surge Voltage

Surge Voltage is defined as the maximum voltage to which the capacitor should be subjected under transient conditions, including peak AC ripple and all DC transients.

**Table 1. Surge Voltage Ratings**

| DC Working Voltage @ 85°C | 6   | 8   | 10   | 15   | 25   | 30   | 50   | 60 | 75   | 100 | 125 |
|---------------------------|-----|-----|------|------|------|------|------|----|------|-----|-----|
| Surge Voltage             | 6.9 | 9.2 | 11.5 | 17.2 | 28.8 | 34.5 | 57.5 | 69 | 86.2 | 115 | 144 |

A typical surge voltage test is performed at +85°C with the applicable surge voltage per Table 1. The surge voltage is applied for 1000 cycles of 30 seconds on voltage through a 1000 ± 100 ohm series resistor and 30 seconds off voltage with the capacitor discharged through a 1,000 ohm resistor. Upon completing the test, the capacitors are allowed to stabilize at room temperature. Capacitance, DF, and DCL are then tested:

1. The DCL should not exceed the initial 25°C limit.
2. The capacitance should be within ±2% of initial value.
3. The DF should not exceed the initial 25°C limit.

## Performance Characteristics

4. Capacitors show no visible mechanical damage or leakage of electrolyte.

### 11. Reverse Voltage

When subjected to a DC potential of 3 volts, applied in the reverse polarity direction for 125 hours  $\pm$  10 hours, capacitors shall meet the following requirements.

- DC Leakage: shall not exceed 1.25 times initial limit
- Capacitance: shall be within stated tolerance (K-  $\pm$ 10%, M-  $\pm$ 20%, J-  $\pm$ 5%)
- Dissipation Factor: shall not exceed initial limit

### 12. Equivalent Series Resistance (ESR)

Equivalent Series Resistance (ESR) is the preferred high-frequency statement of the resistance unavoidably appearing in these capacitors. ESR decreases with increasing frequency. Typical ESR limits are established in each specific product series. However, the ESR limits provided are for reference only, and are not necessarily the actual value that a particular Series product will attain.

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. See Figure 4.

$$X_c = \frac{1\text{ohm}}{2\pi fC}$$

where:

$f$  = frequency, Hertz

$C$  = capacitance, Farad

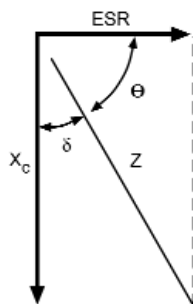


Figure 4a: Total Impedance of the Capacitor Below Resonance

$$X_L = 2\pi fL$$

where:

$f$  = frequency, Hertz

$C$  = capacitance, Farad

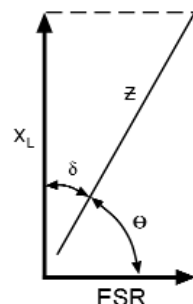


Figure 4b: Total Impedance of the Capacitor Above Resonance

To understand the many elements of a capacitor, see Figure 5.

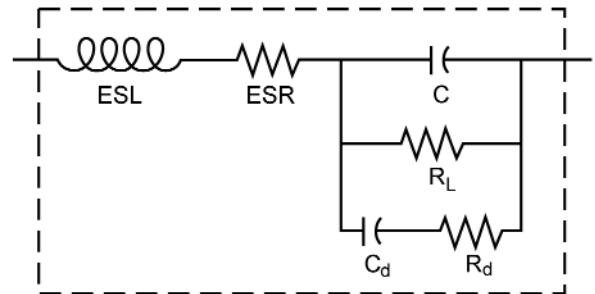


Figure 5. The Real Capacitor

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 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.

**RL** – 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.

**Rd** – 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.

**Cd** – The inherent dielectric absorption of the solid tantalum capacitor which typically equates to 1-2% of the applied voltage.

As frequency increases,  $X_c$  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 wet tantalum capacitors, the resonance is damped by the ESR, and a smooth, rather than abrupt, transition from capacitive to inductive reactance ( $X_L = 2\pi fL$ ) follows.

Despite the fact that the reactance is nearly all inductive above the self-resonance, these capacitors find use as decoupling devices up to 10MHz.

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 capacitance and is generally more pronounced on smaller ratings.

### 13. Power Dissipation

The power dissipation of this device is defined by the allowable ripple current rating as listed in the part number reference tables. These ratings reflect an internal temperature rise of +50°C at the +85°C ambient temperature with 40 kHz ripple life currents as specified in MIL-PRF-39006. These currents are established at these conditions, with the adjusted DC bias applied during the test.

The permissible AC currents applied to these devices at conditions other than those defined for the Ripple Life Test can be derived from the following table. This table is listed as Table II, in MIL-PRF-39006/22F.

The following rules apply to the ripple capability of these devices:

1. At +125°C, the rated voltage decreases to 2/3 of the +85°C rated.
2. The positive peak of the applied AC ripple voltage plus the DC bias cannot exceed the rated voltage of the device, and the DC bias minus the negative peak of the AC voltage cannot exceed the maximum allowable reverse voltage of the device.
3. The ripple current ratings within the part number tables represents a maximum allowable internal temperature rise of +50°C at 40 kHz, and at an ambient temperature of +85°C, and complying to rules 1 and 2.
4. The maximum allowable temperature rise decreases linearly, to a +10°C rise at +125°C.
5. The ESR decreases with increasing frequency, and the internal temperature rise is proportional the ESR of the device.
6. The "% of +85°C Rated Voltage" defines the DC bias level for the device.

### 14. Long-Term Stability

When stabilized for measurement at standard conditions, capacitance will typically change within +10% -20% during a 10,000 hour life test +85°C.

Dissipation factor data from 10,000 hour life tests at +85°C show that post limits (at standard conditions) are within 20% (max) of initial value 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. MIL-PRF-39006 permits leakage current (measured at standard conditions) to rise by 25% at 85°C over 10,000 hour life tests.

### 15. Failure Mode

Capacitor failure may be induced by exceeding the rated conditions of forward DC voltage, reverse DC voltage, surge voltage, surge current, power dissipation, or temperature. As with any practical device, these capacitors also possess an inherent, although low, failure rate when operated within the rated condition.

One failure mode is by short-circuit. Minor parametric drifts (see Section 14 "Long Term Stability") are of no consequence in circuits suitable for wet 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 10<sup>4</sup> 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 short-circuit failure may thereby be converted to an open-circuit failure. If the circuit does not open promptly, 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.

Fortunately, the inherent failure rate of KEMET wet tantalum capacitors is low, and this failure rate may be further improved by circuit design. Statistical failure rates are provided for wet tantalum capacitors.

### 16. Reliability Prediction

The 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-per-billion 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).

Permissible AC Currents

| Frequency of applied ripple current |         | 120 Hz    |      |      |      | 800 Hz    |      |      |      | 1kHz      |      |      |      | 10 kHz    |      |      |      | 40 kHz    |      |      |      | 100 kHz   |      |      |      |
|-------------------------------------|---------|-----------|------|------|------|-----------|------|------|------|-----------|------|------|------|-----------|------|------|------|-----------|------|------|------|-----------|------|------|------|
|                                     |         | Temp (°C) |      |      |      | Temp (°C) |      |      |      | Temp (°C) |      |      |      | Temp (°C) |      |      |      | Temp (°C) |      |      |      | Temp (°C) |      |      |      |
|                                     |         | =55°      | 85°  | 105° | 125° | =55°      | 85°  | 105° | 125° | =55°      | 85°  | 105° | 125° | =55°      | 85°  | 105° | 125° | =55°      | 85°  | 105° | 125° | =55°      | 85°  | 105° | 125° |
| % of +85°C Rated Voltage            | 100%    | 0.60      | 0.39 | --   | --   | 0.71      | 0.43 | --   | --   | 0.72      | 0.45 | --   | --   | 0.88      | 0.55 | --   | --   | 1.00      | 0.63 | --   | --   | 1.10      | 0.69 | --   | --   |
|                                     | 90%     | 0.60      | 0.46 | --   | --   | 0.71      | 0.55 | --   | --   | 0.72      | 0.55 | --   | --   | 0.88      | 0.67 | --   | --   | 1.00      | 0.77 | --   | --   | 1.10      | 0.85 | --   | --   |
|                                     | 80%     | 0.60      | 0.52 | 0.35 | --   | 0.71      | 0.62 | 0.42 | --   | 0.72      | 0.62 | 0.42 | --   | 0.88      | 0.76 | 0.52 | --   | 1.00      | 0.87 | 0.59 | --   | 1.10      | 0.96 | 0.65 | --   |
|                                     | 70%     | 0.60      | 0.58 | 0.44 | --   | 0.71      | 0.69 | 0.52 | --   | 0.72      | 0.70 | 0.52 | --   | 0.88      | 0.85 | 0.64 | --   | 1.00      | 0.97 | 0.73 | --   | 1.10      | 1.07 | 0.80 | --   |
|                                     | +66.67% | 0.60      | 0.60 | 0.46 | 0.27 | 0.71      | 0.71 | 0.55 | 0.32 | 0.72      | 0.72 | 0.55 | 0.32 | 0.88      | 0.88 | 0.68 | 0.40 | 1.00      | 1.00 | 0.77 | 0.32 | 1.10      | 1.10 | 0.85 | 0.50 |

**Base Multiplier:** The first multiplier is the base multiplier (2) established for the capacitor type. For “CLR” “Tantalum Non-solid electrolyte” 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.

**Capacitance:** There is a factor (5) applied to the capacitance (in µF) which effectively increases the failure rate for increasing capacitance (increases in effective area resulting in increases in possible faults).

**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<sub>B</sub>, with the resulting factor equal to “1”.

| CLR Style – Notice 2                                                                                                     |                 |
|--------------------------------------------------------------------------------------------------------------------------|-----------------|
| (1) $\lambda_p = \lambda_b \pi_T \pi_V \pi_C \pi_Q \pi_E \times 1000$                                                    | Environment     |
| (2) $\lambda_b = .00040$                                                                                                 | G <sub>B</sub>  |
| (3) $\pi_T = \exp \left[ \frac{-0.15}{8.617 \times 10^{-5}} \left( \frac{1}{T_{Amb}} - \frac{1}{298} \right) \right]$    | G <sub>F</sub>  |
| (4) $S = \frac{\text{Application Voltage}}{\text{Rated Voltage}} \quad \pi_V = \left( \frac{S}{0.6} \right)^{17} + 1$    | G <sub>M</sub>  |
| (5) $\pi_C = C^{0.23}$                                                                                                   | N <sub>S</sub>  |
| (6) $\pi_E = \text{Lookup Table}$                                                                                        | N <sub>U</sub>  |
| (7) $\pi_Q = \sqrt{\left( \frac{\text{Pcs. Fail}}{\text{Pcs. Tested} \times \text{Hrs. Tested}} \times 100,000 \right)}$ | A <sub>IC</sub> |
|                                                                                                                          | A <sub>IF</sub> |
|                                                                                                                          | A <sub>UC</sub> |
|                                                                                                                          | A <sub>UF</sub> |
|                                                                                                                          | A <sub>RW</sub> |
|                                                                                                                          | S <sub>F</sub>  |
|                                                                                                                          | M <sub>F</sub>  |
|                                                                                                                          | M <sub>L</sub>  |
|                                                                                                                          | C <sub>L</sub>  |

Figure 6. MIL-HDBK-217F Notice 2 formulas.

**Quality Factor:** All of these multipliers are applied to the established or base failure rate of the part. The CLR Series is qualified under U.S. military specification MIL-PRF-39006. 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 test-

ing 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.

### 17. Environmental Consideration

It is not possible to foresee all the conditions to which capacitors may be subjected. Following is a list of standard tests which each Series will survive. Data may be available (upon request) under more severe stresses for certain Series.

- **Life Test 85°C or 125°C, 2000 Hours;** when subjected to 2000 hours at 85°C at full rated DC voltage, or 125°C at 2/3 of 85°C voltage, the capacitor shall meet the following requirements when tested at 25°C.
  - The DCL shall be within 1.25 times the initial DCL limit.
  - Capacitance shall be within limits specified in MIL-PRF-39006.
- **Low Temperature (Storage) per MIL-PRF-39006.** Post test of capacitor shall meet the following requirements when tested at 25°C:
  - The DCL shall be within the initial DCL limit.
  - Capacitance shall be within limits in MIL-PRF-39006.
  - The DF shall not exceed the initial limit.
- **Lead Strength MIL-STD-202 Method 211:** Pull test will be performed as in MIL-STD-202, Method 211. The following details and exceptions shall apply.
  - a. Test condition letter - A
  - b. The body of the capacitor will be securely clamped during test.
  - c. Applied force - 3 pounds (1.4 kg)
  - d. Duration of applied force: 30 seconds
- **Vibration; High Frequency: Per MIL-STD-202, Method 204, Condition D, 10 Hz to 2000 Hz.**
  - a. Mounting - Capacitors shall be mounted on a fixture by the body. Leads shall be supported by rigidly supported terminals
  - b. Electrical load conditions - During the test, the specified DC rated voltage shall be applied to the capacitors.

- c. Test condition letter - H (80G).
  - d. Duration and direction of motion - 4 hours in each of two mutually perpendicular directions (total of 8 hours), one parallel and the other perpendicular to the axis.
  - e. Measurements during vibration - During the last cycle, an electrical measurement shall be made to determine intermittent operation or open- or short-circuiting. Observations shall also be made to determine intermittent contact or arcing or open- or short-circuiting. Detecting equipment shall be sufficiently sensitive to detect any interruption with a duration of 0.5 ms, or greater.
    - DC Leakage - shall not exceed 1.25 times initial limit
    - Capacitance - shall not change more than  $\pm 5\%$  from initial limit
    - DF - shall not exceed 1.15 times initial limit
  - f. Examination after test - Capacitors shall be visually examined for evidence of mechanical damage.
- **Shock Test: Per MIL-STD-202, Method 213.**  
The following details shall apply:
    - a. Special mounting means - Capacitors shall be rigidly mounted on a mounting fixture by the body. When securing leads, care shall be taken to avoid pinching the heads.
    - b. Test-condition letter - D (500 G peak). 6 ms. (sawtooth)
    - c. Measurements and electrical loading during shock - During the test, observations shall be made to determine intermittent contact or arcing or open- or short-circuiting. Detecting equipment shall be sufficiently sensitive to detect any interruption with a duration of 0.5 ms. The DC rated voltage shall be applied to the capacitors during the test.
    - d. Examinations after test - Capacitors shall be visually examined for evidence of arcing, breakdown, and mechanical damage.
  - **Thermal Shock - MIL-STD-202, Method 107:**  
Capacitors shall be subjected to thermal shock in accordance with MIL-STD-202, Method 107, Test Condition A except step 3 shall be  $+125^{\circ}\text{C}$ . Measurements before and after cycling are required. Conditioning prior to the first cycle will be 15 minutes at the following standard inspection conditions:
    - a. Number of Cycles: 300 for qualification and Group C
    - b. Ambient Temperature -  $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$
    - c. Final measurements are made after stabilization at room temperature
  - **Moisture Resistance - MIL-STD-202, Method 106:** Capacitors shall be tested in accordance with MIL-STD-202, Method 106 including the following details:
    - a. Mounting - The capacitors shall be mounted by normal mounting means
    - b. Initial Measurements
    - c. Polarizing and Load Voltage - 6 vdc
    - d. Final measurements - After the final cycle and within 2 to 6 hours after removal of the capacitors from the humidity chamber, capacitance, dissipation factor, and DC leakage will be measured per MIL-PRF-39006.
  - **Resistance to Solvents - MIL-STD-202, Method 215:**
    - a. Brushing required after test
    - b. DCL meets limit shown in respective Part Number Tables
    - c. Capacitance meets applicable tolerance
    - d. DF meets limits shown in respective Part Number Tables
    - e. No visible damage to case or marking
  - **Resistance to Soldering Heat - MIL-STD-202, Method 210, Test Condition, Letter C.**  
Leads shall be immersed to within 0.05 inch of the capacitor body. Capacitance, DF, and DCL should meet original limits shown in respective Part Number Tables.
  - **Solderability - MIL-STD, Method 208:**
    - a. Number of terminations on each capacitor tested: 2
    - b. Depth of insertion in flux and solder to within 0.062" of welded joint
  - **Stability at Low and High Temperature**  
 **$-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ :** Capacitors will be capable of withstanding extreme temperature testing at a succession of continuous steps at  $+25^{\circ}\text{C}$ ,  $-55^{\circ}\text{C}$ ,  $+25^{\circ}\text{C}$ ,  $+85^{\circ}\text{C}$ ,  $+125^{\circ}\text{C}$ ,  $+25^{\circ}\text{C}$ , 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  $-55^{\circ}\text{C}$ , DC bias of  $2.0 \pm 0.5$  vdc is recommended for the capacitance and DF measurements.  
 When measurements are made at the various steps, the electrical limits for each temperature shall not exceed the following limits.
 

|                               |                                                                                                                                            |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Step 1, $+25^{\circ}\text{C}$ | DCL as indicated in original limit; capacitance within tolerance specified; DF as indicated in original limit shown in Part Number Tables. |
| Step 2, $-55^{\circ}\text{C}$ | Impedance and capacitance change as defined in M39006 Slash Sheet.                                                                         |

- Step 3, +25°C DCL as indicated in original limit; capacitance within  $\pm 5\%$  of initial value; ESR, DF within limit  $\pm 5\%$  of initial value; ESR, DF within limit shown in Part Number Tables.
- Step 4, +85°C DCL shall not exceed 10 times original DCL limit at 25°C. Capacitance shall be within  $\pm 10\%$  of the initial value. DF shall be within 125% of limits shown in Part Number Tables. ESR shall be within limits shown in Part Number Tables.
- Step 5, +125°C DCL shall not exceed 12.5 times the original limit at 25°C. Capacitance shall be within  $\pm 12\%$  of initial value. DF shall be within 150% of limits shown in Part Number Tables. ESR shall be within limits shown in Part Number Tables.
- Step 6, +25°C DCL as indicated in original limit; capacitance within  $\pm 5\%$  of initial value; ESR, DF as indicated in original limit shown in Part Number Tables.

Note: MIL-PRF-39006 specifies  $\Delta$ 's and limits by individual slash sheet.

- **AC Ripple Life at 85°C: Per MIL-STD-202, Method 108:**  
The following details shall apply:  
a. Distance of temperature measurements from specimens : Not applicable

- b. Method of mounting: Normal means
- c. Test condition letter: F (2000 hours, +72 hrs, - Ohm)
- d. DC Leakage, DF shall not exceed initial limit

- **Seal Condition: Per MIL-STD-202, Method 112**  
Conditions A or D, and C

## 18. High Temperature Capacitors - T197 and T198 Series

The voltage derating for these capacitors begins at +85°C, as with all other tantalum capacitors. There will be a linear derating between 100% at +85°C and 2/3 (67%) at +125°C. For the 200°C rated parts, the voltage rating shall be 50%.

For reverse voltage rating, the 3 VDC shall apply to all temperatures up to +85°C. From +85°C to +125°C, the reverse voltage rating shall be 2 VDC. From +125°C to +200°C, the reverse voltage rating shall be 1.0 VDC.

## 19. Mounting

Wet tantalum capacitors will pass the Resistance to Soldering Heat Test of MIL-STD-202, Method 210, Condition C. This test simulates wave solder of topside board mount product. This demonstration of resistance to solder heat is in accordance with what is believed to be the industry standard. More severe treatment must be considered reflective of an improper soldering process.

Shown in Figure 7 is a recommended solder wave profile for wet tantalum capacitors

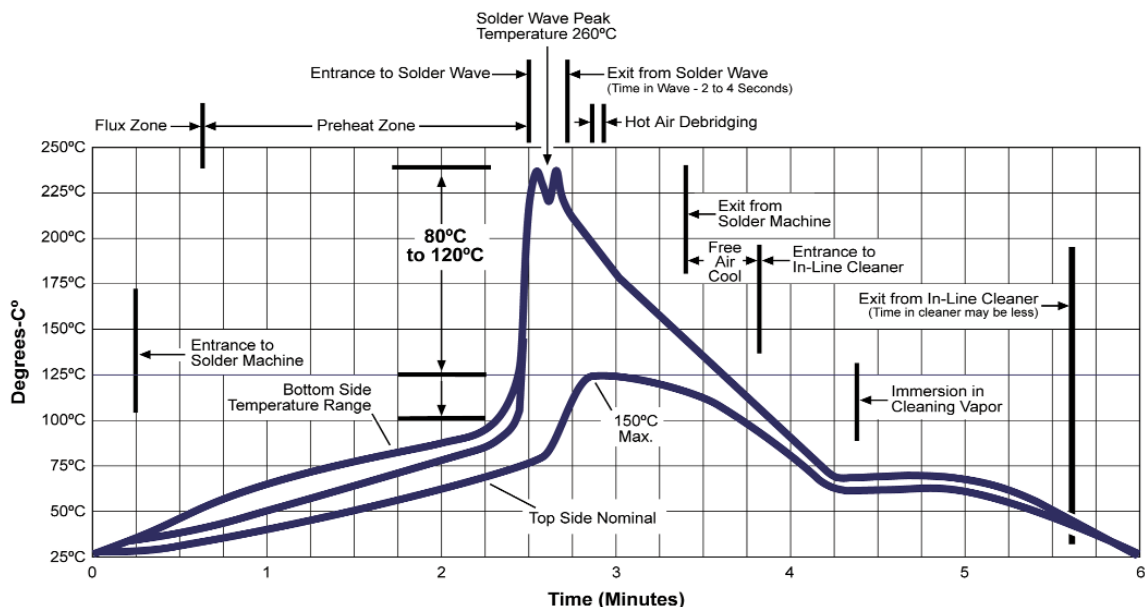


Figure 7. Optimum Solder Wave Profile



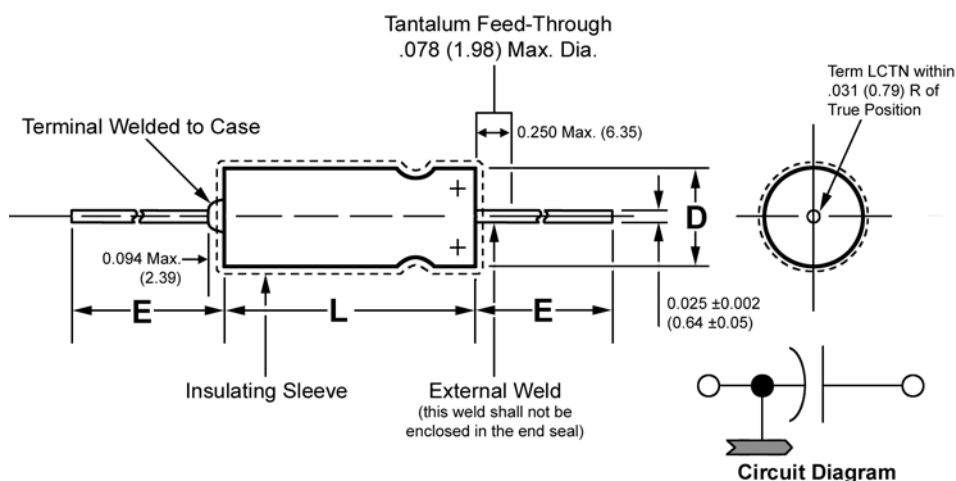
## Applications

- Filtering, Bypass Circuits
- Coupling and Timing Circuits
- Low Source Impedance Circuits
- High Charging Current Circuits

## Features

- Operating Temperature -55°C – +125°C
- Operating Temperature -55°C – +200°C, derated voltage, T197/T198 Series Only
- 6 – 125 Volts
- Capacitance Range – 1.7µF - 2200.0 µF
- High Shock, High Vibration Qualified
- Qualified to Mil-C-39006/22/25/30/31 Style CLR79, CLR81, CLR90, CLR91
- Capacitance Tolerance - ±5%, ±10%, ±20%
- Low ESR
- Tantalum Case

## Outline Drawing



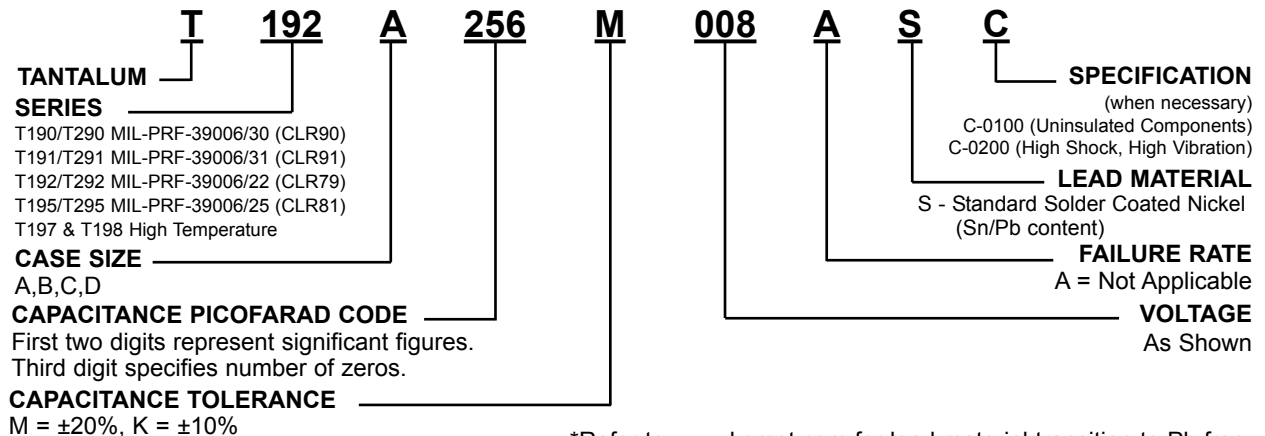
## Dimensions - Inches (Millimeters)

| KEMET<br>Case<br>Size | MIL-PRF-<br>39006/22/<br>25/30/31<br>Case Size | Uninsulated Case                   | Uninsulated Case  | Insulated Case | E<br>±0.25(6.35) |
|-----------------------|------------------------------------------------|------------------------------------|-------------------|----------------|------------------|
|                       |                                                | L*<br>+0.031(0.79)<br>-0.016(0.41) | D<br>±0.016(0.41) | D<br>Max.      |                  |
| A                     | T1                                             | 0.453(11.51)                       | 0.188(4.78)       | 0.219(5.56)    | 1.50(38.10)      |
| B                     | T2                                             | 0.641(16.28)                       | 0.281(7.14)       | 0.312(7.92)    | 2.25(57.15)      |
| C                     | T3                                             | 0.766(19.46)                       | 0.375(9.52)       | 0.406(10.31)   | 2.25(57.15)      |
| D                     | T4                                             | 1.062(26.97)                       | 0.375(9.52)       | 0.406(10.31)   | 2.25(57.15)      |

\* Length of base case sleeving shall be specified in MIL-PRF-39006.

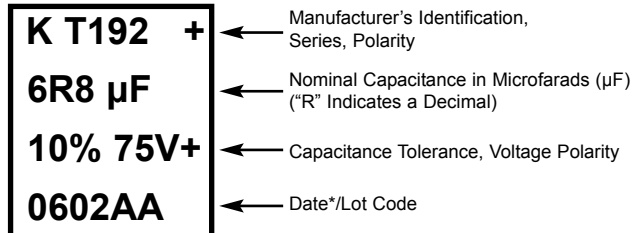
## Wet Tantalum General Information

### Ordering Information



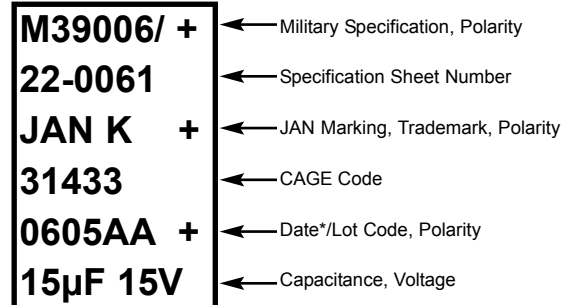
\*Refer to [www.kemet.com](http://www.kemet.com) for lead material transition to Pb free.

### T19X Commercial Component Marking



\* 1st & 2nd digit = Year;  
3rd & 4th digit = Week

### Mil-PRF-39006 Component Marking



\* 1st & 2nd digit = Year  
3rd & 4th digit = Week

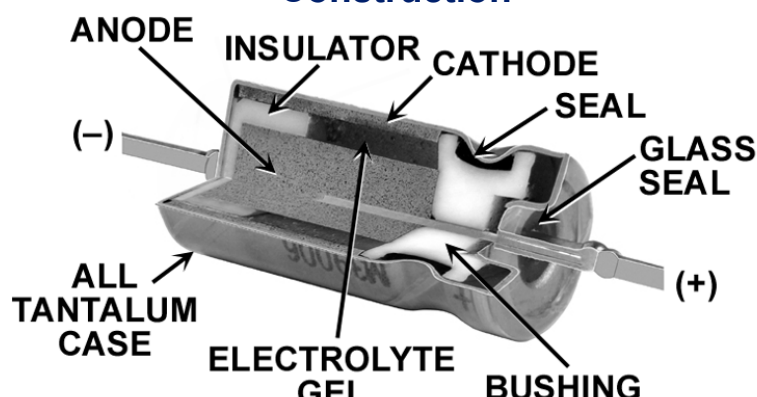
### Packaging

| Case Size |     | Pieces per Tray |
|-----------|-----|-----------------|
| KEMET     | EIA |                 |
| A         | T1  | 20              |
| B         | T2  | 20              |
| C         | T3  | 20              |
| D         | T4  | 20              |

### Component Weight

| Case Size |     | Average Weight (grams) |
|-----------|-----|------------------------|
| KEMET     | EIA |                        |
| A         | T1  | 2.0                    |
| B         | T2  | 5.1                    |
| C         | T3  | 8.1                    |
| D         | T4  | 14.3                   |

### Construction





## Wet Tantalum T190/T290 Series

### T190/T290 (CLR90) Ratings & Part Number Reference

| Cap<br>μF                                         | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>μA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mA rms at<br>85°C 40 kHz | MIL-PRF-39006/30A (CLR90)<br>Capacitors Dash Number |        |        | KEMET Military<br>Equivalent |
|---------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|----------------------------------------------------|-----------------------------------------------------|--------|--------|------------------------------|
|                                                   |              |             |                      |                                  |                               |                                        |                                                    | Reference (#)                                       |        |        |                              |
|                                                   |              |             |                      |                                  |                               |                                        |                                                    | Failure Rate (%/1000 Hrs)                           | M(1.0) | P(0.1) |                              |
| 6 Volt Rating at +85°C (4 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                    |                                                     |        |        |                              |
| 30.0                                              | A            | 20          | T190A306M006AS       | 1.0                              | 4.50                          | 1.99                                   | 820                                                | 0001                                                | 0221   | 0441   | T290A306M006(1)S             |
| 30.0                                              | A            | 10          | T190A306K006AS       | 1.0                              | 4.50                          | 1.99                                   | 820                                                | 0002                                                | 0222   | 0442   | T290A306K006(1)S             |
| 30.0                                              | A            | 5           | T190A306J006AS       | 1.0                              | 4.50                          | 1.99                                   | 820                                                | 0003                                                | 0223   | 0443   | T290A306J006(1)S             |
| 68.0                                              | A            | 20          | T190A686M006AS       | 1.0                              | 7.50                          | 1.58                                   | 960                                                | 0004                                                | 0224   | 0444   | T290A686M006(1)S             |
| 68.0                                              | A            | 10          | T190A686K006AS       | 1.0                              | 7.50                          | 1.58                                   | 960                                                | 0005                                                | 0225   | 0445   | T290A686K006(1)S             |
| 68.0                                              | A            | 5           | T190A686J006AS       | 1.0                              | 7.50                          | 1.58                                   | 960                                                | 0006                                                | 0226   | 0446   | T290A686J006(1)S             |
| 140.0                                             | B            | 20          | T190B147M006AS       | 1.0                              | 10.50                         | 0.99                                   | 1200                                               | 0007                                                | 0227   | 0447   | T290B147M006(1)S             |
| 140.0                                             | B            | 10          | T190B147K006AS       | 1.0                              | 10.50                         | 0.99                                   | 1200                                               | 0008                                                | 0228   | 0448   | T290B147K006(1)S             |
| 140.0                                             | B            | 5           | T190B147J006AS       | 1.0                              | 10.50                         | 0.99                                   | 1200                                               | 0009                                                | 0229   | 0449   | T290B147J006(1)S             |
| 270.0                                             | B            | 20          | T190B277M006AS       | 1.0                              | 22.50                         | 1.11                                   | 1375                                               | 0010                                                | 0230   | 0450   | T290B277M006(1)S             |
| 270.0                                             | B            | 10          | T190B277K006AS       | 1.0                              | 22.50                         | 1.11                                   | 1375                                               | 0011                                                | 0231   | 0451   | T290B277K006(1)S             |
| 270.0                                             | B            | 5           | T190B277J006AS       | 1.0                              | 22.50                         | 1.11                                   | 1375                                               | 0012                                                | 0232   | 0452   | T290B277J006(1)S             |
| 330.0                                             | C            | 20          | T190C337M006AS       | 2.0                              | 18.00                         | 0.73                                   | 1800                                               | 0013                                                | 0233   | 0453   | T290C337M006(1)S             |
| 330.0                                             | C            | 10          | T190C337K006AS       | 2.0                              | 18.00                         | 0.73                                   | 1800                                               | 0014                                                | 0234   | 0454   | T290C337K006(1)S             |
| 330.0                                             | C            | 5           | T190C337J006AS       | 2.0                              | 18.00                         | 0.73                                   | 1800                                               | 0015                                                | 0235   | 0455   | T290C337J006(1)S             |
| 560.0                                             | C            | 20          | T190C567M006AS       | 2.0                              | 27.50                         | 0.65                                   | 1900                                               | 0016                                                | 0236   | 0456   | T290C567M006(1)S             |
| 560.0                                             | C            | 10          | T190C567K006AS       | 2.0                              | 27.50                         | 0.65                                   | 1900                                               | 0017                                                | 0237   | 0457   | T290C567K006(1)S             |
| 560.0                                             | C            | 5           | T190C567J006AS       | 2.0                              | 27.50                         | 0.65                                   | 1900                                               | 0018                                                | 0238   | 0458   | T290C567J006(1)S             |
| 1200.0                                            | D            | 20          | T190D128M006AS       | 3.0                              | 45.00                         | 0.50                                   | 2265                                               | 0019                                                | 0239   | 0459   | T290D128M006(1)S             |
| 1200.0                                            | D            | 10          | T190D128K006AS       | 3.0                              | 45.00                         | 0.50                                   | 2265                                               | 0020                                                | 0240   | 0460   | T290D128K006(1)S             |
| 8 Volt Rating at +85°C (5 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                    |                                                     |        |        |                              |
| 25.0                                              | A            | 20          | T190A256M008AS       | 1.0                              | 3.75                          | 1.99                                   | 820                                                | 0021                                                | 0241   | 0461   | T290A256M008(1)S             |
| 25.0                                              | A            | 10          | T190A256K008AS       | 1.0                              | 3.75                          | 1.99                                   | 820                                                | 0022                                                | 0242   | 0462   | T290A256K008(1)S             |
| 25.0                                              | A            | 5           | T190A256J008AS       | 1.0                              | 3.75                          | 1.99                                   | 820                                                | 0023                                                | 0243   | 0463   | T290A256J008(1)S             |
| 56.0                                              | A            | 20          | T190A566M008AS       | 1.0                              | 7.00                          | 1.66                                   | 900                                                | 0024                                                | 0244   | 0464   | T290A566M008(1)S             |
| 56.0                                              | A            | 10          | T190A566K008AS       | 1.0                              | 7.00                          | 1.66                                   | 900                                                | 0025                                                | 0245   | 0465   | T290A566K008(1)S             |
| 56.0                                              | A            | 5           | T190A566J008AS       | 1.0                              | 7.00                          | 1.66                                   | 900                                                | 0026                                                | 0246   | 0466   | T290A566J008(1)S             |
| 120.0                                             | B            | 20          | T190B127M008AS       | 1.0                              | 10.00                         | 1.11                                   | 1220                                               | 0027                                                | 0247   | 0467   | T290B127M008(1)S             |
| 120.0                                             | B            | 10          | T190B127K008AS       | 1.0                              | 10.00                         | 1.11                                   | 1220                                               | 0028                                                | 0248   | 0468   | T290B127K008(1)S             |
| 120.0                                             | B            | 5           | T190B127J008AS       | 1.0                              | 10.00                         | 1.11                                   | 1220                                               | 0029                                                | 0249   | 0469   | T290B127J008(1)S             |
| 220.0                                             | B            | 20          | T190B227M008AS       | 1.0                              | 18.50                         | 1.12                                   | 1370                                               | 0030                                                | 0250   | 0470   | T290B227M008(1)S             |
| 220.0                                             | B            | 10          | T190B227K008AS       | 1.0                              | 18.50                         | 1.12                                   | 1370                                               | 0031                                                | 0251   | 0471   | T290B227K008(1)S             |
| 220.0                                             | B            | 5           | T190B227J008AS       | 1.0                              | 18.50                         | 1.12                                   | 1370                                               | 0032                                                | 0252   | 0472   | T290B227J008(1)S             |
| 290.0                                             | C            | 20          | T190C297M008AS       | 2.0                              | 17.00                         | 0.78                                   | 1770                                               | 0033                                                | 0253   | 0473   | T290C297M008(1)S             |
| 290.0                                             | C            | 10          | T190C297K008AS       | 2.0                              | 17.00                         | 0.78                                   | 1770                                               | 0034                                                | 0254   | 0474   | T290C297K008(1)S             |
| 290.0                                             | C            | 5           | T190C297J008AS       | 2.0                              | 17.00                         | 0.78                                   | 1770                                               | 0035                                                | 0255   | 0475   | T290C297J008(1)S             |
| 430.0                                             | C            | 20          | T190C437M008AS       | 2.0                              | 23.00                         | 0.71                                   | 1825                                               | 0036                                                | 0256   | 0476   | T290C437M008(1)S             |
| 430.0                                             | C            | 10          | T190C437K008AS       | 2.0                              | 23.00                         | 0.71                                   | 1825                                               | 0037                                                | 0257   | 0477   | T290C437K008(1)S             |
| 430.0                                             | C            | 5           | T190C437J008AS       | 2.0                              | 23.00                         | 0.71                                   | 1825                                               | 0038                                                | 0258   | 0478   | T290C437J008(1)S             |
| 850.0                                             | D            | 20          | T190D857M008AS       | 4.0                              | 30.00                         | 0.47                                   | 2330                                               | 0039                                                | 0259   | 0479   | T290D857M008(1)S             |
| 850.0                                             | D            | 10          | T190D857K008AS       | 4.0                              | 30.00                         | 0.47                                   | 2330                                               | 0040                                                | 0260   | 0480   | T290D857K008(1)S             |
| 10 Volt Rating at +85°C (7 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                    |                                                     |        |        |                              |
| 20.0                                              | A            | 20          | T190A206M010AS       | 1.0                              | 3.00                          | 1.99                                   | 820                                                | 0041                                                | 0261   | 0481   | T290A206M010(1)S             |
| 20.0                                              | A            | 10          | T190A206K010AS       | 1.0                              | 3.00                          | 1.99                                   | 820                                                | 0042                                                | 0262   | 0482   | T290A206K010(1)S             |
| 20.0                                              | A            | 5           | T190A206J010AS       | 1.0                              | 3.00                          | 1.99                                   | 820                                                | 0043                                                | 0263   | 0483   | T290A206J010(1)S             |
| 47.0                                              | A            | 20          | T190A476M010AS       | 1.0                              | 6.50                          | 1.84                                   | 855                                                | 0044                                                | 0264   | 0484   | T290A476M010(1)S             |
| 47.0                                              | A            | 10          | T190A476K010AS       | 1.0                              | 6.50                          | 1.84                                   | 855                                                | 0045                                                | 0265   | 0485   | T290A476K010(1)S             |
| 47.0                                              | A            | 5           | T190A476J010AS       | 1.0                              | 6.50                          | 1.84                                   | 855                                                | 0046                                                | 0266   | 0486   | T290A476J010(1)S             |
| 100.0                                             | B            | 20          | T190B107M010AS       | 1.0                              | 7.50                          | 0.99                                   | 1200                                               | 0047                                                | 0267   | 0487   | T290B107M010(1)S             |
| 100.0                                             | B            | 10          | T190B107K010AS       | 1.0                              | 7.50                          | 0.99                                   | 1200                                               | 0048                                                | 0268   | 0488   | T290B107K010(1)S             |
| 100.0                                             | B            | 5           | T190B107J010AS       | 1.0                              | 7.50                          | 0.99                                   | 1200                                               | 0049                                                | 0269   | 0489   | T290B107J010(1)S             |
| 180.0                                             | B            | 20          | T190B187M010AS       | 1.0                              | 15.00                         | 1.11                                   | 1365                                               | 0050                                                | 0270   | 0490   | T290B187M010(1)S             |
| 180.0                                             | B            | 10          | T190B187K010AS       | 1.0                              | 15.00                         | 1.11                                   | 1365                                               | 0051                                                | 0271   | 0491   | T290B187K010(1)S             |
| 180.0                                             | B            | 5           | T190B187J010AS       | 1.0                              | 15.00                         | 1.11                                   | 1365                                               | 0052                                                | 0272   | 0492   | T290B187J010(1)S             |
| 250.0                                             | C            | 20          | T190C257M010AS       | 2.0                              | 15.00                         | 0.80                                   | 1720                                               | 0053                                                | 0273   | 0493   | T290C257M010(1)S             |
| 250.0                                             | C            | 10          | T190C257K010AS       | 2.0                              | 15.00                         | 0.80                                   | 1720                                               | 0054                                                | 0274   | 0494   | T290C257K010(1)S             |
| 250.0                                             | C            | 5           | T190C257J010AS       | 2.0                              | 15.00                         | 0.80                                   | 1720                                               | 0055                                                | 0275   | 0495   | T290C257J010(1)S             |
| 390.0                                             | C            | 20          | T190C397M010AS       | 2.0                              | 22.00                         | 0.75                                   | 1800                                               | 0056                                                | 0276   | 0496   | T290C397M010(1)S             |
| 390.0                                             | C            | 10          | T190C397K010AS       | 2.0                              | 22.00                         | 0.75                                   | 1800                                               | 0057                                                | 0277   | 0497   | T290C397K010(1)S             |
| 390.0                                             | C            | 5           | T190C397J010AS       | 2.0                              | 22.00                         | 0.75                                   | 1800                                               | 0058                                                | 0278   | 0498   | T290C397J010(1)S             |
| 750.0                                             | D            | 20          | T190D757M010AS       | 4.0                              | 25.00                         | 0.44                                   | 2360                                               | 0059                                                | 0279   | 0499   | T290D757M010(1)S             |
| 750.0                                             | D            | 10          | T190D757K010AS       | 4.0                              | 25.00                         | 0.44                                   | 2360                                               | 0060                                                | 0280   | 0500   | T290D757K010(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(#) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e. 80g vibration and 5000 shock)

# Wet Tantalum T190/T290 Series

## T190/T290 (CLR90) Ratings & Part Number Reference

| Cap<br>μF                                          | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>μA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mA Arms at<br>85°C 40 kHz | MIL-PRF-39006/30A (CLR90)<br>Capacitors Dash Number<br>Reference (#)<br>Failure Rate (%/1000 Hrs) |        |         | KEMET Military<br>Equivalent |
|----------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------|--------|---------|------------------------------|
|                                                    |              |             |                      |                                  |                               |                                        |                                                     | M(1.0)                                                                                            | P(0.1) | R(0.01) |                              |
|                                                    |              |             |                      |                                  |                               |                                        |                                                     |                                                                                                   |        |         |                              |
| 15 Volt Rating at +85°C (10 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                     |                                                                                                   |        |         |                              |
| 15.0                                               | A            | 20          | T190A156M015AS       | 1.0                              | 2.50                          | 2.21                                   | 780                                                 | 0061                                                                                              | 0281   | 0501    | T290A156M015(1)S             |
| 15.0                                               | A            | 10          | T190A156K015AS       | 1.0                              | 2.50                          | 2.21                                   | 780                                                 | 0062                                                                                              | 0282   | 0502    | T290A156K015(1)S             |
| 15.0                                               | A            | 5           | T190A156J015AS       | 1.0                              | 2.50                          | 2.21                                   | 780                                                 | 0063                                                                                              | 0283   | 0503    | T290A156J015(1)S             |
| 33.0                                               | A            | 20          | T190A336M015AS       | 1.0                              | 5.00                          | 2.01                                   | 820                                                 | 0064                                                                                              | 0284   | 0504    | T290A336M015(1)S             |
| 33.0                                               | A            | 10          | T190A336K015AS       | 1.0                              | 5.00                          | 2.01                                   | 820                                                 | 0065                                                                                              | 0285   | 0505    | T290A336K015(1)S             |
| 33.0                                               | A            | 5           | T190A336J015AS       | 1.0                              | 5.00                          | 2.01                                   | 820                                                 | 0066                                                                                              | 0286   | 0506    | T290A336J015(1)S             |
| 70.0                                               | B            | 20          | T190B706M015AS       | 1.0                              | 6.50                          | 1.23                                   | 1150                                                | 0067                                                                                              | 0287   | 0507    | T290B706M015(1)S             |
| 70.0                                               | B            | 10          | T190B706K015AS       | 1.0                              | 6.50                          | 1.23                                   | 1150                                                | 0068                                                                                              | 0288   | 0508    | T290B706K015(1)S             |
| 70.0                                               | B            | 5           | T190B706J015AS       | 1.0                              | 6.50                          | 1.23                                   | 1150                                                | 0069                                                                                              | 0289   | 0509    | T290B706J015(1)S             |
| 120.0                                              | B            | 20          | T190B127M015AS       | 1.0                              | 9.00                          | 0.99                                   | 1450                                                | 0070                                                                                              | 0290   | 0510    | T290B127M015(1)S             |
| 120.0                                              | B            | 10          | T190B127K015AS       | 1.0                              | 9.00                          | 0.99                                   | 1450                                                | 0071                                                                                              | 0291   | 0511    | T290B127K015(1)S             |
| 120.0                                              | B            | 5           | T190B127J015AS       | 1.0                              | 9.00                          | 0.99                                   | 1450                                                | 0072                                                                                              | 0292   | 0512    | T290B127J015(1)S             |
| 170.0                                              | C            | 20          | T190C177M015AS       | 2.0                              | 12.50                         | 0.98                                   | 1480                                                | 0073                                                                                              | 0293   | 0513    | T290C177M015(1)S             |
| 170.0                                              | C            | 10          | T190C177K015AS       | 2.0                              | 12.50                         | 0.98                                   | 1480                                                | 0074                                                                                              | 0294   | 0514    | T290C177K015(1)S             |
| 170.0                                              | C            | 5           | T190C177J015AS       | 2.0                              | 12.50                         | 0.98                                   | 1480                                                | 0075                                                                                              | 0295   | 0515    | T290C177J015(1)S             |
| 270.0                                              | C            | 20          | T190C277M015AS       | 2.0                              | 16.00                         | 0.79                                   | 1740                                                | 0076                                                                                              | 0296   | 0516    | T290C277M015(1)S             |
| 270.0                                              | C            | 10          | T190C277K015AS       | 2.0                              | 16.00                         | 0.79                                   | 1740                                                | 0077                                                                                              | 0297   | 0517    | T290C277K015(1)S             |
| 270.0                                              | C            | 5           | T190C277J015AS       | 2.0                              | 16.00                         | 0.79                                   | 1740                                                | 0078                                                                                              | 0298   | 0518    | T290C277J015(1)S             |
| 540.0                                              | D            | 20          | T190D547M015AS       | 6.0                              | 20.00                         | 0.49                                   | 2330                                                | 0079                                                                                              | 0299   | 0519    | T290D547M015(1)S             |
| 540.0                                              | D            | 10          | T190D547K015AS       | 6.0                              | 20.00                         | 0.49                                   | 2330                                                | 0080                                                                                              | 0300   | 0520    | T290D547K015(1)S             |
| 25 Volt Rating at +85°C (15 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                     |                                                                                                   |        |         |                              |
| 10.0                                               | A            | 20          | T190A106M025AS       | 1.0                              | 2.00                          | 2.66                                   | 715                                                 | 0081                                                                                              | 0301   | 0521    | T290A106M025(1)S             |
| 10.0                                               | A            | 10          | T190A106K025AS       | 1.0                              | 2.00                          | 2.66                                   | 715                                                 | 0082                                                                                              | 0302   | 0522    | T290A106K025(1)S             |
| 10.0                                               | A            | 5           | T190A106J025AS       | 1.0                              | 2.00                          | 2.66                                   | 715                                                 | 0083                                                                                              | 0303   | 0523    | T290A106J025(1)S             |
| 22.0                                               | A            | 20          | T190A226M025AS       | 1.0                              | 3.30                          | 1.99                                   | 825                                                 | 0084                                                                                              | 0304   | 0524    | T290A226M025(1)S             |
| 22.0                                               | A            | 10          | T190A226K025AS       | 1.0                              | 3.30                          | 1.99                                   | 825                                                 | 0085                                                                                              | 0305   | 0525    | T290A226K025(1)S             |
| 22.0                                               | A            | 5           | T190A226J025AS       | 1.0                              | 3.30                          | 1.99                                   | 825                                                 | 0086                                                                                              | 0306   | 0526    | T290A226J025(1)S             |
| 50.0                                               | B            | 20          | T190B506M025AS       | 1.0                              | 5.50                          | 1.46                                   | 1130                                                | 0087                                                                                              | 0307   | 0527    | T290B506M025(1)S             |
| 50.0                                               | B            | 10          | T190B506K025AS       | 1.0                              | 5.50                          | 1.46                                   | 1130                                                | 0088                                                                                              | 0308   | 0528    | T290B506K025(1)S             |
| 50.0                                               | B            | 5           | T190B506J025AS       | 1.0                              | 5.50                          | 1.46                                   | 1130                                                | 0089                                                                                              | 0309   | 0529    | T290B506J025(1)S             |
| 100.0                                              | B            | 20          | T190B107M025AS       | 1.0                              | 7.50                          | 0.99                                   | 1435                                                | 0090                                                                                              | 0310   | 0530    | T290B107M025(1)S             |
| 100.0                                              | B            | 10          | T190B107K025AS       | 1.0                              | 7.50                          | 0.99                                   | 1435                                                | 0091                                                                                              | 0311   | 0531    | T290B107K025(1)S             |
| 100.0                                              | B            | 5           | T190B107J025AS       | 1.0                              | 7.50                          | 0.99                                   | 1435                                                | 0092                                                                                              | 0312   | 0532    | T290B107J025(1)S             |
| 120.0                                              | C            | 20          | T190C127M025AS       | 2.0                              | 10.50                         | 1.16                                   | 1450                                                | 0093                                                                                              | 0313   | 0533    | T290C127M025(1)S             |
| 120.0                                              | C            | 10          | T190C127K025AS       | 2.0                              | 10.50                         | 1.16                                   | 1450                                                | 0094                                                                                              | 0314   | 0534    | T290C127K025(1)S             |
| 120.0                                              | C            | 5           | T190C127J025AS       | 2.0                              | 10.50                         | 1.16                                   | 1450                                                | 0095                                                                                              | 0315   | 0535    | T290C127J025(1)S             |
| 180.0                                              | C            | 20          | T190C187M025AS       | 2.0                              | 13.00                         | 0.96                                   | 1525                                                | 0096                                                                                              | 0316   | 0536    | T290C187M025(1)S             |
| 180.0                                              | C            | 10          | T190C187K025AS       | 2.0                              | 13.00                         | 0.96                                   | 1525                                                | 0097                                                                                              | 0317   | 0537    | T290C187K025(1)S             |
| 180.0                                              | C            | 5           | T190C187J025AS       | 2.0                              | 13.00                         | 0.96                                   | 1525                                                | 0098                                                                                              | 0318   | 0538    | T290C187J025(1)S             |
| 350.0                                              | D            | 20          | T190D357M025AS       | 7.0                              | 17.50                         | 0.67                                   | 1970                                                | 0099                                                                                              | 0319   | 0539    | T290D357M025(1)S             |
| 350.0                                              | D            | 10          | T190D357K025AS       | 7.0                              | 17.50                         | 0.67                                   | 1970                                                | 0100                                                                                              | 0320   | 0540    | T290D357K025(1)S             |
| 30 Volt Rating at +85°C (20 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                     |                                                                                                   |        |         |                              |
| 8.0                                                | A            | 20          | T190A805M030AS       | 1.0                              | 2.00                          | 3.32                                   | 640                                                 | 0101                                                                                              | 0321   | 0541    | T290A805M030(1)S             |
| 8.0                                                | A            | 10          | T190A805K030AS       | 1.0                              | 2.00                          | 3.32                                   | 640                                                 | 0102                                                                                              | 0322   | 0542    | T290A805K030(1)S             |
| 8.0                                                | A            | 5           | T190A805J030AS       | 1.0                              | 2.00                          | 3.32                                   | 640                                                 | 0103                                                                                              | 0323   | 0543    | T290A805J030(1)S             |
| 15.0                                               | A            | 20          | T190A156M030AS       | 1.0                              | 2.50                          | 2.21                                   | 780                                                 | 0104                                                                                              | 0324   | 0544    | T290A156M030(1)S             |
| 15.0                                               | A            | 10          | T190A156K030AS       | 1.0                              | 2.50                          | 2.21                                   | 780                                                 | 0105                                                                                              | 0325   | 0545    | T290A156K030(1)S             |
| 15.0                                               | A            | 5           | T190A156J030AS       | 1.0                              | 2.50                          | 2.21                                   | 780                                                 | 0106                                                                                              | 0326   | 0546    | T290A156J030(1)S             |
| 40.0                                               | B            | 20          | T190B406M030AS       | 1.0                              | 5.00                          | 1.66                                   | 1120                                                | 0107                                                                                              | 0327   | 0547    | T290B406M030(1)S             |
| 40.0                                               | B            | 10          | T190B406K030AS       | 1.0                              | 5.00                          | 1.66                                   | 1120                                                | 0108                                                                                              | 0328   | 0548    | T290B406K030(1)S             |
| 40.0                                               | B            | 5           | T190B406J030AS       | 1.0                              | 5.00                          | 1.66                                   | 1120                                                | 0109                                                                                              | 0329   | 0549    | T290B406J030(1)S             |
| 68.0                                               | B            | 20          | T190B686M030AS       | 1.0                              | 6.50                          | 1.27                                   | 1285                                                | 0110                                                                                              | 0330   | 0550    | T290B686M030(1)S             |
| 68.0                                               | B            | 10          | T190B686K030AS       | 1.0                              | 6.50                          | 1.27                                   | 1285                                                | 0111                                                                                              | 0331   | 0551    | T290B686K030(1)S             |
| 68.0                                               | B            | 5           | T190B686J030AS       | 1.0                              | 6.50                          | 1.27                                   | 1285                                                | 0112                                                                                              | 0332   | 0552    | T290B686J030(1)S             |
| 100.0                                              | C            | 20          | T190C107M030AS       | 2.0                              | 8.50                          | 1.13                                   | 1450                                                | 0113                                                                                              | 0333   | 0553    | T290C107M030(1)S             |
| 100.0                                              | C            | 10          | T190C107K030AS       | 2.0                              | 8.50                          | 1.13                                   | 1450                                                | 0114                                                                                              | 0334   | 0554    | T290C107K030(1)S             |
| 100.0                                              | C            | 5           | T190C107J030AS       | 2.0                              | 8.50                          | 1.13                                   | 1450                                                | 0115                                                                                              | 0335   | 0555    | T290C107J030(1)S             |
| 150.0                                              | C            | 20          | T190C157M030AS       | 2.0                              | 11.50                         | 1.02                                   | 1525                                                | 0116                                                                                              | 0336   | 0556    | T290C157M030(1)S             |
| 150.0                                              | C            | 10          | T190C157K030AS       | 2.0                              | 11.50                         | 1.02                                   | 1525                                                | 0117                                                                                              | 0337   | 0557    | T290C157K030(1)S             |
| 150.0                                              | C            | 5           | T190C157J030AS       | 2.0                              | 11.50                         | 1.02                                   | 1525                                                | 0118                                                                                              | 0338   | 0558    | T290C157J030(1)S             |
| 300.0                                              | D            | 20          | T190D307M030AS       | 8.0                              | 15.50                         | 0.69                                   | 1950                                                | 0119                                                                                              | 0339   | 0559    | T290D307M030(1)S             |
| 300.0                                              | D            | 10          | T190D307K030AS       | 8.0                              | 15.50                         | 0.69                                   | 1950                                                | 0120                                                                                              | 0340   | 0560    | T290D307K030(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(#) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e., 80g vibration and 500g shock).



## Wet Tantalum T190/T290 Series

### T190/T290 (CLR90) Ratings & Part Number Reference

| Cap<br>µF                                          | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>µA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mAmps at<br>85°C 40 kHz | MIL-PRF-39006/30A (CLR90)<br>Capacitors Dash Number<br>Reference (#) |        |         | KEMET Military<br>Equivalent |
|----------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|---------------------------------------------------|----------------------------------------------------------------------|--------|---------|------------------------------|
|                                                    |              |             |                      |                                  |                               |                                        |                                                   | Failure Rate (%/1000 Hrs)                                            |        |         |                              |
|                                                    |              |             |                      |                                  |                               |                                        |                                                   | M(1.0)                                                               | P(0.1) | R(0.01) |                              |
| 50 Volt Rating at +85°C (30 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                                      |        |         |                              |
| 5.0                                                | A            | 20          | T190A505M050AS       | 1.0                              | 1.50                          | 3.98                                   | 580                                               | 0121                                                                 | 0341   | 0561    | T290A505M050(1)S             |
| 5.0                                                | A            | 10          | T190A505K050AS       | 1.0                              | 1.50                          | 3.98                                   | 580                                               | 0122                                                                 | 0342   | 0562    | T290A505K050(1)S             |
| 5.0                                                | A            | 5           | T190A505J050AS       | 1.0                              | 1.50                          | 3.98                                   | 580                                               | 0123                                                                 | 0343   | 0563    | T290A505J050(1)S             |
| 10.0                                               | A            | 20          | T190A106M050AS       | 1.0                              | 2.00                          | 2.66                                   | 715                                               | 0124                                                                 | 0344   | 0564    | T290A106M050(1)S             |
| 10.0                                               | A            | 10          | T190A106K050AS       | 1.0                              | 2.00                          | 2.66                                   | 715                                               | 0125                                                                 | 0345   | 0565    | T290A106K050(1)S             |
| 10.0                                               | A            | 5           | T190A106J050AS       | 1.0                              | 2.00                          | 2.66                                   | 715                                               | 0126                                                                 | 0346   | 0566    | T290A106J050(1)S             |
| 25.0                                               | B            | 20          | T190B256M050AS       | 1.0                              | 4.00                          | 2.13                                   | 1005                                              | 0127                                                                 | 0347   | 0567    | T290B256M050(1)S             |
| 25.0                                               | B            | 10          | T190B256K050AS       | 1.0                              | 4.00                          | 2.13                                   | 1005                                              | 0128                                                                 | 0348   | 0568    | T290B256K050(1)S             |
| 25.0                                               | B            | 5           | T190B256J050AS       | 1.0                              | 4.00                          | 2.13                                   | 1005                                              | 0129                                                                 | 0349   | 0569    | T290B256J050(1)S             |
| 47.0                                               | B            | 20          | T190B476M050AS       | 1.0                              | 5.50                          | 1.56                                   | 1155                                              | 0130                                                                 | 0350   | 0570    | T290B476M050(1)S             |
| 47.0                                               | B            | 10          | T190B476K050AS       | 1.0                              | 5.50                          | 1.56                                   | 1155                                              | 0131                                                                 | 0351   | 0571    | T290B476K050(1)S             |
| 47.0                                               | B            | 5           | T190B476J050AS       | 1.0                              | 5.50                          | 1.56                                   | 1155                                              | 0132                                                                 | 0352   | 0572    | T290B476J050(1)S             |
| 60.0                                               | C            | 20          | T190C606M050AS       | 2.0                              | 6.00                          | 1.33                                   | 1335                                              | 0133                                                                 | 0353   | 0573    | T290C606M050(1)S             |
| 60.0                                               | C            | 10          | T190C606K050AS       | 2.0                              | 6.00                          | 1.33                                   | 1335                                              | 0134                                                                 | 0354   | 0574    | T290C606K050(1)S             |
| 60.0                                               | C            | 5           | T190C606J050AS       | 2.0                              | 6.00                          | 1.33                                   | 1335                                              | 0135                                                                 | 0355   | 0575    | T290C606J050(1)S             |
| 82.0                                               | C            | 20          | T190C826M050AS       | 2.0                              | 7.50                          | 1.22                                   | 1400                                              | 0136                                                                 | 0356   | 0576    | T290C826M050(1)S             |
| 82.0                                               | C            | 10          | T190C826K050AS       | 2.0                              | 7.50                          | 1.22                                   | 1400                                              | 0137                                                                 | 0357   | 0577    | T290C826K050(1)S             |
| 82.0                                               | C            | 5           | T190C826J050AS       | 2.0                              | 7.50                          | 1.22                                   | 1400                                              | 0138                                                                 | 0358   | 0578    | T290C826J050(1)S             |
| 160.0                                              | D            | 20          | T190D167M050AS       | 8.0                              | 8.50                          | 0.71                                   | 1900                                              | 0139                                                                 | 0359   | 0579    | T290D167M050(1)S             |
| 160.0                                              | D            | 10          | T190D167K050AS       | 8.0                              | 8.50                          | 0.71                                   | 1900                                              | 0140                                                                 | 0360   | 0580    | T290D167K050(1)S             |
| 60 Volt Rating at +85°C (40 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                                      |        |         |                              |
| 4.0                                                | A            | 20          | T190A405M060AS       | 1.0                              | 1.40                          | 4.65                                   | 525                                               | 0141                                                                 | 0361   | 0581    | T290A405M060(1)S             |
| 4.0                                                | A            | 10          | T190A405K060AS       | 1.0                              | 1.40                          | 4.65                                   | 525                                               | 0142                                                                 | 0362   | 0582    | T290A405K060(1)S             |
| 4.0                                                | A            | 5           | T190A405J060AS       | 1.0                              | 1.40                          | 4.65                                   | 525                                               | 0143                                                                 | 0363   | 0583    | T290A405J060(1)S             |
| 8.2                                                | A            | 20          | T190A825M060AS       | 1.0                              | 2.00                          | 3.24                                   | 625                                               | 0144                                                                 | 0364   | 0584    | T290A825M060(1)S             |
| 8.2                                                | A            | 10          | T190A825K060AS       | 1.0                              | 2.00                          | 3.24                                   | 625                                               | 0145                                                                 | 0365   | 0585    | T290A825K060(1)S             |
| 8.2                                                | A            | 5           | T190A825J060AS       | 1.0                              | 2.00                          | 3.24                                   | 625                                               | 0146                                                                 | 0366   | 0586    | T290A825J060(1)S             |
| 20.0                                               | B            | 20          | T190B206M060AS       | 1.0                              | 3.50                          | 2.32                                   | 930                                               | 0147                                                                 | 0367   | 0587    | T290B206M060(1)S             |
| 20.0                                               | B            | 10          | T190B206K060AS       | 1.0                              | 3.50                          | 2.32                                   | 930                                               | 0148                                                                 | 0368   | 0588    | T290B206K060(1)S             |
| 20.0                                               | B            | 5           | T190B206J060AS       | 1.0                              | 3.50                          | 2.32                                   | 930                                               | 0149                                                                 | 0369   | 0589    | T290B206J060(1)S             |
| 39.0                                               | B            | 20          | T190B396M060AS       | 1.0                              | 5.00                          | 1.70                                   | 1110                                              | 0150                                                                 | 0370   | 0590    | T290B396M060(1)S             |
| 39.0                                               | B            | 10          | T190B396K060AS       | 1.0                              | 5.00                          | 1.70                                   | 1110                                              | 0151                                                                 | 0371   | 0591    | T290B396K060(1)S             |
| 39.0                                               | B            | 5           | T190B396J060AS       | 1.0                              | 5.00                          | 1.70                                   | 1110                                              | 0152                                                                 | 0372   | 0592    | T290B396J060(1)S             |
| 50.0                                               | C            | 20          | T190C506M060AS       | 2.0                              | 5.00                          | 1.33                                   | 1330                                              | 0153                                                                 | 0373   | 0593    | T290C506M060(1)S             |
| 50.0                                               | C            | 10          | T190C506K060AS       | 2.0                              | 5.00                          | 1.33                                   | 1330                                              | 0154                                                                 | 0374   | 0594    | T290C506K060(1)S             |
| 50.0                                               | C            | 5           | T190C506J060AS       | 2.0                              | 5.00                          | 1.33                                   | 1330                                              | 0155                                                                 | 0375   | 0595    | T290C506J060(1)S             |
| 68.0                                               | C            | 20          | T190C686M060AS       | 2.0                              | 6.50                          | 1.27                                   | 1365                                              | 0156                                                                 | 0376   | 0596    | T290C686M060(1)S             |
| 68.0                                               | C            | 10          | T190C686K060AS       | 2.0                              | 6.50                          | 1.27                                   | 1365                                              | 0157                                                                 | 0377   | 0597    | T290C686K060(1)S             |
| 68.0                                               | C            | 5           | T190C686J060AS       | 2.0                              | 6.50                          | 1.27                                   | 1365                                              | 0158                                                                 | 0378   | 0598    | T290C686J060(1)S             |
| 140.0                                              | D            | 20          | T190D147M060AS       | 8.0                              | 8.00                          | 0.76                                   | 1850                                              | 0159                                                                 | 0379   | 0599    | T290D147M060(1)S             |
| 140.0                                              | D            | 10          | T190D147K060AS       | 8.0                              | 8.00                          | 0.76                                   | 1850                                              | 0160                                                                 | 0380   | 0600    | T290D147K060(1)S             |
| 75 Volt Rating at +85°C (50 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                                      |        |         |                              |
| 3.5                                                | A            | 20          | T190A355M075AS       | 1.0                              | 1.25                          | 4.74                                   | 525                                               | 0161                                                                 | 0381   | 0601    | T290A355M075(1)S             |
| 3.5                                                | A            | 10          | T190A355K075AS       | 1.0                              | 1.25                          | 4.74                                   | 525                                               | 0162                                                                 | 0382   | 0602    | T290A355K075(1)S             |
| 3.5                                                | A            | 5           | T190A355J075AS       | 1.0                              | 1.25                          | 4.74                                   | 525                                               | 0163                                                                 | 0383   | 0603    | T290A355J075(1)S             |
| 6.8                                                | A            | 20          | T190A685M075AS       | 1.0                              | 1.75                          | 3.42                                   | 610                                               | 0164                                                                 | 0384   | 0604    | T290A685M075(1)S             |
| 6.8                                                | A            | 10          | T190A685K075AS       | 1.0                              | 1.75                          | 3.42                                   | 610                                               | 0165                                                                 | 0385   | 0605    | T290A685K075(1)S             |
| 6.8                                                | A            | 5           | T190A685J075AS       | 1.0                              | 1.75                          | 3.42                                   | 610                                               | 0166                                                                 | 0386   | 0606    | T290A685J075(1)S             |
| 15.0                                               | B            | 20          | T190B156M075AS       | 1.0                              | 3.00                          | 2.66                                   | 890                                               | 0167                                                                 | 0387   | 0607    | T290B156M075(1)S             |
| 15.0                                               | B            | 10          | T190B156K075AS       | 1.0                              | 3.00                          | 2.66                                   | 890                                               | 0168                                                                 | 0388   | 0608    | T290B156K075(1)S             |
| 15.0                                               | B            | 5           | T190B156J075AS       | 1.0                              | 3.00                          | 2.66                                   | 890                                               | 0169                                                                 | 0389   | 0609    | T290B156J075(1)S             |
| 33.0                                               | B            | 20          | T190B336M075AS       | 1.0                              | 5.00                          | 2.01                                   | 1000                                              | 0170                                                                 | 0390   | 0610    | T290B336M075(1)S             |
| 33.0                                               | B            | 10          | T190B336K075AS       | 1.0                              | 5.00                          | 2.01                                   | 1000                                              | 0171                                                                 | 0391   | 0611    | T290B336K075(1)S             |
| 33.0                                               | B            | 5           | T190B336J075AS       | 1.0                              | 5.00                          | 2.01                                   | 1000                                              | 0172                                                                 | 0392   | 0612    | T290B336J075(1)S             |
| 40.0                                               | C            | 20          | T190C406M075AS       | 2.0                              | 4.50                          | 1.50                                   | 1250                                              | 0173                                                                 | 0393   | 0613    | T290C406M075(1)S             |
| 40.0                                               | C            | 10          | T190C406K075AS       | 2.0                              | 4.50                          | 1.50                                   | 1250                                              | 0174                                                                 | 0394   | 0614    | T290C406K075(1)S             |
| 40.0                                               | C            | 5           | T190C406J075AS       | 2.0                              | 4.50                          | 1.50                                   | 1250                                              | 0175                                                                 | 0395   | 0615    | T290C406J075(1)S             |
| 56.0                                               | C            | 20          | T190C566M075AS       | 2.0                              | 5.50                          | 1.31                                   | 1335                                              | 0176                                                                 | 0396   | 0616    | T290C566M075(1)S             |
| 56.0                                               | C            | 10          | T190C566K075AS       | 2.0                              | 5.50                          | 1.31                                   | 1335                                              | 0177                                                                 | 0397   | 0617    | T290C566K075(1)S             |
| 56.0                                               | C            | 5           | T190C566J075AS       | 2.0                              | 5.50                          | 1.31                                   | 1335                                              | 0178                                                                 | 0398   | 0618    | T290C566J075(1)S             |
| 110.0                                              | D            | 20          | T190D117M075AS       | 9.0                              | 6.00                          | 0.73                                   | 1850                                              | 0179                                                                 | 0399   | 0619    | T290D117M075(1)S             |
| 110.0                                              | D            | 10          | T190D117K075AS       | 9.0                              | 6.00                          | 0.73                                   | 1850                                              | 0180                                                                 | 0400   | 0620    | T290D117K075(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(#) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e. 80g vibration and 500g shock)

# Wet Tantalum T190/T290 Series

## T190/T290 (CLR90) Ratings & Part Number Reference

| Cap<br>μF                                           | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>μA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mA Arms at<br>85°C 40 kHz | MIL-PRF-39006/30A (CLR90)<br>Capacitors Dash Number |        |        | KEMET Military<br>Equivalent |
|-----------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|-----------------------------------------------------|-----------------------------------------------------|--------|--------|------------------------------|
|                                                     |              |             |                      |                                  |                               |                                        |                                                     | Reference (#)                                       |        |        |                              |
|                                                     |              |             |                      |                                  |                               |                                        |                                                     | Failure Rate (%/1000 Hrs)                           | M(1.0) | P(0.1) |                              |
| 100 Volt Rating at +85°C (65 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                     |                                                     |        |        |                              |
| 2.5                                                 | A            | 20          | T190A255M100AS       | 1.0                              | 1.00                          | 5.31                                   | 505                                                 | 0181                                                | 0401   | 0621   | T290A255M100(1)S             |
| 2.5                                                 | A            | 10          | T190A255K100AS       | 1.0                              | 1.00                          | 5.31                                   | 505                                                 | 0182                                                | 0402   | 0622   | T290A255K100(1)S             |
| 2.5                                                 | A            | 5           | T190A255J100AS       | 1.0                              | 1.00                          | 5.31                                   | 505                                                 | 0183                                                | 0403   | 0623   | T290A255J100(1)S             |
| 4.7                                                 | A            | 20          | T190A475M100AS       | 1.0                              | 1.50                          | 4.24                                   | 565                                                 | 0184                                                | 0404   | 0624   | T290A475M100(1)S             |
| 4.7                                                 | A            | 10          | T190A475K100AS       | 1.0                              | 1.50                          | 4.24                                   | 565                                                 | 0185                                                | 0405   | 0625   | T290A475K100(1)S             |
| 4.7                                                 | A            | 5           | T190A475J100AS       | 1.0                              | 1.50                          | 4.24                                   | 565                                                 | 0186                                                | 0406   | 0626   | T290A475J100(1)S             |
| 11.0                                                | B            | 20          | T190B116M100AS       | 1.0                              | 2.50                          | 3.02                                   | 835                                                 | 0187                                                | 0407   | 0627   | T290B116M100(1)S             |
| 11.0                                                | B            | 10          | T190B116K100AS       | 1.0                              | 2.50                          | 3.02                                   | 835                                                 | 0188                                                | 0408   | 0628   | T290B116K100(1)S             |
| 11.0                                                | B            | 5           | T190B116J100AS       | 1.0                              | 2.50                          | 3.02                                   | 835                                                 | 0189                                                | 0409   | 0629   | T290B116J100(1)S             |
| 22.0                                                | B            | 20          | T190B226M100AS       | 1.0                              | 3.75                          | 2.26                                   | 965                                                 | 0190                                                | 0410   | 0630   | T290B226M100(1)S             |
| 22.0                                                | B            | 10          | T190B226K100AS       | 1.0                              | 3.75                          | 2.26                                   | 965                                                 | 0191                                                | 0411   | 0631   | T290B226K100(1)S             |
| 22.0                                                | B            | 5           | T190B226J100AS       | 1.0                              | 3.75                          | 2.26                                   | 965                                                 | 0192                                                | 0412   | 0632   | T290B226J100(1)S             |
| 30.0                                                | C            | 20          | T190C306M100AS       | 2.0                              | 3.50                          | 1.55                                   | 1240                                                | 0193                                                | 0413   | 0633   | T290C306M100(1)S             |
| 30.0                                                | C            | 10          | T190C306K100AS       | 2.0                              | 3.50                          | 1.55                                   | 1240                                                | 0194                                                | 0414   | 0634   | T290C306K100(1)S             |
| 30.0                                                | C            | 5           | T190C306J100AS       | 2.0                              | 3.50                          | 1.55                                   | 1240                                                | 0195                                                | 0415   | 0635   | T290C306J100(1)S             |
| 43.0                                                | C            | 20          | T190C436M100AS       | 2.0                              | 4.25                          | 1.31                                   | 1335                                                | 0196                                                | 0416   | 0636   | T290C436M100(1)S             |
| 43.0                                                | C            | 10          | T190C436K100AS       | 2.0                              | 4.25                          | 1.31                                   | 1335                                                | 0197                                                | 0417   | 0637   | T290C436K100(1)S             |
| 43.0                                                | C            | 5           | T190C436J100AS       | 2.0                              | 4.25                          | 1.31                                   | 1335                                                | 0198                                                | 0418   | 0638   | T290C436J100(1)S             |
| 86.0                                                | D            | 20          | T190D866M100AS       | 9.0                              | 5.00                          | 0.77                                   | 1800                                                | 0199                                                | 0419   | 0639   | T290D866M100(1)S             |
| 86.0                                                | D            | 10          | T190D866K100AS       | 9.0                              | 5.00                          | 0.77                                   | 1800                                                | 0200                                                | 0420   | 0640   | T290D866K100(1)S             |
| 125 Volt Rating at +85°C (85 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                     |                                                     |        |        |                              |
| 1.7                                                 | A            | 20          | T190A175M125AS       | 1.0                              | 1.00                          | 7.81                                   | 415                                                 | 0201                                                | 0421   | 0641   | T290A175M125(1)S             |
| 1.7                                                 | A            | 10          | T190A175K125AS       | 1.0                              | 1.00                          | 7.81                                   | 415                                                 | 0202                                                | 0422   | 0642   | T290A175K125(1)S             |
| 1.7                                                 | A            | 5           | T190A175J125AS       | 1.0                              | 1.00                          | 7.81                                   | 415                                                 | 0203                                                | 0423   | 0643   | T290A175J125(1)S             |
| 3.6                                                 | A            | 20          | T190A365M125AS       | 1.0                              | 1.35                          | 4.98                                   | 520                                                 | 0204                                                | 0424   | 0644   | T290A365M125(1)S             |
| 3.6                                                 | A            | 10          | T190A365K125AS       | 1.0                              | 1.35                          | 4.98                                   | 520                                                 | 0205                                                | 0425   | 0645   | T290A365K125(1)S             |
| 3.6                                                 | A            | 5           | T190A365J125AS       | 1.0                              | 1.35                          | 4.98                                   | 520                                                 | 0206                                                | 0426   | 0646   | T290A365J125(1)S             |
| 9.0                                                 | B            | 20          | T190B905M125AS       | 1.0                              | 2.50                          | 3.69                                   | 755                                                 | 0207                                                | 0427   | 0647   | T290B905M125(1)S             |
| 9.0                                                 | B            | 10          | T190B905K125AS       | 1.0                              | 2.50                          | 3.69                                   | 755                                                 | 0208                                                | 0428   | 0648   | T290B905K125(1)S             |
| 9.0                                                 | B            | 5           | T190B905J125AS       | 1.0                              | 2.50                          | 3.69                                   | 755                                                 | 0209                                                | 0429   | 0649   | T290B905J125(1)S             |
| 14.0                                                | B            | 20          | T190B146M125AS       | 1.0                              | 3.00                          | 2.85                                   | 860                                                 | 0210                                                | 0430   | 0650   | T290B146M125(1)S             |
| 14.0                                                | B            | 10          | T190B146K125AS       | 1.0                              | 3.00                          | 2.85                                   | 860                                                 | 0211                                                | 0431   | 0651   | T290B146K125(1)S             |
| 14.0                                                | B            | 5           | T190B146J125AS       | 1.0                              | 3.00                          | 2.85                                   | 860                                                 | 0212                                                | 0432   | 0652   | T290B146J125(1)S             |
| 18.0                                                | C            | 20          | T190C186M125AS       | 2.0                              | 2.50                          | 1.85                                   | 1130                                                | 0213                                                | 0433   | 0653   | T290C186M125(1)S             |
| 18.0                                                | C            | 10          | T190C186K125AS       | 2.0                              | 2.50                          | 1.85                                   | 1130                                                | 0214                                                | 0434   | 0654   | T290C186K125(1)S             |
| 18.0                                                | C            | 5           | T190C186J125AS       | 2.0                              | 2.50                          | 1.85                                   | 1130                                                | 0215                                                | 0435   | 0655   | T290C186J125(1)S             |
| 25.0                                                | C            | 20          | T190C256M125AS       | 2.0                              | 3.00                          | 1.59                                   | 1200                                                | 0216                                                | 0436   | 0656   | T290C256M125(1)S             |
| 25.0                                                | C            | 10          | T190C256K125AS       | 2.0                              | 3.00                          | 1.59                                   | 1200                                                | 0217                                                | 0437   | 0657   | T290C256K125(1)S             |
| 25.0                                                | C            | 5           | T190C256J125AS       | 2.0                              | 3.00                          | 1.59                                   | 1200                                                | 0218                                                | 0438   | 0658   | T290C256J125(1)S             |
| 56.0                                                | D            | 20          | T190D566M125AS       | 10.0                             | 3.25                          | 0.77                                   | 1800                                                | 0219                                                | 0439   | 0659   | T290D566M125(1)S             |
| 56.0                                                | D            | 10          | T190D566K125AS       | 10.0                             | 3.25                          | 0.77                                   | 1800                                                | 0220                                                | 0440   | 0660   | T290D566K125(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(#) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e. 80g vibration and 500g shock)



## Wet Tantalum T191/T291 Series

### T191/T291 (CLR91) Ratings & Part Number Reference

| Cap<br>μF                                          | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>μA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mAmps at<br>85°C 40 kHz | MIL-PRF-39006/31A (CLR91)<br>Capacitors Dash Number |      |      | KEMET Military<br>Equivalent |
|----------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|---------------------------------------------------|-----------------------------------------------------|------|------|------------------------------|
|                                                    |              |             |                      |                                  |                               |                                        |                                                   | Reference (#)                                       |      |      |                              |
|                                                    |              |             |                      |                                  |                               |                                        |                                                   | Failure Rate (%/1000 Hrs)                           |      |      |                              |
|                                                    |              |             | M(1.0)               | P(0.1)                           | R(0.01)                       |                                        |                                                   |                                                     |      |      |                              |
| 6 Volt Rating at +85°C (4 Volt Rating at +125°C)   |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 220.0                                              | A            | 20          | T191A227M006AS       | 2.0                              | 25.00                         | 1.51                                   | 1000                                              | 0001                                                | 0089 | 0177 | T291A227M006(1)S             |
| 220.0                                              | A            | 10          | T191A227K006AS       | 2.0                              | 25.00                         | 1.51                                   | 1000                                              | 0002                                                | 0090 | 0178 | T291A227K006(1)S             |
| 820.0                                              | B            | 20          | T191B827M006AS       | 3.0                              | 77.50                         | 1.26                                   | 1500                                              | 0003                                                | 0091 | 0179 | T291B827M006(1)S             |
| 820.0                                              | B            | 10          | T191B827K006AS       | 3.0                              | 77.50                         | 1.26                                   | 1500                                              | 0004                                                | 0092 | 0180 | T291B827K006(1)S             |
| 1500.0                                             | C            | 20          | T191C158M006AS       | 5.0                              | 86.00                         | 0.76                                   | 1900                                              | 0005                                                | 0093 | 0181 | T291C158M006(1)S             |
| 1500.0                                             | C            | 10          | T191C158K006AS       | 5.0                              | 86.00                         | 0.76                                   | 1900                                              | 0006                                                | 0094 | 0182 | T291C158K006(1)S             |
| 2200.0                                             | D            | 20          | T191D228M006AS       | 6.0                              | 85.00                         | 0.52                                   | 2300                                              | 0007                                                | 0095 | 0183 | T291D228M006(1)S             |
| 2200.0                                             | D            | 10          | T191D228K006AS       | 6.0                              | 85.00                         | 0.52                                   | 2300                                              | 0008                                                | 0096 | 0184 | T291D228K006(1)S             |
| 8 Volt Rating at +85°C (5 Volt Rating at +125°C)   |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 180.0                                              | A            | 20          | T191A187M008AS       | 2.0                              | 20.50                         | 1.51                                   | 1000                                              | 0009                                                | 0097 | 0185 | T291A187M008(1)S             |
| 180.0                                              | A            | 10          | T191A187K008AS       | 2.0                              | 20.50                         | 1.51                                   | 1000                                              | 0010                                                | 0098 | 0186 | T291A187K008(1)S             |
| 680.0                                              | B            | 20          | T191B687M008AS       | 3.0                              | 65.00                         | 1.27                                   | 1500                                              | 0011                                                | 0099 | 0187 | T291B687M008(1)S             |
| 680.0                                              | B            | 10          | T191B687K008AS       | 3.0                              | 65.00                         | 1.27                                   | 1500                                              | 0012                                                | 0100 | 0188 | T291B687K008(1)S             |
| 1500.0                                             | C            | 20          | T191C158M008AS       | 5.0                              | 85.00                         | 0.75                                   | 1900                                              | 0013                                                | 0101 | 0189 | T291C158M008(1)S             |
| 1500.0                                             | C            | 10          | T191C158K008AS       | 5.0                              | 85.00                         | 0.75                                   | 1900                                              | 0014                                                | 0102 | 0190 | T291C158K008(1)S             |
| 1800.0                                             | D            | 20          | T191D188M008AS       | 7.0                              | 69.00                         | 0.51                                   | 2300                                              | 0015                                                | 0103 | 0191 | T291D188M008(1)S             |
| 1800.0                                             | D            | 10          | T191D188K008AS       | 7.0                              | 69.00                         | 0.51                                   | 2300                                              | 0016                                                | 0104 | 0192 | T291D188K008(1)S             |
| 10 Volt Rating at +85°C (7 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 150.0                                              | A            | 20          | T191A157M010AS       | 2.0                              | 17.00                         | 1.51                                   | 900                                               | 0017                                                | 0105 | 0193 | T291A157M010(1)S             |
| 150.0                                              | A            | 10          | T191A157K010AS       | 2.0                              | 17.00                         | 1.51                                   | 900                                               | 0018                                                | 0106 | 0194 | T291A157K010(1)S             |
| 560.0                                              | B            | 20          | T191B567M010AS       | 3.0                              | 53.00                         | 1.26                                   | 1450                                              | 0019                                                | 0107 | 0195 | T291B567M010(1)S             |
| 560.0                                              | B            | 10          | T191B567K010AS       | 3.0                              | 53.00                         | 1.26                                   | 1450                                              | 0020                                                | 0108 | 0196 | T291B567K010(1)S             |
| 1200.0                                             | C            | 20          | T191C128M010AS       | 5.0                              | 68.50                         | 0.76                                   | 1850                                              | 0021                                                | 0109 | 0197 | T291C128M010(1)S             |
| 1200.0                                             | C            | 10          | T191C128K010AS       | 5.0                              | 68.50                         | 0.76                                   | 1850                                              | 0022                                                | 0110 | 0198 | T291C128K010(1)S             |
| 1500.0                                             | D            | 20          | T191D158M010AS       | 7.0                              | 57.00                         | 0.51                                   | 2300                                              | 0023                                                | 0111 | 0199 | T291D158M010(1)S             |
| 1500.0                                             | D            | 10          | T191D158K010AS       | 7.0                              | 57.00                         | 0.51                                   | 2300                                              | 0024                                                | 0112 | 0200 | T291D158K010(1)S             |
| 15 Volt Rating at +85°C (10 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 100.0                                              | A            | 20          | T191A107M015AS       | 2.0                              | 15.00                         | 1.99                                   | 900                                               | 0025                                                | 0113 | 0201 | T291A107M015(1)S             |
| 100.0                                              | A            | 10          | T191A107K015AS       | 2.0                              | 15.00                         | 1.99                                   | 900                                               | 0026                                                | 0114 | 0202 | T291A107K015(1)S             |
| 390.0                                              | B            | 20          | T191B397M015AS       | 3.0                              | 37.00                         | 1.26                                   | 1450                                              | 0027                                                | 0115 | 0203 | T291B397M015(1)S             |
| 390.0                                              | B            | 10          | T191B397K015AS       | 3.0                              | 37.00                         | 1.26                                   | 1450                                              | 0028                                                | 0116 | 0204 | T291B397K015(1)S             |
| 820.0                                              | C            | 20          | T191C827M015AS       | 6.0                              | 55.50                         | 0.90                                   | 1800                                              | 0029                                                | 0117 | 0205 | T291C827M015(1)S             |
| 820.0                                              | C            | 10          | T191C827K015AS       | 6.0                              | 55.50                         | 0.90                                   | 1800                                              | 0030                                                | 0118 | 0206 | T291C827K015(1)S             |
| 1000.0                                             | D            | 20          | T191D108M015AS       | 8.0                              | 46.00                         | 0.61                                   | 2300                                              | 0031                                                | 0119 | 0207 | T291D108M015(1)S             |
| 1000.0                                             | D            | 10          | T191D108K015AS       | 8.0                              | 46.00                         | 0.61                                   | 2300                                              | 0032                                                | 0120 | 0208 | T291D108K015(1)S             |
| 25 Volt Rating at +85°C (15 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 68.0                                               | A            | 20          | T191A686M025AS       | 2.0                              | 11.00                         | 2.15                                   | 850                                               | 0033                                                | 0121 | 0209 | T291A686M025(1)S             |
| 68.0                                               | A            | 10          | T191A686K025AS       | 2.0                              | 11.00                         | 2.15                                   | 850                                               | 0034                                                | 0122 | 0210 | T291A686K025(1)S             |
| 270.0                                              | B            | 20          | T191B277M025AS       | 3.0                              | 27.50                         | 1.35                                   | 1400                                              | 0035                                                | 0123 | 0211 | T291B277M025(1)S             |
| 270.0                                              | B            | 10          | T191B277K025AS       | 3.0                              | 27.50                         | 1.35                                   | 1400                                              | 0036                                                | 0124 | 0212 | T291B277K025(1)S             |
| 560.0                                              | C            | 20          | T191C567M025AS       | 7.0                              | 38.00                         | 0.90                                   | 1750                                              | 0037                                                | 0125 | 0213 | T291C567M025(1)S             |
| 560.0                                              | C            | 10          | T191C567K025AS       | 7.0                              | 38.00                         | 0.90                                   | 1750                                              | 0038                                                | 0126 | 0214 | T291C567K025(1)S             |
| 680.0                                              | D            | 20          | T191D687M025AS       | 8.0                              | 31.50                         | 0.62                                   | 2100                                              | 0039                                                | 0127 | 0215 | T291D687M025(1)S             |
| 680.0                                              | D            | 10          | T191D687K025AS       | 8.0                              | 31.50                         | 0.62                                   | 2100                                              | 0040                                                | 0128 | 0216 | T291D687K025(1)S             |
| 30 Volt Rating at +85°C (20 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 56.0                                               | A            | 20          | T191A566M030AS       | 2.0                              | 11.00                         | 2.61                                   | 800                                               | 0041                                                | 0129 | 0217 | T291A566M030(1)S             |
| 56.0                                               | A            | 10          | T191A566K030AS       | 2.0                              | 11.00                         | 2.61                                   | 800                                               | 0042                                                | 0130 | 0218 | T291A566K030(1)S             |
| 220.0                                              | B            | 20          | T191B227M030AS       | 3.0                              | 21.00                         | 1.27                                   | 1200                                              | 0043                                                | 0131 | 0219 | T291B227M030(1)S             |
| 220.0                                              | B            | 10          | T191B227K030AS       | 3.0                              | 21.00                         | 1.27                                   | 1200                                              | 0044                                                | 0132 | 0220 | T291B227K030(1)S             |
| 470.0                                              | C            | 20          | T191C477M030AS       | 8.0                              | 32.00                         | 0.91                                   | 1500                                              | 0045                                                | 0133 | 0221 | T291C477M030(1)S             |
| 470.0                                              | C            | 10          | T191C477K030AS       | 8.0                              | 32.00                         | 0.91                                   | 1500                                              | 0046                                                | 0134 | 0222 | T291C477K030(1)S             |
| 560.0                                              | D            | 20          | T191D567M030AS       | 9.0                              | 27.50                         | 0.65                                   | 2000                                              | 0047                                                | 0135 | 0223 | T291D567M030(1)S             |
| 560.0                                              | D            | 10          | T191D567K030AS       | 9.0                              | 27.50                         | 0.65                                   | 2000                                              | 0048                                                | 0136 | 0224 | T291D567K030(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(#) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e. 80g vibration and 500g shock)

# Wet Tantalum T191/T291 Series

## T191/T291 (CLR91) Ratings & Part Number Reference

| Cap<br>μF                                           | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>μA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mA at<br>85°C 40 kHz | MIL-PRF-39006/31A (CLR91)<br>Capacitors Dash Number |        |         | KEMET Military<br>Equivalent |
|-----------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|------------------------------------------------|-----------------------------------------------------|--------|---------|------------------------------|
|                                                     |              |             |                      |                                  |                               |                                        |                                                | Reference (#)<br>Failure Rate (%/1000 Hrs)          |        |         |                              |
|                                                     |              |             |                      |                                  |                               |                                        |                                                | M(1.0)                                              | P(0.1) | R(0.01) |                              |
| 50 Volt Rating at +85°C (30 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                |                                                     |        |         |                              |
| 33.0                                                | A            | 20          | T191A336M050AS       | 2.0                              | 6.15                          | 2.48                                   | 700                                            | 0049                                                | 0137   | 0225    | T291A336M050(1)S             |
| 33.0                                                | A            | 10          | T191A336K050AS       | 2.0                              | 6.15                          | 2.48                                   | 700                                            | 0050                                                | 0138   | 0226    | T291A336K050(1)S             |
| 120.0                                               | B            | 20          | T191B127M050AS       | 4.0                              | 11.25                         | 1.25                                   | 1200                                           | 0051                                                | 0139   | 0227    | T291B127M050(1)S             |
| 120.0                                               | B            | 10          | T191B127K050AS       | 4.0                              | 11.25                         | 1.25                                   | 1200                                           | 0052                                                | 0140   | 0228    | T291B127K050(1)S             |
| 270.0                                               | C            | 20          | T191C277M050AS       | 8.0                              | 18.50                         | 0.91                                   | 1450                                           | 0053                                                | 0141   | 0229    | T291C277M050(1)S             |
| 270.0                                               | C            | 10          | T191C277K050AS       | 8.0                              | 18.50                         | 0.91                                   | 1450                                           | 0054                                                | 0142   | 0230    | T291C277K050(1)S             |
| 330.0                                               | D            | 20          | T191D337M050AS       | 9.0                              | 19.00                         | 0.77                                   | 1900                                           | 0055                                                | 0143   | 0231    | T291D337M050(1)S             |
| 330.0                                               | D            | 10          | T191D337K050AS       | 9.0                              | 19.00                         | 0.77                                   | 1900                                           | 0056                                                | 0144   | 0232    | T291D337K050(1)S             |
| 60 Volt Rating at +85°C (40 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                |                                                     |        |         |                              |
| 27.0                                                | A            | 20          | T191A276M060AS       | 3.0                              | 5.10                          | 2.51                                   | 700                                            | 0057                                                | 0145   | 0233    | T291A276M060(1)S             |
| 27.0                                                | A            | 10          | T191A276K060AS       | 3.0                              | 5.10                          | 2.51                                   | 700                                            | 0058                                                | 0146   | 0234    | T291A276K060(1)S             |
| 100.0                                               | B            | 20          | T191B107M060AS       | 4.0                              | 9.50                          | 1.26                                   | 1100                                           | 0059                                                | 0147   | 0235    | T291B107M060(1)S             |
| 100.0                                               | B            | 10          | T191B107K060AS       | 4.0                              | 9.50                          | 1.26                                   | 1100                                           | 0060                                                | 0148   | 0236    | T291B107K060(1)S             |
| 220.0                                               | C            | 20          | T191C227M060AS       | 8.0                              | 15.00                         | 0.91                                   | 1400                                           | 0061                                                | 0149   | 0237    | T291C227M060(1)S             |
| 220.0                                               | C            | 10          | T191C227K060AS       | 8.0                              | 15.00                         | 0.91                                   | 1400                                           | 0062                                                | 0150   | 0238    | T291C227K060(1)S             |
| 270.0                                               | D            | 20          | T191D277M060AS       | 9.0                              | 13.50                         | 0.67                                   | 1850                                           | 0063                                                | 0151   | 0239    | T291D277M060(1)S             |
| 270.0                                               | D            | 10          | T191D277K060AS       | 9.0                              | 13.50                         | 0.67                                   | 1850                                           | 0064                                                | 0152   | 0240    | T291D277K060(1)S             |
| 75 Volt Rating at +85°C (50 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                |                                                     |        |         |                              |
| 22.0                                                | A            | 20          | T191A226M075AS       | 3.0                              | 4.25                          | 2.57                                   | 600                                            | 0065                                                | 0153   | 0241    | T291A226M075(1)S             |
| 22.0                                                | A            | 10          | T191A226K075AS       | 3.0                              | 4.25                          | 2.57                                   | 600                                            | 0066                                                | 0154   | 0242    | T291A226K075(1)S             |
| 82.0                                                | B            | 20          | T191B826M075AS       | 4.0                              | 7.60                          | 1.23                                   | 1000                                           | 0067                                                | 0155   | 0243    | T291B826M075(1)S             |
| 82.0                                                | B            | 10          | T191B826K075AS       | 4.0                              | 7.60                          | 1.23                                   | 1000                                           | 0068                                                | 0156   | 0244    | T291B826K075(1)S             |
| 180.0                                               | C            | 20          | T191C187M075AS       | 9.0                              | 12.20                         | 0.90                                   | 1300                                           | 0069                                                | 0157   | 0245    | T291C187M075(1)S             |
| 180.0                                               | C            | 10          | T191C187K075AS       | 9.0                              | 12.20                         | 0.90                                   | 1300                                           | 0070                                                | 0158   | 0246    | T291C187K075(1)S             |
| 220.0                                               | D            | 20          | T191D227M075AS       | 10.0                             | 18.50                         | 1.12                                   | 1800                                           | 0071                                                | 0159   | 0247    | T291D227M075(1)S             |
| 220.0                                               | D            | 10          | T191D227K075AS       | 10.0                             | 18.50                         | 1.12                                   | 1800                                           | 0072                                                | 0160   | 0248    | T291D227K075(1)S             |
| 100 Volt Rating at +85°C (65 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                |                                                     |        |         |                              |
| 10.0                                                | A            | 20          | T191A106M100AS       | 3.0                              | 2.25                          | 2.99                                   | 800                                            | 0073                                                | 0161   | 0249    | T291A106M100(1)S             |
| 10.0                                                | A            | 10          | T191A106K100AS       | 3.0                              | 2.25                          | 2.99                                   | 800                                            | 0074                                                | 0162   | 0250    | T291A106K100(1)S             |
| 39.0                                                | B            | 20          | T191B396M100AS       | 5.0                              | 5.20                          | 1.77                                   | 1300                                           | 0075                                                | 0163   | 0251    | T291B396M100(1)S             |
| 39.0                                                | B            | 10          | T191B396K100AS       | 5.0                              | 5.20                          | 1.77                                   | 1300                                           | 0076                                                | 0164   | 0252    | T291B396K100(1)S             |
| 68.0                                                | C            | 20          | T191C686M100AS       | 10.0                             | 5.65                          | 1.11                                   | 1600                                           | 0077                                                | 0165   | 0253    | T291C686M100(1)S             |
| 68.0                                                | C            | 10          | T191C686K100AS       | 10.0                             | 5.65                          | 1.11                                   | 1600                                           | 0078                                                | 0166   | 0254    | T291C686K100(1)S             |
| 120.0                                               | D            | 20          | T191D127M100AS       | 12.0                             | 12.50                         | 1.38                                   | 2000                                           | 0079                                                | 0167   | 0255    | T291D127M100(1)S             |
| 120.0                                               | D            | 10          | T191D127K100AS       | 12.0                             | 12.50                         | 1.38                                   | 2000                                           | 0080                                                | 0168   | 0256    | T291D127K100(1)S             |
| 125 Volt Rating at +85°C (85 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                |                                                     |        |         |                              |
| 6.8                                                 | A            | 20          | T191A685M125AS       | 3.0                              | 3.00                          | 5.86                                   | 700                                            | 0081                                                | 0169   | 0257    | T291A685M125(1)S             |
| 6.8                                                 | A            | 10          | T191A685K125AS       | 3.0                              | 3.00                          | 5.86                                   | 700                                            | 0082                                                | 0170   | 0258    | T291A685K125(1)S             |
| 27.0                                                | B            | 20          | T191B276M125AS       | 5.0                              | 3.60                          | 1.77                                   | 1200                                           | 0083                                                | 0171   | 0259    | T291B276M125(1)S             |
| 27.0                                                | B            | 10          | T191B276K125AS       | 5.0                              | 3.60                          | 1.77                                   | 1200                                           | 0084                                                | 0172   | 0260    | T291B276K125(1)S             |
| 47.0                                                | C            | 20          | T191C476M125AS       | 10.0                             | 3.95                          | 1.12                                   | 1500                                           | 0085                                                | 0173   | 0261    | T291C476M125(1)S             |
| 47.0                                                | C            | 10          | T191C476K125AS       | 10.0                             | 3.95                          | 1.12                                   | 1500                                           | 0086                                                | 0174   | 0262    | T291C476K125(1)S             |
| 82.0                                                | D            | 20          | T191D826M125AS       | 12.0                             | 8.70                          | 1.41                                   | 1900                                           | 0087                                                | 0175   | 0263    | T291D826M125(1)S             |
| 82.0                                                | D            | 10          | T191D826K125AS       | 12.0                             | 8.70                          | 1.41                                   | 1900                                           | 0088                                                | 0176   | 0264    | T291D826K125(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(#) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e. 80g vibration and 500g shock)



## Wet Tantalum T192/T292 Series

### T192/T292 (CLR79) Ratings & Part Number Reference

| Cap<br>µF                                         | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>µA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mAmps at<br>85°C 40 kHz | MIL-PRF-39006/22F (CLR79)<br>Capacitors Dash Number<br>Reference (#)<br>Failure Rate (%/1000 Hrs) |        |         | KEMET Military<br>Equivalent |
|---------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------|--------|---------|------------------------------|
|                                                   |              |             |                      |                                  |                               |                                        |                                                   | M(1.0)                                                                                            | P(0.1) | R(0.01) |                              |
|                                                   |              |             |                      |                                  |                               |                                        |                                                   |                                                                                                   |        |         |                              |
| 6 Volt Rating at +85°C (4 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                   |                                                                                                   |        |         |                              |
| 30.0                                              | A            | 20          | T192A306M006AS       | 1.0                              | 9.0                           | 3.98                                   | 820                                               | 0001                                                                                              | 0221   | 0441    | T292A306M006(1)S             |
| 30.0                                              | A            | 10          | T192A306K006AS       | 1.0                              | 9.0                           | 3.98                                   | 820                                               | 0002                                                                                              | 0222   | 0442    | T292A306K006(1)S             |
| 30.0                                              | A            | 5           | T192A306J006AS       | 1.0                              | 9.0                           | 3.98                                   | 820                                               | 0003                                                                                              | 0223   | 0443    | T292A306J006(1)S             |
| 68.0                                              | A            | 20          | T192A686M006AS       | 1.0                              | 15.0                          | 3.16                                   | 960                                               | 0004                                                                                              | 0224   | 0444    | T292A686M006(1)S             |
| 68.0                                              | A            | 10          | T192A686K006AS       | 1.0                              | 15.0                          | 3.16                                   | 960                                               | 0005                                                                                              | 0225   | 0445    | T292A686K006(1)S             |
| 68.0                                              | A            | 5           | T192A686J006AS       | 1.0                              | 15.0                          | 3.16                                   | 960                                               | 0006                                                                                              | 0226   | 0446    | T292A686J006(1)S             |
| 140.0                                             | B            | 20          | T192B147M006AS       | 1.0                              | 21.0                          | 1.99                                   | 1200                                              | 0007                                                                                              | 0227   | 0447    | T292B147M006(1)S             |
| 140.0                                             | B            | 10          | T192B147K006AS       | 1.0                              | 21.0                          | 1.99                                   | 1200                                              | 0008                                                                                              | 0228   | 0448    | T292B147K006(1)S             |
| 140.0                                             | B            | 5           | T192B147J006AS       | 1.0                              | 21.0                          | 1.99                                   | 1200                                              | 0009                                                                                              | 0229   | 0449    | T292B147J006(1)S             |
| 270.0                                             | B            | 20          | T192B277M006AS       | 1.0                              | 45.0                          | 2.21                                   | 1375                                              | 0010                                                                                              | 0230   | 0450    | T292B277M006(1)S             |
| 270.0                                             | B            | 10          | T192B277K006AS       | 1.0                              | 45.0                          | 2.21                                   | 1375                                              | 0011                                                                                              | 0231   | 0451    | T292B277K006(1)S             |
| 270.0                                             | B            | 5           | T192B277J006AS       | 1.0                              | 45.0                          | 2.21                                   | 1375                                              | 0012                                                                                              | 0232   | 0452    | T292B277J006(1)S             |
| 330.0                                             | C            | 20          | T192C337M006AS       | 2.0                              | 36.0                          | 1.45                                   | 1800                                              | 0013                                                                                              | 0233   | 0453    | T292C337M006(1)S             |
| 330.0                                             | C            | 10          | T192C337K006AS       | 2.0                              | 36.0                          | 1.45                                   | 1800                                              | 0014                                                                                              | 0234   | 0454    | T292C337K006(1)S             |
| 330.0                                             | C            | 5           | T192C337J006AS       | 2.0                              | 36.0                          | 1.45                                   | 1800                                              | 0015                                                                                              | 0235   | 0455    | T292C337J006(1)S             |
| 560.0                                             | C            | 20          | T192C567M006AS       | 2.0                              | 55.0                          | 1.30                                   | 1900                                              | 0016                                                                                              | 0236   | 0456    | T292C567M006(1)S             |
| 560.0                                             | C            | 10          | T192C567K006AS       | 2.0                              | 55.0                          | 1.30                                   | 1900                                              | 0017                                                                                              | 0237   | 0457    | T292C567K006(1)S             |
| 560.0                                             | C            | 5           | T192C567J006AS       | 2.0                              | 55.0                          | 1.30                                   | 1900                                              | 0018                                                                                              | 0238   | 0458    | T292C567J006(1)S             |
| 1200.0                                            | D            | 20          | T192D128M006AS       | 3.0                              | 90.0                          | 1.00                                   | 2265                                              | 0019                                                                                              | 0239   | 0459    | T292D128M006(1)S             |
| 1200.0                                            | D            | 10          | T192D128K006AS       | 3.0                              | 90.0                          | 1.00                                   | 2265                                              | 0020                                                                                              | 0240   | 0460    | T292D128K006(1)S             |
| 8 Volt Rating at +85°C (5 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                   |                                                                                                   |        |         |                              |
| 25.0                                              | A            | 20          | T192A256M008AS       | 1.0                              | 7.5                           | 3.98                                   | 820                                               | 0021                                                                                              | 0241   | 0461    | T292A256M008(1)S             |
| 25.0                                              | A            | 10          | T192A256K008AS       | 1.0                              | 7.5                           | 3.98                                   | 820                                               | 0022                                                                                              | 0242   | 0462    | T292A256K008(1)S             |
| 25.0                                              | A            | 5           | T192A256J008AS       | 1.0                              | 7.5                           | 3.98                                   | 820                                               | 0023                                                                                              | 0243   | 0463    | T292A256J008(1)S             |
| 56.0                                              | A            | 20          | T192A566M008AS       | 1.0                              | 14.0                          | 3.32                                   | 900                                               | 0024                                                                                              | 0244   | 0464    | T292A566M008(1)S             |
| 56.0                                              | A            | 10          | T192A566K008AS       | 1.0                              | 14.0                          | 3.32                                   | 900                                               | 0025                                                                                              | 0245   | 0465    | T292A566K008(1)S             |
| 56.0                                              | A            | 5           | T192A566J008AS       | 1.0                              | 14.0                          | 3.32                                   | 900                                               | 0026                                                                                              | 0246   | 0466    | T292A566J008(1)S             |
| 120.0                                             | B            | 20          | T192B127M008AS       | 1.0                              | 20.0                          | 2.21                                   | 1220                                              | 0027                                                                                              | 0247   | 0467    | T292B127M008(1)S             |
| 120.0                                             | B            | 10          | T192B127K008AS       | 1.0                              | 20.0                          | 2.21                                   | 1220                                              | 0028                                                                                              | 0248   | 0468    | T292B127K008(1)S             |
| 120.0                                             | B            | 5           | T192B127J008AS       | 1.0                              | 20.0                          | 2.21                                   | 1220                                              | 0029                                                                                              | 0249   | 0469    | T292B127J008(1)S             |
| 220.0                                             | B            | 20          | T192B227M008AS       | 1.0                              | 37.0                          | 2.23                                   | 1370                                              | 0030                                                                                              | 0250   | 0470    | T292B227M008(1)S             |
| 220.0                                             | B            | 10          | T192B227K008AS       | 1.0                              | 37.0                          | 2.23                                   | 1370                                              | 0031                                                                                              | 0251   | 0471    | T292B227K008(1)S             |
| 220.0                                             | B            | 5           | T192B227J008AS       | 1.0                              | 37.0                          | 2.23                                   | 1370                                              | 0032                                                                                              | 0252   | 0472    | T292B227J008(1)S             |
| 290.0                                             | C            | 20          | T192C297M008AS       | 2.0                              | 34.0                          | 1.56                                   | 1770                                              | 0033                                                                                              | 0253   | 0473    | T292C297M008(1)S             |
| 290.0                                             | C            | 10          | T192C297K008AS       | 2.0                              | 34.0                          | 1.56                                   | 1770                                              | 0034                                                                                              | 0254   | 0474    | T292C297K008(1)S             |
| 290.0                                             | C            | 5           | T192C297J008AS       | 2.0                              | 34.0                          | 1.56                                   | 1770                                              | 0035                                                                                              | 0255   | 0475    | T292C297J008(1)S             |
| 430.0                                             | C            | 20          | T192C437M008AS       | 2.0                              | 46.0                          | 1.42                                   | 1825                                              | 0036                                                                                              | 0256   | 0476    | T292C437M008(1)S             |
| 430.0                                             | C            | 10          | T192C437K008AS       | 2.0                              | 46.0                          | 1.42                                   | 1825                                              | 0037                                                                                              | 0257   | 0477    | T292C437K008(1)S             |
| 430.0                                             | C            | 5           | T192C437J008AS       | 2.0                              | 46.0                          | 1.42                                   | 1825                                              | 0038                                                                                              | 0258   | 0478    | T292C437J008(1)S             |
| 850.0                                             | D            | 20          | T192D857M008AS       | 4.0                              | 60.0                          | 0.94                                   | 2330                                              | 0039                                                                                              | 0259   | 0479    | T292D857M008(1)S             |
| 850.0                                             | D            | 10          | T192D857K008AS       | 4.0                              | 60.0                          | 0.94                                   | 2330                                              | 0040                                                                                              | 0260   | 0480    | T292D857K008(1)S             |
| 10 Volt Rating at +85°C (7 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                                                                   |        |         |                              |
| 20.0                                              | A            | 20          | T192A206M010AS       | 1.0                              | 6.0                           | 3.98                                   | 820                                               | 0041                                                                                              | 0261   | 0481    | T292A206M010(1)S             |
| 20.0                                              | A            | 10          | T192A206K010AS       | 1.0                              | 6.0                           | 3.98                                   | 820                                               | 0042                                                                                              | 0262   | 0482    | T292A206K010(1)S             |
| 20.0                                              | A            | 5           | T192A206J010AS       | 1.0                              | 6.0                           | 3.98                                   | 820                                               | 0043                                                                                              | 0263   | 0483    | T292A206J010(1)S             |
| 47.0                                              | A            | 20          | T192A476M010AS       | 1.0                              | 13.0                          | 3.67                                   | 855                                               | 0044                                                                                              | 0264   | 0484    | T292A476M010(1)S             |
| 47.0                                              | A            | 10          | T192A476K010AS       | 1.0                              | 13.0                          | 3.67                                   | 855                                               | 0045                                                                                              | 0265   | 0485    | T292A476K010(1)S             |
| 47.0                                              | A            | 5           | T192A476J010AS       | 1.0                              | 13.0                          | 3.67                                   | 855                                               | 0046                                                                                              | 0266   | 0486    | T292A476J010(1)S             |
| 100.0                                             | B            | 20          | T192B107M010AS       | 1.0                              | 15.0                          | 1.99                                   | 1200                                              | 0047                                                                                              | 0267   | 0487    | T292B107M010(1)S             |
| 100.0                                             | B            | 10          | T192B107K010AS       | 1.0                              | 15.0                          | 1.99                                   | 1200                                              | 0048                                                                                              | 0268   | 0488    | T292B107K010(1)S             |
| 100.0                                             | B            | 5           | T192B107J010AS       | 1.0                              | 15.0                          | 1.99                                   | 1200                                              | 0049                                                                                              | 0269   | 0489    | T292B107J010(1)S             |
| 180.0                                             | B            | 20          | T192B187M010AS       | 1.0                              | 30.0                          | 2.21                                   | 1365                                              | 0050                                                                                              | 0270   | 0490    | T292B187M010(1)S             |
| 180.0                                             | B            | 10          | T192B187K010AS       | 1.0                              | 30.0                          | 2.21                                   | 1365                                              | 0051                                                                                              | 0271   | 0491    | T292B187K010(1)S             |
| 180.0                                             | B            | 5           | T192B187J010AS       | 1.0                              | 30.0                          | 2.21                                   | 1365                                              | 0052                                                                                              | 0272   | 0492    | T292B187J010(1)S             |
| 250.0                                             | C            | 20          | T192C257M010AS       | 2.0                              | 30.0                          | 1.59                                   | 1720                                              | 0053                                                                                              | 0273   | 0493    | T292C257M010(1)S             |
| 250.0                                             | C            | 10          | T192C257K010AS       | 2.0                              | 30.0                          | 1.59                                   | 1720                                              | 0054                                                                                              | 0274   | 0494    | T292C257K010(1)S             |
| 250.0                                             | C            | 5           | T192C257J010AS       | 2.0                              | 30.0                          | 1.59                                   | 1720                                              | 0055                                                                                              | 0275   | 0495    | T292C257J010(1)S             |
| 390.0                                             | C            | 20          | T192C397M010AS       | 2.0                              | 44.0                          | 1.50                                   | 1800                                              | 0056                                                                                              | 0276   | 0496    | T292C397M010(1)S             |
| 390.0                                             | C            | 10          | T192C397K010AS       | 2.0                              | 44.0                          | 1.50                                   | 1800                                              | 0057                                                                                              | 0277   | 0497    | T292C397K010(1)S             |
| 390.0                                             | C            | 5           | T192C397J010AS       | 2.0                              | 44.0                          | 1.50                                   | 1800                                              | 0058                                                                                              | 0278   | 0498    | T292C397J010(1)S             |
| 750.0                                             | D            | 20          | T192D757M010AS       | 4.0                              | 50.0                          | 0.88                                   | 2360                                              | 0059                                                                                              | 0279   | 0499    | T292D757M010(1)S             |
| 750.0                                             | D            | 10          | T192D757K010AS       | 4.0                              | 50.0                          | 0.88                                   | 2360                                              | 0060                                                                                              | 0280   | 0500    | T292D757K010(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(#) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e. 80g vibration and 500g shock)

# Wet Tantalum T192/T292 Series

## T192/T292 (CLR79) Ratings & Part Number Reference

| Cap<br>μF                                          | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>μA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mAmps at<br>85°C 40 kHz | MIL-PRF-39006/22F (CLR79)<br>Capacitors Dash Number |      |      | KEMET Military<br>Equivalent |
|----------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|---------------------------------------------------|-----------------------------------------------------|------|------|------------------------------|
|                                                    |              |             |                      |                                  |                               |                                        |                                                   | Reference (#)                                       |      |      |                              |
|                                                    |              |             |                      |                                  |                               |                                        |                                                   | Failure Rate (%/1000 Hrs)                           |      |      |                              |
| M(1.0) P(0.1) R(0.01)                              |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 15 Volt Rating at +85°C (10 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 15.0                                               | A            | 20          | T192A156M015AS       | 1.0                              | 5.0                           | 4.42                                   | 780                                               | 0061                                                | 0281 | 0501 | T292A156M015(1)S             |
| 15.0                                               | A            | 10          | T192A156K015AS       | 1.0                              | 5.0                           | 4.42                                   | 780                                               | 0062                                                | 0282 | 0502 | T292A156K015(1)S             |
| 15.0                                               | A            | 5           | T192A156J015AS       | 1.0                              | 5.0                           | 4.42                                   | 780                                               | 0063                                                | 0283 | 0503 | T292A156J015(1)S             |
| 33.0                                               | A            | 20          | T192A336M015AS       | 1.0                              | 10.0                          | 4.02                                   | 820                                               | 0064                                                | 0284 | 0504 | T292A336M015(1)S             |
| 33.0                                               | A            | 10          | T192A336K015AS       | 1.0                              | 10.0                          | 4.02                                   | 820                                               | 0065                                                | 0285 | 0505 | T292A336K015(1)S             |
| 33.0                                               | A            | 5           | T192A336J015AS       | 1.0                              | 10.0                          | 4.02                                   | 820                                               | 0066                                                | 0286 | 0506 | T292A336J015(1)S             |
| 70.0                                               | B            | 20          | T192B706M015AS       | 1.0                              | 13.0                          | 2.46                                   | 1150                                              | 0067                                                | 0287 | 0507 | T292B706M015(1)S             |
| 70.0                                               | B            | 10          | T192B706K015AS       | 1.0                              | 13.0                          | 2.46                                   | 1150                                              | 0068                                                | 0288 | 0508 | T292B706K015(1)S             |
| 70.0                                               | B            | 5           | T192B706J015AS       | 1.0                              | 13.0                          | 2.46                                   | 1150                                              | 0069                                                | 0289 | 0509 | T292B706J015(1)S             |
| 120.0                                              | B            | 20          | T192B127M015AS       | 1.0                              | 18.0                          | 1.99                                   | 1450                                              | 0070                                                | 0290 | 0510 | T292B127M015(1)S             |
| 120.0                                              | B            | 10          | T192B127K015AS       | 1.0                              | 18.0                          | 1.99                                   | 1450                                              | 0071                                                | 0291 | 0511 | T292B127K015(1)S             |
| 120.0                                              | B            | 5           | T192B127J015AS       | 1.0                              | 18.0                          | 1.99                                   | 1450                                              | 0072                                                | 0292 | 0512 | T292B127J015(1)S             |
| 170.0                                              | C            | 20          | T192C177M015AS       | 2.0                              | 25.0                          | 1.95                                   | 1480                                              | 0073                                                | 0293 | 0513 | T292C177M015(1)S             |
| 170.0                                              | C            | 10          | T192C177K015AS       | 2.0                              | 25.0                          | 1.95                                   | 1480                                              | 0074                                                | 0294 | 0514 | T292C177K015(1)S             |
| 170.0                                              | C            | 5           | T192C177J015AS       | 2.0                              | 25.0                          | 1.95                                   | 1480                                              | 0075                                                | 0295 | 0515 | T292C177J015(1)S             |
| 270.0                                              | C            | 20          | T192C277M015AS       | 2.0                              | 32.0                          | 1.57                                   | 1740                                              | 0076                                                | 0296 | 0516 | T292C277M015(1)S             |
| 270.0                                              | C            | 10          | T192C277K015AS       | 2.0                              | 32.0                          | 1.57                                   | 1740                                              | 0077                                                | 0297 | 0517 | T292C277K015(1)S             |
| 270.0                                              | C            | 5           | T192C277J015AS       | 2.0                              | 32.0                          | 1.57                                   | 1740                                              | 0078                                                | 0298 | 0518 | T292C277J015(1)S             |
| 540.0                                              | D            | 20          | T192D547M015AS       | 6.0                              | 40.0                          | 0.98                                   | 2330                                              | 0079                                                | 0299 | 0519 | T292D547M015(1)S             |
| 540.0                                              | D            | 10          | T192D547K015AS       | 6.0                              | 40.0                          | 0.98                                   | 2330                                              | 0080                                                | 0300 | 0520 | T292D547K015(1)S             |
| 25 Volt Rating at +85°C - 15 Volt Rating at +125°C |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 10.0                                               | A            | 20          | T192A106M025AS       | 1.0                              | 4.0                           | 5.31                                   | 715                                               | 0081                                                | 0301 | 0521 | T292A106M025(1)S             |
| 10.0                                               | A            | 10          | T192A106K025AS       | 1.0                              | 4.0                           | 5.31                                   | 715                                               | 0082                                                | 0302 | 0522 | T292A106K025(1)S             |
| 10.0                                               | A            | 5           | T192A106J025AS       | 1.0                              | 4.0                           | 5.31                                   | 715                                               | 0083                                                | 0303 | 0523 | T292A106J025(1)S             |
| 22.0                                               | A            | 20          | T192A226M025AS       | 1.0                              | 6.6                           | 3.98                                   | 825                                               | 0084                                                | 0304 | 0524 | T292A226M025(1)S             |
| 22.0                                               | A            | 10          | T192A226K025AS       | 1.0                              | 6.6                           | 3.98                                   | 825                                               | 0085                                                | 0305 | 0525 | T292A226K025(1)S             |
| 22.0                                               | A            | 5           | T192A226J025AS       | 1.0                              | 6.6                           | 3.98                                   | 825                                               | 0086                                                | 0306 | 0526 | T292A226J025(1)S             |
| 50.0                                               | B            | 20          | T192B506M025AS       | 1.0                              | 11.0                          | 2.92                                   | 1130                                              | 0087                                                | 0307 | 0527 | T292B506M025(1)S             |
| 50.0                                               | B            | 10          | T192B506K025AS       | 1.0                              | 11.0                          | 2.92                                   | 1130                                              | 0088                                                | 0308 | 0528 | T292B506K025(1)S             |
| 50.0                                               | B            | 5           | T192B506J025AS       | 1.0                              | 11.0                          | 2.92                                   | 1130                                              | 0089                                                | 0309 | 0529 | T292B506J025(1)S             |
| 100.0                                              | B            | 20          | T192B107M025AS       | 1.0                              | 15.0                          | 1.99                                   | 1435                                              | 0090                                                | 0310 | 0530 | T292B107M025(1)S             |
| 100.0                                              | B            | 10          | T192B107K025AS       | 1.0                              | 15.0                          | 1.99                                   | 1435                                              | 0091                                                | 0311 | 0531 | T292B107K025(1)S             |
| 100.0                                              | B            | 5           | T192B107J025AS       | 1.0                              | 15.0                          | 1.99                                   | 1435                                              | 0092                                                | 0312 | 0532 | T292B107J025(1)S             |
| 120.0                                              | C            | 20          | T192C127M025AS       | 2.0                              | 21.0                          | 2.32                                   | 1450                                              | 0093                                                | 0313 | 0533 | T292C127M025(1)S             |
| 120.0                                              | C            | 10          | T192C127K025AS       | 2.0                              | 21.0                          | 2.32                                   | 1450                                              | 0094                                                | 0314 | 0534 | T292C127K025(1)S             |
| 120.0                                              | C            | 5           | T192C127J025AS       | 2.0                              | 21.0                          | 2.32                                   | 1450                                              | 0095                                                | 0315 | 0535 | T292C127J025(1)S             |
| 180.0                                              | C            | 20          | T192C187M025AS       | 2.0                              | 26.0                          | 1.92                                   | 1525                                              | 0096                                                | 0316 | 0536 | T292C187M025(1)S             |
| 180.0                                              | C            | 10          | T192C187K025AS       | 2.0                              | 26.0                          | 1.92                                   | 1525                                              | 0097                                                | 0317 | 0537 | T292C187K025(1)S             |
| 180.0                                              | C            | 5           | T192C187J025AS       | 2.0                              | 26.0                          | 1.92                                   | 1525                                              | 0098                                                | 0318 | 0538 | T292C187J025(1)S             |
| 350.0                                              | D            | 20          | T192D357M025AS       | 7.0                              | 35.0                          | 1.33                                   | 1970                                              | 0099                                                | 0319 | 0539 | T292D357M025(1)S             |
| 350.0                                              | D            | 10          | T192D357K025AS       | 7.0                              | 35.0                          | 1.33                                   | 1970                                              | 0100                                                | 0320 | 0540 | T292D357K025(1)S             |
| 30 Volt Rating at +85°C - 20 Volt Rating at +125°C |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 8.0                                                | A            | 20          | T192A805M030AS       | 1.0                              | 4.0                           | 6.64                                   | 640                                               | 0101                                                | 0321 | 0541 | T292A805M030(1)S             |
| 8.0                                                | A            | 10          | T192A805K030AS       | 1.0                              | 4.0                           | 6.64                                   | 640                                               | 0102                                                | 0322 | 0542 | T292A805K030(1)S             |
| 8.0                                                | A            | 5           | T192A805J030AS       | 1.0                              | 4.0                           | 6.64                                   | 640                                               | 0103                                                | 0323 | 0543 | T292A805J030(1)S             |
| 15.0                                               | A            | 20          | T192A156M030AS       | 1.0                              | 5.0                           | 4.42                                   | 780                                               | 0104                                                | 0324 | 0544 | T292A156M030(1)S             |
| 15.0                                               | A            | 10          | T192A156K030AS       | 1.0                              | 5.0                           | 4.42                                   | 780                                               | 0105                                                | 0325 | 0545 | T292A156K030(1)S             |
| 15.0                                               | A            | 5           | T192A156J030AS       | 1.0                              | 5.0                           | 4.42                                   | 780                                               | 0106                                                | 0326 | 0546 | T292A156J030(1)S             |
| 40.0                                               | B            | 20          | T192B406M030AS       | 1.0                              | 10.0                          | 3.32                                   | 1120                                              | 0107                                                | 0327 | 0547 | T292B406M030(1)S             |
| 40.0                                               | B            | 10          | T192B406K030AS       | 1.0                              | 10.0                          | 3.32                                   | 1120                                              | 0108                                                | 0328 | 0548 | T292B406K030(1)S             |
| 40.0                                               | B            | 5           | T192B406J030AS       | 1.0                              | 10.0                          | 3.32                                   | 1120                                              | 0109                                                | 0329 | 0549 | T292B406J030(1)S             |
| 68.0                                               | B            | 20          | T192B686M030AS       | 1.0                              | 13.0                          | 2.54                                   | 1285                                              | 0110                                                | 0330 | 0550 | T292B686M030(1)S             |
| 68.0                                               | B            | 10          | T192B686K030AS       | 1.0                              | 13.0                          | 2.54                                   | 1285                                              | 0111                                                | 0331 | 0551 | T292B686K030(1)S             |
| 68.0                                               | B            | 5           | T192B686J030AS       | 1.0                              | 13.0                          | 2.54                                   | 1285                                              | 0112                                                | 0332 | 0552 | T292B686J030(1)S             |
| 100.0                                              | C            | 20          | T192C107M030AS       | 2.0                              | 17.0                          | 2.26                                   | 1450                                              | 0113                                                | 0333 | 0553 | T292C107M030(1)S             |
| 100.0                                              | C            | 10          | T192C107K030AS       | 2.0                              | 17.0                          | 2.26                                   | 1450                                              | 0114                                                | 0334 | 0554 | T292C107K030(1)S             |
| 100.0                                              | C            | 5           | T192C107J030AS       | 2.0                              | 17.0                          | 2.26                                   | 1450                                              | 0115                                                | 0335 | 0555 | T292C107J030(1)S             |
| 150.0                                              | C            | 20          | T192C157M030AS       | 2.0                              | 23.0                          | 2.03                                   | 1525                                              | 0116                                                | 0336 | 0556 | T292C157M030(1)S             |
| 150.0                                              | C            | 10          | T192C157K030AS       | 2.0                              | 23.0                          | 2.03                                   | 1525                                              | 0117                                                | 0337 | 0557 | T292C157K030(1)S             |
| 150.0                                              | C            | 5           | T192C157J030AS       | 2.0                              | 23.0                          | 2.03                                   | 1525                                              | 0118                                                | 0338 | 0558 | T292C157J030(1)S             |
| 300.0                                              | D            | 20          | T192D307M030AS       | 8.0                              | 31.0                          | 1.37                                   | 1950                                              | 0119                                                | 0339 | 0559 | T292D307M030(1)S             |
| 300.0                                              | D            | 10          | T192D307K030AS       | 8.0                              | 31.0                          | 1.37                                   | 1950                                              | 0120                                                | 0340 | 0560 | T292D307K030(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(\*) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e., 80g vibration and 500g shock).



## Wet Tantalum T192/T292 Series

### T192/T292 (CLR79) Ratings & Part Number Reference

| Cap<br>µF                                          | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>µA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mArms at<br>85°C 40 kHz | MIL-PRF-39006/22F (CLR79)<br>Capacitors Dash Number |      |      | KEMET Military<br>Equivalent |
|----------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|---------------------------------------------------|-----------------------------------------------------|------|------|------------------------------|
|                                                    |              |             |                      |                                  |                               |                                        |                                                   | Reference (#)                                       |      |      |                              |
|                                                    |              |             |                      |                                  |                               |                                        |                                                   | Failure Rate (%/1000 Hrs)                           |      |      |                              |
|                                                    |              |             | M(1.0)               | P(0.1)                           | R(0.01)                       |                                        |                                                   |                                                     |      |      |                              |
| 35 Volt Rating at +85°C (22 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 7.0                                                | A            | 10,20,5     | T192A705(2)035AS     | 0.75                             | 7.4                           | 7.0                                    | 620                                               | N/A                                                 | N/A  | N/A  | N/A                          |
| 15.0                                               | A            | 10,20,5     | T192A156(2)035AS     | 0.75                             | 14.0                          | 6.2                                    | 660                                               | N/A                                                 | N/A  | N/A  | N/A                          |
| 35.0                                               | B            | 10,20,5     | T192B356(2)035AS     | 1.00                             | 22.2                          | 4.2                                    | 1000                                              | N/A                                                 | N/A  | N/A  | N/A                          |
| 68.0                                               | B            | 10,20,5     | T192B686(2)035AS     | 1.00                             | 30.0                          | 2.9                                    | 1195                                              | N/A                                                 | N/A  | N/A  | N/A                          |
| 82.0                                               | C            | 10,20,5     | T192C826(2)035AS     | 2.00                             | 31.0                          | 2.5                                    | 1400                                              | N/A                                                 | N/A  | N/A  | N/A                          |
| 120.0                                              | C            | 10,20,5     | T192C127(2)035AS     | 2.00                             | 43.4                          | 2.4                                    | 1490                                              | N/A                                                 | N/A  | N/A  | N/A                          |
| 270.0                                              | D            | 10,20,5     | T192D277(2)035AS     | 3.00                             | 57.0                          | 1.4                                    | 1950                                              | N/A                                                 | N/A  | N/A  | N/A                          |
| 50 Volt Rating at +85°C (30 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 5.0                                                | A            | 20          | T192A505M050AS       | 1.0                              | 3.0                           | 7.96                                   | 580                                               | 0121                                                | 0341 | 0561 | T292A505M050(1)S             |
| 5.0                                                | A            | 10          | T192A505K050AS       | 1.0                              | 3.0                           | 7.96                                   | 580                                               | 0122                                                | 0342 | 0562 | T292A505K050(1)S             |
| 5.0                                                | A            | 5           | T192A505J050AS       | 1.0                              | 3.0                           | 7.96                                   | 580                                               | 0123                                                | 0343 | 0563 | T292A505J050(1)S             |
| 10.0                                               | A            | 20          | T192A106M050AS       | 1.0                              | 4.0                           | 5.31                                   | 715                                               | 0124                                                | 0344 | 0564 | T292A106M050(1)S             |
| 10.0                                               | A            | 10          | T192A106K050AS       | 1.0                              | 4.0                           | 5.31                                   | 715                                               | 0125                                                | 0345 | 0565 | T292A106K050(1)S             |
| 10.0                                               | A            | 5           | T192A106J050AS       | 1.0                              | 4.0                           | 5.31                                   | 715                                               | 0126                                                | 0346 | 0566 | T292A106J050(1)S             |
| 25.0                                               | B            | 20          | T192B256M050AS       | 1.0                              | 8.0                           | 4.25                                   | 1005                                              | 0127                                                | 0347 | 0567 | T292B256M050(1)S             |
| 25.0                                               | B            | 10          | T192B256K050AS       | 1.0                              | 8.0                           | 4.25                                   | 1005                                              | 0128                                                | 0348 | 0568 | T292B256K050(1)S             |
| 25.0                                               | B            | 5           | T192B256J050AS       | 1.0                              | 8.0                           | 4.25                                   | 1005                                              | 0129                                                | 0349 | 0569 | T292B256J050(1)S             |
| 47.0                                               | B            | 20          | T192B476M050AS       | 1.0                              | 11.0                          | 3.11                                   | 1155                                              | 0130                                                | 0350 | 0570 | T292B476M050(1)S             |
| 47.0                                               | B            | 10          | T192B476K050AS       | 1.0                              | 11.0                          | 3.11                                   | 1155                                              | 0131                                                | 0351 | 0571 | T292B476K050(1)S             |
| 47.0                                               | B            | 5           | T192B476J050AS       | 1.0                              | 11.0                          | 3.11                                   | 1155                                              | 0132                                                | 0352 | 0572 | T292B476J050(1)S             |
| 60.0                                               | C            | 20          | T192C606M050AS       | 2.0                              | 12.0                          | 2.65                                   | 1335                                              | 0133                                                | 0353 | 0573 | T292C606M050(1)S             |
| 60.0                                               | C            | 10          | T192C606K050AS       | 2.0                              | 12.0                          | 2.65                                   | 1335                                              | 0134                                                | 0354 | 0574 | T292C606K050(1)S             |
| 60.0                                               | C            | 5           | T192C606J050AS       | 2.0                              | 12.0                          | 2.65                                   | 1335                                              | 0135                                                | 0355 | 0575 | T292C606J050(1)S             |
| 82.0                                               | C            | 20          | T192C826M050AS       | 2.0                              | 15.0                          | 2.43                                   | 1400                                              | 0136                                                | 0356 | 0576 | T292C826M050(1)S             |
| 82.0                                               | C            | 10          | T192C826K050AS       | 2.0                              | 15.0                          | 2.43                                   | 1400                                              | 0137                                                | 0357 | 0577 | T292C826K050(1)S             |
| 82.0                                               | C            | 5           | T192C826J050AS       | 2.0                              | 15.0                          | 2.43                                   | 1400                                              | 0138                                                | 0358 | 0578 | T292C826J050(1)S             |
| 160.0                                              | D            | 20          | T192D167M050AS       | 8.0                              | 17.0                          | 1.41                                   | 1900                                              | 0139                                                | 0359 | 0579 | T292D167M050(1)S             |
| 160.0                                              | D            | 10          | T192D167K050AS       | 8.0                              | 17.0                          | 1.41                                   | 1900                                              | 0140                                                | 0360 | 0580 | T292D167K050(1)S             |
| 60 Volt Rating at +85°C (40 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 4.0                                                | A            | 20          | T192A405M060AS       | 1.0                              | 2.8                           | 9.29                                   | 525                                               | 0141                                                | 0361 | 0581 | T292A405M060(1)S             |
| 4.0                                                | A            | 10          | T192A405K060AS       | 1.0                              | 2.8                           | 9.29                                   | 525                                               | 0142                                                | 0362 | 0582 | T292A405K060(1)S             |
| 4.0                                                | A            | 5           | T192A405J060AS       | 1.0                              | 2.8                           | 9.29                                   | 525                                               | 0143                                                | 0363 | 0583 | T292A405J060(1)S             |
| 8.2                                                | A            | 20          | T192A825M060AS       | 1.0                              | 4.0                           | 6.47                                   | 625                                               | 0144                                                | 0364 | 0584 | T292A825M060(1)S             |
| 8.2                                                | A            | 10          | T192A825K060AS       | 1.0                              | 4.0                           | 6.47                                   | 625                                               | 0145                                                | 0365 | 0585 | T292A825K060(1)S             |
| 8.2                                                | A            | 5           | T192A825J060AS       | 1.0                              | 4.0                           | 6.47                                   | 625                                               | 0146                                                | 0366 | 0586 | T292A825J060(1)S             |
| 20.0                                               | B            | 20          | T192B206M060AS       | 1.0                              | 7.0                           | 4.64                                   | 930                                               | 0147                                                | 0367 | 0587 | T292B206M060(1)S             |
| 20.0                                               | B            | 10          | T192B206K060AS       | 1.0                              | 7.0                           | 4.64                                   | 930                                               | 0148                                                | 0368 | 0588 | T292B206K060(1)S             |
| 20.0                                               | B            | 5           | T192B206J060AS       | 1.0                              | 7.0                           | 4.64                                   | 930                                               | 0149                                                | 0369 | 0589 | T292B206J060(1)S             |
| 39.0                                               | B            | 20          | T192B396M060AS       | 1.0                              | 10.0                          | 3.40                                   | 1110                                              | 0150                                                | 0370 | 0590 | T292B396M060(1)S             |
| 39.0                                               | B            | 10          | T192B396K060AS       | 1.0                              | 10.0                          | 3.40                                   | 1110                                              | 0151                                                | 0371 | 0591 | T292B396K060(1)S             |
| 39.0                                               | B            | 5           | T192B396J060AS       | 1.0                              | 10.0                          | 3.40                                   | 1110                                              | 0152                                                | 0372 | 0592 | T292B396J060(1)S             |
| 50.0                                               | C            | 20          | T192C506M060AS       | 2.0                              | 10.0                          | 2.65                                   | 1330                                              | 0153                                                | 0373 | 0593 | T292C506M060(1)S             |
| 50.0                                               | C            | 10          | T192C506K060AS       | 2.0                              | 10.0                          | 2.65                                   | 1330                                              | 0154                                                | 0374 | 0594 | T292C506K060(1)S             |
| 50.0                                               | C            | 5           | T192C506J060AS       | 2.0                              | 10.0                          | 2.65                                   | 1330                                              | 0155                                                | 0375 | 0595 | T292C506J060(1)S             |
| 68.0                                               | C            | 20          | T192C686M060AS       | 2.0                              | 13.0                          | 2.54                                   | 1365                                              | 0156                                                | 0376 | 0596 | T292C686M060(1)S             |
| 68.0                                               | C            | 10          | T192C686K060AS       | 2.0                              | 13.0                          | 2.54                                   | 1365                                              | 0157                                                | 0377 | 0597 | T292C686K060(1)S             |
| 68.0                                               | C            | 5           | T192C686J060AS       | 2.0                              | 13.0                          | 2.54                                   | 1365                                              | 0158                                                | 0378 | 0598 | T292C686J060(1)S             |
| 140.0                                              | D            | 20          | T192D147M060AS       | 8.0                              | 16.0                          | 1.52                                   | 1850                                              | 0159                                                | 0379 | 0599 | T292D147M060(1)S             |
| 140.0                                              | D            | 10          | T192D147K060AS       | 8.0                              | 16.0                          | 1.52                                   | 1850                                              | 0160                                                | 0380 | 0600 | T292D147K060(1)S             |
| 75 Volt Rating at +85°C (50 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                     |      |      |                              |
| 3.5                                                | A            | 20          | T192A355M075AS       | 1.0                              | 2.5                           | 9.48                                   | 525                                               | 0161                                                | 0381 | 0601 | T292A355M075(1)S             |
| 3.5                                                | A            | 10          | T192A355K075AS       | 1.0                              | 2.5                           | 9.48                                   | 525                                               | 0162                                                | 0382 | 0602 | T292A355K075(1)S             |
| 3.5                                                | A            | 5           | T192A355J075AS       | 1.0                              | 2.5                           | 9.48                                   | 525                                               | 0163                                                | 0383 | 0603 | T292A355J075(1)S             |
| 6.8                                                | A            | 20          | T192A685M075AS       | 1.0                              | 3.5                           | 6.83                                   | 610                                               | 0164                                                | 0384 | 0604 | T292A685M075(1)S             |
| 6.8                                                | A            | 10          | T192A685K075AS       | 1.0                              | 3.5                           | 6.83                                   | 610                                               | 0165                                                | 0385 | 0605 | T292A685K075(1)S             |
| 6.8                                                | A            | 5           | T192A685J075AS       | 1.0                              | 3.5                           | 6.83                                   | 610                                               | 0166                                                | 0386 | 0606 | T292A685J075(1)S             |
| 15.0                                               | B            | 20          | T192B156M075AS       | 1.0                              | 6.0                           | 5.31                                   | 890                                               | 0167                                                | 0387 | 0607 | T292B156M075(1)S             |
| 15.0                                               | B            | 10          | T192B156K075AS       | 1.0                              | 6.0                           | 5.31                                   | 890                                               | 0168                                                | 0388 | 0608 | T292B156K075(1)S             |
| 15.0                                               | B            | 5           | T192B156J075AS       | 1.0                              | 6.0                           | 5.31                                   | 890                                               | 0169                                                | 0389 | 0609 | T292B156J075(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(#) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e. 80g vibration and 500g shock)

# Wet Tantalum T192/T292 Series

## T192/T292 (CLR79) Ratings & Part Number Reference

| Cap<br>μF                                                    | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>μA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mArms at<br>85°C 40 kHz | MIL-PRF-39006/22F (CLR79)<br>Capacitors Dash Number<br>Reference (#)<br>Failure Rate (%/1000 Hrs) |        |         | KEMET Military<br>Equivalent |
|--------------------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------|--------|---------|------------------------------|
|                                                              |              |             |                      |                                  |                               |                                        |                                                   |                                                                                                   |        |         |                              |
|                                                              |              |             |                      |                                  |                               |                                        |                                                   | M(1.0)                                                                                            | P(0.1) | R(0.01) |                              |
| 75 Volt Rating at +85°C (50 Volt Rating at +125°C) Continued |              |             |                      |                                  |                               |                                        |                                                   |                                                                                                   |        |         |                              |
| 33.0                                                         | B            | 20          | T192B336M075AS       | 1.0                              | 10.0                          | 4.02                                   | 1000                                              | 0170                                                                                              | 0390   | 0610    | T292B336M075(1)S             |
| 33.0                                                         | B            | 10          | T192B336K075AS       | 1.0                              | 10.0                          | 4.02                                   | 1000                                              | 0171                                                                                              | 0391   | 0611    | T292B336K075(1)S             |
| 33.0                                                         | B            | 5           | T192B336J075AS       | 1.0                              | 10.0                          | 4.02                                   | 1000                                              | 0172                                                                                              | 0392   | 0612    | T292B336J075(1)S             |
| 40.0                                                         | C            | 20          | T192C406M075AS       | 2.0                              | 9.0                           | 2.99                                   | 1250                                              | 0173                                                                                              | 0393   | 0613    | T292C406M075(1)S             |
| 40.0                                                         | C            | 10          | T192C406K075AS       | 2.0                              | 9.0                           | 2.99                                   | 1250                                              | 0174                                                                                              | 0394   | 0614    | T292C406K075(1)S             |
| 40.0                                                         | C            | 5           | T192C406J075AS       | 2.0                              | 9.0                           | 2.99                                   | 1250                                              | 0175                                                                                              | 0395   | 0615    | T292C406J075(1)S             |
| 56.0                                                         | C            | 20          | T192C566M075AS       | 2.0                              | 11.0                          | 2.61                                   | 1335                                              | 0176                                                                                              | 0396   | 0616    | T292C566M075(1)S             |
| 56.0                                                         | C            | 10          | T192C566K075AS       | 2.0                              | 11.0                          | 2.61                                   | 1335                                              | 0177                                                                                              | 0397   | 0617    | T292C566K075(1)S             |
| 56.0                                                         | C            | 5           | T192C566J075AS       | 2.0                              | 11.0                          | 2.61                                   | 1335                                              | 0178                                                                                              | 0398   | 0618    | T292C566J075(1)S             |
| 110.0                                                        | D            | 20          | T192D117M075AS       | 9.0                              | 12.0                          | 1.45                                   | 1850                                              | 0179                                                                                              | 0399   | 0619    | T292D117M075(1)S             |
| 110.0                                                        | D            | 10          | T192D117K075AS       | 9.0                              | 12.0                          | 1.45                                   | 1850                                              | 0180                                                                                              | 0400   | 0620    | T292D117K075(1)S             |
| 100 Volt Rating at +85°C (65 Volt Rating at +125°C)          |              |             |                      |                                  |                               |                                        |                                                   |                                                                                                   |        |         |                              |
| 2.5                                                          | A            | 20          | T192A255M100AS       | 1.0                              | 2.0                           | 10.62                                  | 505                                               | 0181                                                                                              | 0401   | 0621    | T292A255M100(1)S             |
| 2.5                                                          | A            | 10          | T192A255K100AS       | 1.0                              | 2.0                           | 10.62                                  | 505                                               | 0182                                                                                              | 0402   | 0622    | T292A255K100(1)S             |
| 2.5                                                          | A            | 5           | T192A255J100AS       | 1.0                              | 2.0                           | 10.62                                  | 505                                               | 0183                                                                                              | 0403   | 0623    | T292A255J100(1)S             |
| 4.7                                                          | A            | 20          | T192A475M100AS       | 1.0                              | 3.0                           | 8.47                                   | 565                                               | 0184                                                                                              | 0404   | 0624    | T292A475M100(1)S             |
| 4.7                                                          | A            | 10          | T192A475K100AS       | 1.0                              | 3.0                           | 8.47                                   | 565                                               | 0185                                                                                              | 0405   | 0625    | T292A475K100(1)S             |
| 4.7                                                          | A            | 5           | T192A475J100AS       | 1.0                              | 3.0                           | 8.47                                   | 565                                               | 0186                                                                                              | 0406   | 0626    | T292A475J100(1)S             |
| 11.0                                                         | B            | 20          | T192B116M100AS       | 1.0                              | 5.0                           | 6.03                                   | 835                                               | 0187                                                                                              | 0407   | 0627    | T292B116M100(1)S             |
| 11.0                                                         | B            | 10          | T192B116K100AS       | 1.0                              | 5.0                           | 6.03                                   | 835                                               | 0188                                                                                              | 0408   | 0628    | T292B116K100(1)S             |
| 11.0                                                         | B            | 5           | T192B116J100AS       | 1.0                              | 5.0                           | 6.03                                   | 835                                               | 0189                                                                                              | 0409   | 0629    | T292B116J100(1)S             |
| 22.0                                                         | B            | 20          | T192B226M100AS       | 1.0                              | 7.5                           | 4.52                                   | 965                                               | 0190                                                                                              | 0410   | 0630    | T292B226M100(1)S             |
| 22.0                                                         | B            | 10          | T192B226K100AS       | 1.0                              | 7.5                           | 4.52                                   | 965                                               | 0191                                                                                              | 0411   | 0631    | T292B226K100(1)S             |
| 22.0                                                         | B            | 5           | T192B226J100AS       | 1.0                              | 7.5                           | 4.52                                   | 965                                               | 0192                                                                                              | 0412   | 0632    | T292B226J100(1)S             |
| 30.0                                                         | C            | 20          | T192C306M100AS       | 2.0                              | 7.0                           | 3.10                                   | 1240                                              | 0193                                                                                              | 0413   | 0633    | T292C306M100(1)S             |
| 30.0                                                         | C            | 10          | T192C306K100AS       | 2.0                              | 7.0                           | 3.10                                   | 1240                                              | 0194                                                                                              | 0414   | 0634    | T292C306K100(1)S             |
| 30.0                                                         | C            | 5           | T192C306J100AS       | 2.0                              | 7.0                           | 3.10                                   | 1240                                              | 0195                                                                                              | 0415   | 0635    | T292C306J100(1)S             |
| 43.0                                                         | C            | 20          | T192C436M100AS       | 2.0                              | 8.5                           | 2.62                                   | 1335                                              | 0196                                                                                              | 0416   | 0636    | T292C436M100(1)S             |
| 43.0                                                         | C            | 10          | T192C436K100AS       | 2.0                              | 8.5                           | 2.62                                   | 1335                                              | 0197                                                                                              | 0417   | 0637    | T292C436K100(1)S             |
| 43.0                                                         | C            | 5           | T192C436J100AS       | 2.0                              | 8.5                           | 2.62                                   | 1335                                              | 0198                                                                                              | 0418   | 0638    | T292C436J100(1)S             |
| 86.0                                                         | D            | 20          | T192D866M100AS       | 9.0                              | 10.0                          | 1.54                                   | 1800                                              | 0199                                                                                              | 0419   | 0639    | T292D866M100(1)S             |
| 86.0                                                         | D            | 10          | T192D866K100AS       | 9.0                              | 10.0                          | 1.54                                   | 1800                                              | 0200                                                                                              | 0420   | 0640    | T292D866K100(1)S             |
| 125 Volt Rating at +85°C (85 Volt Rating at +125°C)          |              |             |                      |                                  |                               |                                        |                                                   |                                                                                                   |        |         |                              |
| 1.7                                                          | A            | 20          | T192A175M125AS       | 1.0                              | 2.0                           | 15.61                                  | 415                                               | 0201                                                                                              | 0421   | 0641    | T292A175M125(1)S             |
| 1.7                                                          | A            | 10          | T192A175K125AS       | 1.0                              | 2.0                           | 15.61                                  | 415                                               | 0202                                                                                              | 0422   | 0642    | T292A175K125(1)S             |
| 1.7                                                          | A            | 5           | T192A175J125AS       | 1.0                              | 2.0                           | 15.61                                  | 415                                               | 0203                                                                                              | 0423   | 0643    | T292A175J125(1)S             |
| 3.6                                                          | A            | 20          | T192A365M125AS       | 1.0                              | 2.7                           | 9.95                                   | 520                                               | 0204                                                                                              | 0424   | 0644    | T292A365M125(1)S             |
| 3.6                                                          | A            | 10          | T192A365K125AS       | 1.0                              | 2.7                           | 9.95                                   | 520                                               | 0205                                                                                              | 0425   | 0645    | T292A365K125(1)S             |
| 3.6                                                          | A            | 5           | T192A365J125AS       | 1.0                              | 2.7                           | 9.95                                   | 520                                               | 0206                                                                                              | 0426   | 0646    | T292A365J125(1)S             |
| 9.0                                                          | B            | 20          | T192B905M125AS       | 1.0                              | 5.0                           | 7.37                                   | 755                                               | 0207                                                                                              | 0427   | 0647    | T292B905M125(1)S             |
| 9.0                                                          | B            | 10          | T192B905K125AS       | 1.0                              | 5.0                           | 7.37                                   | 755                                               | 0208                                                                                              | 0428   | 0648    | T292B905K125(1)S             |
| 9.0                                                          | B            | 5           | T192B905J125AS       | 1.0                              | 5.0                           | 7.37                                   | 755                                               | 0209                                                                                              | 0429   | 0649    | T292B905J125(1)S             |
| 14.0                                                         | B            | 20          | T192B146M125AS       | 1.0                              | 6.0                           | 5.69                                   | 860                                               | 0210                                                                                              | 0430   | 0650    | T292B146M125(1)S             |
| 14.0                                                         | B            | 10          | T192B146K125AS       | 1.0                              | 6.0                           | 5.69                                   | 860                                               | 0211                                                                                              | 0431   | 0651    | T292B146K125(1)S             |
| 14.0                                                         | B            | 5           | T192B146J125AS       | 1.0                              | 6.0                           | 5.69                                   | 860                                               | 0212                                                                                              | 0432   | 0652    | T292B146J125(1)S             |
| 18.0                                                         | C            | 20          | T192C186M125AS       | 2.0                              | 5.0                           | 3.69                                   | 1130                                              | 0213                                                                                              | 0433   | 0653    | T292C186M125(1)S             |
| 18.0                                                         | C            | 10          | T192C186K125AS       | 2.0                              | 5.0                           | 3.69                                   | 1130                                              | 0214                                                                                              | 0434   | 0654    | T292C186K125(1)S             |
| 18.0                                                         | C            | 5           | T192C186J125AS       | 2.0                              | 5.0                           | 3.69                                   | 1130                                              | 0215                                                                                              | 0435   | 0655    | T292C186J125(1)S             |
| 25.0                                                         | C            | 20          | T192C256M125AS       | 2.0                              | 6.0                           | 3.18                                   | 1200                                              | 0216                                                                                              | 0436   | 0656    | T292C256M125(1)S             |
| 25.0                                                         | C            | 10          | T192C256K125AS       | 2.0                              | 6.0                           | 3.18                                   | 1200                                              | 0217                                                                                              | 0437   | 0657    | T292C256K125(1)S             |
| 25.0                                                         | C            | 5           | T192C256J125AS       | 2.0                              | 6.0                           | 3.18                                   | 1200                                              | 0218                                                                                              | 0438   | 0658    | T292C256J125(1)S             |
| 56.0                                                         | D            | 20          | T192D566M125AS       | 10.0                             | 6.5                           | 1.54                                   | 1800                                              | 0219                                                                                              | 0439   | 0659    | T292D566M125(1)S             |
| 56.0                                                         | D            | 10          | T192D566K125AS       | 10.0                             | 6.5                           | 1.54                                   | 1800                                              | 0220                                                                                              | 0440   | 0660    | T292D566K125(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(#) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e. 80g vibration and 500g shock)



## Wet Tantalum T195/T295 Series

### T195/T295 (CLR81) Ratings & Part Number Reference

| Cap<br>μF                                          | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>μA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mAmps at<br>85°C 40 kHz | MIL-PRF-39006/25B (CLR81)               |      |      | KEMET Military<br>Equivalent |
|----------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|---------------------------------------------------|-----------------------------------------|------|------|------------------------------|
|                                                    |              |             |                      |                                  |                               |                                        |                                                   | Capacitors Dash Number<br>Reference (#) |      |      |                              |
|                                                    |              |             |                      |                                  |                               |                                        |                                                   | Failure Rate (%/1000 Hrs)               |      |      |                              |
| M(1.0)P(0.1)R(0.01)                                |              |             |                      |                                  |                               |                                        |                                                   |                                         |      |      |                              |
| 6 Volt Rating at +85°C (4 Volt Rating at +125°C)   |              |             |                      |                                  |                               |                                        |                                                   |                                         |      |      |                              |
| 180.0                                              | A            | 20,10,5     | T195A187(2)006AS     | 6.0                              | 37.0                          | 2.70                                   | 1010                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 220.0                                              | A            | 20          | T195A227M006AS       | 2.0                              | 50.0                          | 3.02                                   | 1000                                              | 0001                                    | 0089 | 0177 | T295A227M006(1)S             |
| 220.0                                              | A            | 10          | T195A227K006AS       | 2.0                              | 50.0                          | 3.02                                   | 1000                                              | 0002                                    | 0090 | 0178 | T295A227K006(1)S             |
| 560.0                                              | B            | 20,10,5     | T195B567(2)006AS     | 3.0                              | 76.0                          | 1.80                                   | 1550                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 820.0                                              | B            | 20          | T195B827M006AS       | 3.0                              | 155.0                         | 2.51                                   | 1500                                              | 0003                                    | 0091 | 0179 | T295B827M006(1)S             |
| 820.0                                              | B            | 10          | T195B827K006AS       | 3.0                              | 155.0                         | 2.51                                   | 1500                                              | 0004                                    | 0092 | 0180 | T295B827K006(1)S             |
| 1200.0                                             | C            | 20,10,5     | T195C128(2)006AS     | 6.0                              | 118.0                         | 1.30                                   | 1930                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 1500.0                                             | C            | 20          | T195C158M006AS       | 5.0                              | 172.0                         | 1.52                                   | 1900                                              | 0005                                    | 0093 | 0181 | T295C158M006(1)S             |
| 1500.0                                             | C            | 10          | T195C158K006AS       | 5.0                              | 172.0                         | 1.52                                   | 1900                                              | 0006                                    | 0094 | 0182 | T295C158K006(1)S             |
| 2200.0                                             | D            | 20          | T195D228M006AS       | 6.0                              | 170.0                         | 1.03                                   | 2300                                              | 0007                                    | 0095 | 0183 | T295D228M006(1)S             |
| 2200.0                                             | D            | 10          | T195D228K006AS       | 6.0                              | 170.0                         | 1.03                                   | 2300                                              | 0008                                    | 0096 | 0184 | T295D228K006(1)S             |
| 8 Volt Rating at +85°C (5 Volt Rating at +125°C)   |              |             |                      |                                  |                               |                                        |                                                   |                                         |      |      |                              |
| 150.0                                              | A            | 20,10,5     | T195A157(2)008AS     | 2.0                              | 34.0                          | 3.00                                   | 960                                               | N/A                                     | N/A  | N/A  | N/A                          |
| 180.0                                              | A            | 20          | T195A187M008AS       | 2.0                              | 41.0                          | 3.02                                   | 1000                                              | 0009                                    | 0097 | 0185 | T295A187M008(1)S             |
| 180.0                                              | A            | 10          | T195A187K008AS       | 2.0                              | 41.0                          | 3.02                                   | 1000                                              | 0010                                    | 0098 | 0186 | T295A187K008(1)S             |
| 470.0                                              | B            | 20,10,5     | T195B477(2)008AS     | 3.0                              | 67.0                          | 1.90                                   | 1500                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 680.0                                              | B            | 20          | T195B687M008AS       | 3.0                              | 130.0                         | 2.54                                   | 1500                                              | 0011                                    | 0099 | 0187 | T295B687M008(1)S             |
| 680.0                                              | B            | 10          | T195B687K008AS       | 3.0                              | 130.0                         | 2.54                                   | 1500                                              | 0012                                    | 0100 | 0188 | T295B687K008(1)S             |
| 1000.0                                             | C            | 20,10,5     | T195C108(2)008AS     | 6.0                              | 98.0                          | 1.30                                   | 1930                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 1500.0                                             | C            | 20          | T195C158M008AS       | 5.0                              | 170.0                         | 1.50                                   | 1900                                              | 0013                                    | 0101 | 0189 | T295C158M008(1)S             |
| 1500.0                                             | C            | 10          | T195C158K008AS       | 5.0                              | 170.0                         | 1.50                                   | 1900                                              | 0014                                    | 0102 | 0190 | T295C158K008(1)S             |
| 1800.0                                             | D            | 20          | T195D188M008AS       | 7.0                              | 138.0                         | 1.02                                   | 2300                                              | 0015                                    | 0103 | 0191 | T295D188M008(1)S             |
| 1800.0                                             | D            | 10          | T195D188K008AS       | 7.0                              | 138.0                         | 1.02                                   | 2300                                              | 0016                                    | 0104 | 0192 | T295D188K008(1)S             |
| 10 Volt Rating at +85°C (7 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                   |                                         |      |      |                              |
| 120.0                                              | A            | 20,10,5     | T195A127(2)010AS     | 2.0                              | 29.0                          | 3.20                                   | 930                                               | N/A                                     | N/A  | N/A  | N/A                          |
| 150.0                                              | A            | 20          | T195A157M010AS       | 2.0                              | 34.0                          | 3.01                                   | 900                                               | 0017                                    | 0105 | 0193 | T295A157M010(1)S             |
| 150.0                                              | A            | 10          | T195A157K010AS       | 2.0                              | 34.0                          | 3.01                                   | 900                                               | 0018                                    | 0106 | 0194 | T295A157K010(1)S             |
| 390.0                                              | B            | 20,10,5     | T195B397(2)010AS     | 3.0                              | 59.0                          | 2.00                                   | 1470                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 560.0                                              | B            | 20          | T195B567M010AS       | 3.0                              | 106.0                         | 2.51                                   | 1450                                              | 0019                                    | 0107 | 0195 | T295B567M010(1)S             |
| 560.0                                              | B            | 10          | T195B567K010AS       | 3.0                              | 106.0                         | 2.51                                   | 1450                                              | 0020                                    | 0108 | 0196 | T295B567K010(1)S             |
| 820.0                                              | C            | 20,10,5     | T195B827M010AS       | 6.0                              | 80.0                          | 1.30                                   | 1930                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 1200.0                                             | C            | 20          | T195C128M010AS       | 5.0                              | 137.0                         | 1.51                                   | 1850                                              | 0021                                    | 0109 | 0197 | T295C128M010(1)S             |
| 1200.0                                             | C            | 10          | T195C128K010AS       | 5.0                              | 137.0                         | 1.51                                   | 1850                                              | 0022                                    | 0110 | 0198 | T295C128K010(1)S             |
| 1500.0                                             | D            | 20          | T195D158M010AS       | 7.0                              | 114.0                         | 1.01                                   | 2300                                              | 0023                                    | 0111 | 0199 | T295D158M010(1)S             |
| 1500.0                                             | D            | 10          | T195D158K010AS       | 7.0                              | 114.0                         | 1.01                                   | 2300                                              | 0024                                    | 0112 | 0200 | T295D158K010(1)S             |
| 15 Volt Rating at +85°C (10 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                         |      |      |                              |
| 82.0                                               | A            | 20,10,5     | T195A826(2)015AS     | 2.0                              | 20.0                          | 3.30                                   | 915                                               | N/A                                     | N/A  | N/A  | N/A                          |
| 100.0                                              | A            | 20          | T195A107M015AS       | 2.0                              | 30.0                          | 3.98                                   | 900                                               | 0025                                    | 0113 | 0201 | T295A107M015(1)S             |
| 100.0                                              | A            | 10          | T195A107K015AS       | 2.0                              | 30.0                          | 3.98                                   | 900                                               | 0026                                    | 0114 | 0202 | T295A107K015(1)S             |
| 270.0                                              | B            | 20,10,5     | T195B277(2)015AS     | 3.0                              | 43.0                          | 2.10                                   | 1430                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 390.0                                              | B            | 20          | T195B397M015AS       | 3.0                              | 74.0                          | 2.52                                   | 1450                                              | 0027                                    | 0115 | 0203 | T295B397M015(1)S             |
| 390.0                                              | B            | 10          | T195B397K015AS       | 3.0                              | 74.0                          | 2.52                                   | 1450                                              | 0028                                    | 0116 | 0204 | T295B397K015(1)S             |
| 680.0                                              | C            | 20,10,5     | T195C687(2)015AS     | 6.0                              | 72.0                          | 1.40                                   | 1860                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 820.0                                              | C            | 20          | T195C827M015AS       | 6.0                              | 111.0                         | 1.80                                   | 1800                                              | 0029                                    | 0117 | 0205 | T295C827M015(1)S             |
| 820.0                                              | C            | 10          | T195C827K015AS       | 6.0                              | 111.0                         | 1.80                                   | 1800                                              | 0030                                    | 0118 | 0206 | T295C827K015(1)S             |
| 1000.0                                             | D            | 20          | T195D108M015AS       | 8.0                              | 92.0                          | 1.22                                   | 2300                                              | 0031                                    | 0119 | 0207 | T295D108M015(1)S             |
| 1000.0                                             | D            | 10          | T195D108K015AS       | 8.0                              | 92.0                          | 1.22                                   | 2300                                              | 0032                                    | 0120 | 0208 | T295D108K015(1)S             |
| 25 Volt Rating at +85°C (15 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                         |      |      |                              |
| 56.0                                               | A            | 20,10,5     | T195A566(2)025AS     | 2.0                              | 15.0                          | 3.50                                   | 890                                               | N/A                                     | N/A  | N/A  | N/A                          |
| 68.0                                               | A            | 20          | T195A686M025AS       | 2.0                              | 22.0                          | 4.29                                   | 850                                               | 0033                                    | 0121 | 0209 | T295A686M025(1)S             |
| 68.0                                               | A            | 10          | T195A686K025AS       | 2.0                              | 22.0                          | 4.29                                   | 850                                               | 0034                                    | 0122 | 0210 | T295A686K025(1)S             |
| 180.0                                              | B            | 20,10,5     | T195B187(2)025AS     | 3.0                              | 30.0                          | 2.2                                    | 1400                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 270.0                                              | B            | 20          | T195B277M025AS       | 3.0                              | 55.0                          | 2.70                                   | 1400                                              | 0035                                    | 0123 | 0211 | T295B277M025(1)S             |
| 270.0                                              | B            | 10          | T195B277K025AS       | 3.0                              | 55.0                          | 2.70                                   | 1400                                              | 0036                                    | 0124 | 0212 | T295B277K025(1)S             |
| 470.0                                              | C            | 20,10,5     | T195C477K025AS       | 6.0                              | 53.0                          | 1.50                                   | 1800                                              | N/A                                     | N/A  | N/A  | N/A                          |
| 560.0                                              | C            | 20          | T195C567M025AS       | 7.0                              | 76.0                          | 1.80                                   | 1750                                              | 0037                                    | 0125 | 0213 | T295C567M025(1)S             |
| 560.0                                              | C            | 10          | T195C567K025AS       | 7.0                              | 76.0                          | 1.80                                   | 1750                                              | 0038                                    | 0126 | 0214 | T295C567K025(1)S             |
| 680.0                                              | D            | 20          | T195D687M025AS       | 8.0                              | 63.0                          | 1.23                                   | 2100                                              | 0039                                    | 0127 | 0215 | T295D687M025(1)S             |
| 680.0                                              | D            | 10          | T195D687K025AS       | 8.0                              | 63.0                          | 1.23                                   | 2100                                              | 0040                                    | 0128 | 0216 | T295D687K025(1)S             |

(1) To complete the KEMET part number, insert Failure Rate Level: M = (1.0); P = (0.1); and R = (.01)

(#) Dash number shall include letter "H" to indicate high vibration and shock requirements (i.e. 80g vibration and 500g shock)

# Wet Tantalum T195/T295 Series

## T195/T295 (CLR81) Ratings & Part Number Reference

| Cap<br>µF                                           | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C.<br>Leakage<br>µA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mAmps at<br>85°C 40 kHz | MIL-PRF-39006/25B (CLR81)<br>Capacitors Dash Number |          |      | KEMET Military<br>Equivalent |
|-----------------------------------------------------|--------------|-------------|----------------------|----------------------------------|-------------------------------|----------------------------------------|---------------------------------------------------|-----------------------------------------------------|----------|------|------------------------------|
|                                                     |              |             |                      |                                  |                               |                                        |                                                   | Reference (#)                                       |          |      |                              |
|                                                     |              |             |                      |                                  |                               |                                        |                                                   | Failure Rate (%)                                    | 1000 Hrs |      |                              |
| 30 Volt Rating at +85°C (20 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                   |                                                     |          |      |                              |
| 47.0                                                | A            | 20,10,5     | T195A476(2)030AS     | 2.0                              | 14.0                          | 4.00                                   | 830                                               | N/A                                                 | N/A      | N/A  | N/A                          |
| 56.0                                                | A            | 20          | T195A566M030AS       | 2.0                              | 22.0                          | 5.21                                   | 800                                               | 0041                                                | 0129     | 0217 | T295A566M030(1)S             |
| 56.0                                                | A            | 10          | T195A566K030AS       | 2.0                              | 22.0                          | 5.21                                   | 800                                               | 0042                                                | 0130     | 0218 | T295A566K030(1)S             |
| 150.0                                               | B            | 20,10,5     | T195B157(2)030AS     | 3.0                              | 27.0                          | 2.40                                   | 1340                                              | N/A                                                 | N/A      | N/A  | N/A                          |
| 220.0                                               | B            | 20          | T195B227M030AS       | 3.0                              | 42.0                          | 2.53                                   | 1200                                              | 0043                                                | 0131     | 0219 | T295B227M030(1)S             |
| 220.0                                               | B            | 10          | T195B227K030AS       | 3.0                              | 42.0                          | 2.53                                   | 1200                                              | 0044                                                | 0132     | 0220 | T295B227K030(1)S             |
| 390.0                                               | C            | 20,10,5     | T195C397(2)030AS     | 6.0                              | 47.0                          | 1.60                                   | 1740                                              | N/A                                                 | N/A      | N/A  | N/A                          |
| 470.0                                               | C            | 20          | T195C477M030AS       | 8.0                              | 64.0                          | 1.81                                   | 1500                                              | 0045                                                | 0133     | 0221 | T295C477M030(1)S             |
| 470.0                                               | C            | 10          | T195C477K030AS       | 8.0                              | 64.0                          | 1.81                                   | 1500                                              | 0046                                                | 0134     | 0222 | T295C477K030(1)S             |
| 560.0                                               | D            | 20          | T195D567M030AS       | 9.0                              | 55.0                          | 1.30                                   | 2000                                              | 0047                                                | 0135     | 0223 | T295D567M030(1)S             |
| 560.0                                               | D            | 10          | T195D567K030AS       | 9.0                              | 55.0                          | 1.30                                   | 2000                                              | 0048                                                | 0136     | 0224 | T295D567K030(1)S             |
| 35 Volt Rating at +85°C (22 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                   |                                                     |          |      |                              |
| 39.0                                                | A            | 20,10,5     | T195A396(2)035AS     | 2.0                              | 12.0                          | 4.10                                   | 820                                               | N/A                                                 | N/A      | N/A  | N/A                          |
| 120.0                                               | B            | 20,10,5     | T195B127(2)035AS     | 3.0                              | 22.6                          | 2.50                                   | 1315                                              | N/A                                                 | N/A      | N/A  | N/A                          |
| 330.0                                               | C            | 20,10,5     | T195C337(2)035AS     | 6.0                              | 45.0                          | 1.80                                   | 1640                                              | N/A                                                 | N/A      | N/A  | N/A                          |
| 370.0                                               | D            | 20,10,5     | T195D377(2)035AS     | 9.0                              | 36.3                          | 1.30                                   | 2040                                              | N/A                                                 | N/A      | N/A  | N/A                          |
| 50 Volt Rating at +85°C (30 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                   |                                                     |          |      |                              |
| 33.0                                                | A            | 20          | T195A336M050AS       | 2.0                              | 12.3                          | 4.95                                   | 700                                               | 0049                                                | 0137     | 0225 | T295A336M050(1)S             |
| 33.0                                                | A            | 10          | T195A336K050AS       | 2.0                              | 12.3                          | 4.95                                   | 700                                               | 0050                                                | 0138     | 0226 | T295A336K050(1)S             |
| 120.0                                               | B            | 20          | T195B127M050AS       | 4.0                              | 22.5                          | 2.49                                   | 1200                                              | 0051                                                | 0139     | 0227 | T295B127M050(1)S             |
| 120.0                                               | B            | 10          | T195B127K050AS       | 4.0                              | 22.5                          | 2.49                                   | 1200                                              | 0052                                                | 0140     | 0228 | T295B127K050(1)S             |
| 270.0                                               | C            | 20          | T195C277M050AS       | 8.0                              | 37.0                          | 1.82                                   | 1450                                              | 0053                                                | 0141     | 0229 | T295C277M050(1)S             |
| 270.0                                               | C            | 10          | T195C277K050AS       | 8.0                              | 37.0                          | 1.82                                   | 1450                                              | 0054                                                | 0142     | 0230 | T295C277K050(1)S             |
| 330.0                                               | D            | 20          | T195D337M050AS       | 9.0                              | 38.0                          | 1.53                                   | 1900                                              | 0055                                                | 0143     | 0231 | T295D337M050(1)S             |
| 330.0                                               | D            | 10          | T195D337K050AS       | 9.0                              | 38.0                          | 1.53                                   | 1900                                              | 0056                                                | 0144     | 0232 | T295D337K050(1)S             |
| 60 Volt Rating at +85°C (40 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                   |                                                     |          |      |                              |
| 27.0                                                | A            | 20          | T195A276M060AS       | 3.0                              | 10.2                          | 5.01                                   | 700                                               | 0057                                                | 0145     | 0233 | T295A276M060(1)S             |
| 27.0                                                | A            | 10          | T195A276K060AS       | 3.0                              | 10.2                          | 5.01                                   | 700                                               | 0058                                                | 0146     | 0234 | T295A276K060(1)S             |
| 82.0                                                | B            | 20,10,5     | T195B826(2)060AS     | 4.0                              | 18.0                          | 2.90                                   | 1220                                              | N/A                                                 | N/A      | N/A  | N/A                          |
| 100.0                                               | B            | 20          | T195B107M060AS       | 4.0                              | 19.0                          | 2.52                                   | 1100                                              | 0059                                                | 0147     | 0235 | T295B107M060(1)S             |
| 100.0                                               | B            | 10          | T195B107K060AS       | 4.0                              | 19.0                          | 2.52                                   | 1100                                              | 0060                                                | 0148     | 0236 | T295B107K060(1)S             |
| 220.0                                               | C            | 20          | T195C227M060AS       | 8.0                              | 30.0                          | 1.81                                   | 1400                                              | 0061                                                | 0149     | 0237 | T295C227M060(1)S             |
| 220.0                                               | C            | 10          | T195C227K060AS       | 8.0                              | 30.0                          | 1.81                                   | 1400                                              | 0062                                                | 0150     | 0238 | T295C227K060(1)S             |
| 270.0                                               | D            | 20          | T195D277M060AS       | 9.0                              | 27.0                          | 1.33                                   | 1850                                              | 0063                                                | 0151     | 0239 | T295D277M060(1)S             |
| 270.0                                               | D            | 10          | T195D277K060AS       | 9.0                              | 27.0                          | 1.33                                   | 1850                                              | 0064                                                | 0152     | 0240 | T295D277K060(1)S             |
| 75 Volt Rating at +85°C (50 Volt Rating at +125°C)  |              |             |                      |                                  |                               |                                        |                                                   |                                                     |          |      |                              |
| 22.0                                                | A            | 20          | T195A226M075AS       | 3.0                              | 8.5                           | 5.13                                   | 600                                               | 0065                                                | 0153     | 0241 | T295A226M075(1)S             |
| 22.0                                                | A            | 10          | T195A226K075AS       | 3.0                              | 8.5                           | 5.13                                   | 600                                               | 0066                                                | 0154     | 0242 | T295A226K075(1)S             |
| 68.0                                                | B            | 20,10,5     | T195B686(2)075AS     | 4.0                              | 15.4                          | 3.00                                   | 1200                                              | N/A                                                 | N/A      | N/A  | N/A                          |
| 82.0                                                | B            | 20          | T195B826M075AS       | 4.0                              | 15.2                          | 2.46                                   | 1000                                              | 0067                                                | 0155     | 0243 | T295B826M075(1)S             |
| 82.0                                                | B            | 10          | T195B826K075AS       | 4.0                              | 15.2                          | 2.46                                   | 1000                                              | 0068                                                | 0156     | 0244 | T295B826K075(1)S             |
| 180.0                                               | C            | 20          | T195C187M075AS       | 9.0                              | 37.0                          | 2.23                                   | 1300                                              | 0069                                                | 0157     | 0245 | T295C187M075(1)S             |
| 180.0                                               | C            | 10          | T195C187K075AS       | 9.0                              | 37.0                          | 2.23                                   | 1300                                              | 0070                                                | 0158     | 0246 | T295C187K075(1)S             |
| 220.0                                               | D            | 20          | T195D227M075AS       | 10.0                             | 24.4                          | 1.80                                   | 1800                                              | 0071                                                | 0159     | 0247 | T295D227M075(1)S             |
| 220.0                                               | D            | 10          | T195D227K075AS       | 10.0                             | 24.4                          | 1.80                                   | 1800                                              | 0072                                                | 0160     | 0248 | T295D227K075(1)S             |
| 100 Volt Rating at +85°C (65 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                     |          |      |                              |
| 10.0                                                | A            | M           | T195A106M100AS       | 3.0                              | 4.5                           | 5.97                                   | 800                                               | 0073                                                | 0161     | 0249 | T295A106M100(1)S             |
| 10.0                                                | A            | K           | T195A106K100AS       | 3.0                              | 4.5                           | 5.97                                   | 800                                               | 0074                                                | 0162     | 0250 | T295A106K100(1)S             |
| 39.0                                                | B            | M           | T195B396M100AS       | 5.0                              | 10.4                          | 3.54                                   | 1300                                              | 0075                                                | 0163     | 0251 | T295B396M100(1)S             |
| 39.0                                                | B            | K           | T195B396K100AS       | 5.0                              | 10.4                          | 3.54                                   | 1300                                              | 0076                                                | 0164     | 0252 | T295B396K100(1)S             |
| 68.0                                                | C            | M           | T195C686M100AS       | 10.0                             | 11.3                          | 2.21                                   | 1600                                              | 0077                                                | 0165     | 0253 | T295C686M100(1)S             |
| 68.0                                                | C            | K           | T195C686K100AS       | 10.0                             | 11.3                          | 2.21                                   | 1600                                              | 0078                                                | 0166     | 0254 | T295C686K100(1)S             |
| 120.0                                               | D            | M           | T195D127M100AS       | 12.0                             | 25.0                          | 2.76                                   | 2000                                              | 0079                                                | 0167     | 0255 | T295D127M100(1)S             |
| 120.0                                               | D            | K           | T195D127K100AS       | 12.0                             | 25.0                          | 2.76                                   | 2000                                              | 0080                                                | 0168     | 0256 | T295D127K100(1)S             |
| 125 Volt Rating at +85°C (85 Volt Rating at +125°C) |              |             |                      |                                  |                               |                                        |                                                   |                                                     |          |      |                              |
| 6.8                                                 | A            | M           | T195A685M125AS       | 3.0                              | 6.0                           | 11.71                                  | 700                                               | 0081                                                | 0169     | 0257 | T295A685M125(1)S             |
| 6.8                                                 | A            | K           | T195A685K125AS       | 3.0                              | 6.0                           | 11.71                                  | 700                                               | 0082                                                | 0170     | 0258 | T295A685K125(1)S             |
| 27.0                                                | B            | M           | T195B276M125AS       | 5.0                              | 7.2                           | 3.54                                   | 1200                                              | 0083                                                | 0171     | 0259 | T295B276M125(1)S             |
| 27.0                                                | B            | K           | T195B276K125AS       | 5.0                              | 7.2                           | 3.54                                   | 1200                                              | 0084                                                | 0172     | 0260 | T295B276K125(1)S             |
| 47.0                                                | C            | M           | T195C476M125AS       | 10.0                             | 7.9                           | 2.23                                   | 1500                                              | 0085                                                | 0173     | 0261 | T295C476M125(1)S             |
| 47.0                                                | C            | K           | T195C476K125AS       | 10.0                             | 7.9                           | 2.23                                   | 1500                                              | 0086                                                | 0174     | 0262 | T295C476K125(1)S             |
| 82.0                                                | D            | M           | T195D826M125AS       | 12.0                             | 17.4                          | 2.82                                   | 1900                                              | 0087                                                | 0175     | 0263 | T295D826M125(1)S             |
| 82.0                                                | D            | K           | T195D826K125AS       | 12.0                             | 17.4                          | 2.82                                   | 1900                                              | 0088                                                | 0176     | 0264 | T295D826K125(1)S             |



## Wet Tantalum T197 Series

### T197 High Temperature Ratings & Part Number Reference

| Cap<br>μF                                                   | Case<br>Size | Cap<br>Tolerance | KEMET<br>Part Number | Max. D.C.<br>Leakage<br>μA + 25°C | Max. D.F.<br>% @ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mA at<br>85°C 40 kHz |
|-------------------------------------------------------------|--------------|------------------|----------------------|-----------------------------------|---------------------------------|----------------------------------------|------------------------------------------------|
| <b>6 Volt Rating at +85°C (3 Volt Rating at +200°C)</b>     |              |                  |                      |                                   |                                 |                                        |                                                |
| 30.0                                                        | A            | 20, 10, 5        | T197A306(1)006AS     | 1.0                               | 9.0                             | 3.98                                   | 820                                            |
| 68.0                                                        | A            | 20, 10, 5        | T197A686(1)006AS     | 1.0                               | 15.0                            | 2.93                                   | 960                                            |
| 140.0                                                       | B            | 20, 10, 5        | T197B147(1)006AS     | 1.0                               | 21.0                            | 1.99                                   | 1200                                           |
| 270.0                                                       | B            | 20, 10, 5        | T197B277(1)006AS     | 1.0                               | 45.0                            | 2.21                                   | 1375                                           |
| 330.0                                                       | C            | 20, 10, 5        | T197C337(1)006AS     | 2.0                               | 36.0                            | 1.45                                   | 1800                                           |
| 560.0                                                       | C            | 20, 10, 5        | T197C567(1)006AS     | 2.0                               | 55.0                            | 1.30                                   | 1900                                           |
| 1000.0                                                      | D            | 20, 10, 5        | T197D108(1)006AS     | 3.0                               | 72.0                            | 0.95                                   | 2390                                           |
| 1200.0                                                      | D            | 20, 10           | T197D128(1)006AS     | 3.0                               | 90.0                            | 1.00                                   | 2265                                           |
| <b>8 Volt Rating at +85°C (4 Volt Rating at +200°C)</b>     |              |                  |                      |                                   |                                 |                                        |                                                |
| 25.0                                                        | A            | 20, 10, 5        | T197A256(1)008AS     | 1.0                               | 7.5                             | 3.98                                   | 820                                            |
| 56.0                                                        | A            | 20, 10, 5        | T197A566(1)008AS     | 1.0                               | 14.0                            | 3.32                                   | 900                                            |
| 120.0                                                       | B            | 20, 10, 5        | T197B127(1)008AS     | 1.0                               | 20.0                            | 2.21                                   | 1230                                           |
| 220.0                                                       | B            | 20, 10, 5        | T197B227(1)008AS     | 1.0                               | 40.0                            | 2.41                                   | 1370                                           |
| 290.0                                                       | C            | 20, 10, 5        | T197C297(1)008AS     | 2.0                               | 34.0                            | 1.56                                   | 1770                                           |
| 430.0                                                       | C            | 20, 10, 5        | T197C437(1)008AS     | 2.0                               | 46.0                            | 1.42                                   | 1825                                           |
| 850.0                                                       | D            | 20, 10           | T197D857(1)008AS     | 4.0                               | 60.0                            | 0.94                                   | 2330                                           |
| <b>10 Volt Rating at +85°C (5 Volt Rating at +200°C)</b>    |              |                  |                      |                                   |                                 |                                        |                                                |
| 20.0                                                        | A            | 20, 10, 5        | T197A206(1)010AS     | 1.0                               | 6.0                             | 3.98                                   | 820                                            |
| 47.0                                                        | A            | 20, 10, 5        | T197A476(1)010AS     | 1.0                               | 13.0                            | 3.67                                   | 855                                            |
| 100.0                                                       | B            | 20, 10, 5        | T197B107(1)010AS     | 1.0                               | 15.0                            | 1.99                                   | 1200                                           |
| 150.0                                                       | B            | 20, 10, 5        | T197B157(1)010AS     | 1.0                               | 30.0                            | 2.65                                   | 1270                                           |
| 180.0                                                       | B            | 20, 10, 5        | T197B187(1)010AS     | 1.0                               | 30.0                            | 2.21                                   | 1365                                           |
| 250.0                                                       | C            | 20, 10, 5        | T197C257(1)010AS     | 2.0                               | 30.0                            | 1.59                                   | 1720                                           |
| 390.0                                                       | C            | 20, 10, 5        | T197C397(1)010AS     | 2.0                               | 44.0                            | 1.50                                   | 1800                                           |
| 470.0                                                       | C            | 20, 10, 5        | T197C477(1)010AS     | 2.0                               | 44.0                            | 1.24                                   | 1800                                           |
| 680.0                                                       | D            | 20, 10, 5        | T197D687(1)010AS     | 4.0                               | 46.0                            | 0.90                                   | 2490                                           |
| 750.0                                                       | D            | 20, 10           | T197D757(1)010AS     | 4.0                               | 50.0                            | 0.88                                   | 2360                                           |
| 820.0                                                       | D            | 20, 10           | T197D827(1)010AS     | 4.0                               | 57.0                            | 0.92                                   | 2360                                           |
| <b>15 Volt Rating at +85°C (7.5 Volt Rating at +200°C)</b>  |              |                  |                      |                                   |                                 |                                        |                                                |
| 15.0                                                        | A            | 20, 10, 5        | T197A156(1)015AS     | 1.0                               | 5.0                             | 4.42                                   | 780                                            |
| 33.0                                                        | A            | 20, 10, 5        | T197A336(1)015AS     | 1.0                               | 10.0                            | 4.02                                   | 820                                            |
| 70.0                                                        | B            | 20, 10, 5        | T197B706(1)015AS     | 1.0                               | 13.0                            | 2.46                                   | 1150                                           |
| 120.0                                                       | B            | 20, 10, 5        | T197B127(1)015AS     | 1.0                               | 25.0                            | 2.76                                   | 1450                                           |
| 170.0                                                       | C            | 20, 10, 5        | T197C177(1)015AS     | 2.0                               | 25.0                            | 1.95                                   | 1480                                           |
| 270.0                                                       | C            | 20, 10, 5        | T197C277(1)015AS     | 2.0                               | 43.0                            | 2.11                                   | 1740                                           |
| 470.0                                                       | D            | 20, 10, 5        | T197D477(1)015AS     | 6.0                               | 37.0                            | 1.04                                   | 2100                                           |
| 540.0                                                       | D            | 20, 10           | T197D547(1)015AS     | 6.0                               | 40.0                            | 0.98                                   | 2330                                           |
| 560.0                                                       | D            | 20, 10           | T197D567(1)015AS     | 6.0                               | 40.0                            | 0.98                                   | 2330                                           |
| <b>25 Volt Rating at +85°C (12.5 Volt Rating at +200°C)</b> |              |                  |                      |                                   |                                 |                                        |                                                |
| 10.0                                                        | A            | 20, 10, 5        | T197A106(1)025AS     | 1.0                               | 4.0                             | 5.31                                   | 715                                            |
| 22.0                                                        | A            | 20, 10, 5        | T197A226(1)025AS     | 1.0                               | 7.0                             | 4.22                                   | 800                                            |
| 27.0                                                        | A            | 20, 10, 5        | T197A276(1)025AS     | 1.5                               | 11.0                            | 5.40                                   | 715                                            |
| 50.0                                                        | B            | 20, 10, 5        | T197B506(1)025AS     | 1.0                               | 11.0                            | 2.92                                   | 1130                                           |
| 100.0                                                       | B            | 20, 10, 5        | T197B107(1)025AS     | 1.0                               | 21.0                            | 2.78                                   | 1435                                           |
| 120.0                                                       | B            | 20, 10, 5        | T197B127(1)025AS     | 2.0                               | 25.0                            | 2.76                                   | 1450                                           |
| 180.0                                                       | C            | 20, 10, 5        | T197C187(1)025AS     | 2.0                               | 28.0                            | 2.06                                   | 1525                                           |
| 220.0                                                       | C            | 20, 10, 5        | T197C227(1)025AS     | 2.0                               | 35.0                            | 2.11                                   | 1615                                           |
| 330.0                                                       | D            | 20, 10, 5        | T197D337(1)025AS     | 7.0                               | 30.0                            | 1.21                                   | 1860                                           |
| 350.0                                                       | D            | 20, 10           | T197D357(1)025AS     | 7.0                               | 35.0                            | 1.33                                   | 1970                                           |
| 390.0                                                       | D            | 20, 10           | T197D397(1)025AS     | 7.0                               | 35.0                            | 1.19                                   | 2025                                           |
| <b>30 Volt Rating at +85°C (15 Volt Rating at +200°C)</b>   |              |                  |                      |                                   |                                 |                                        |                                                |
| 8.0                                                         | A            | 20, 10, 5        | T197A805(1)030AS     | 1.0                               | 4.0                             | 6.64                                   | 640                                            |
| 15.0                                                        | A            | 20, 10, 5        | T197A156(1)030AS     | 1.0                               | 5.0                             | 4.42                                   | 780                                            |
| 40.0                                                        | B            | 20, 10, 5        | T197B406(1)030AS     | 1.0                               | 10.0                            | 3.32                                   | 1120                                           |
| 68.0                                                        | B            | 20, 10, 5        | T197B686(1)030AS     | 1.0                               | 13.0                            | 2.54                                   | 1285                                           |
| 100.0                                                       | C            | 20, 10, 5        | T197C107(1)030AS     | 2.0                               | 17.0                            | 2.26                                   | 1450                                           |
| 150.0                                                       | C            | 20, 10, 5        | T197C157(1)030AS     | 2.0                               | 23.0                            | 2.03                                   | 1525                                           |
| 300.0                                                       | D            | 20, 10           | T197D307(1)030AS     | 8.0                               | 31.0                            | 1.37                                   | 1950                                           |

(1) To complete KEMET part number, insert capacitance tolerance: K = ±10%, M = ±20% and J = ±5%.

# Wet Tantalum T197 Series

## T197 High Temperature Ratings & Part Number Reference

| Cap<br>μF                                                    | Case<br>Size | Cap<br>Tolerance | KEMET<br>Part Number | Max. D.C.<br>Leakage<br>μA + 25°C | Max. D.F.<br>% @ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mA at<br>85°C 40 kHz |
|--------------------------------------------------------------|--------------|------------------|----------------------|-----------------------------------|---------------------------------|----------------------------------------|------------------------------------------------|
| <b>35 Volt Rating at +85°C (17.5 Volt Rating at +200°C)</b>  |              |                  |                      |                                   |                                 |                                        |                                                |
| 15.0                                                         | A            | 20, 10           | T197A156(1)035AS     | 1.0                               | 7.0                             | 6.19                                   | 660                                            |
| 68.0                                                         | B            | 20, 10           | T197B686(1)035AS     | 1.0                               | 15.0                            | 2.93                                   | 1285                                           |
| 150.0                                                        | C            | 20, 10           | T197C157(1)035AS     | 2.0                               | 23.0                            | 2.03                                   | 1525                                           |
| 220.0                                                        | D            | 20, 10           | T197D227(1)035AS     | 3.0                               | 23.0                            | 1.39                                   | 1900                                           |
| 390.0                                                        | D            | 20, 10           | T197D397(1)035AS     | 8.0                               | 43.0                            | 1.46                                   | 1900                                           |
| <b>50 Volt Rating at +85°C (25 Volt Rating at +200°C)</b>    |              |                  |                      |                                   |                                 |                                        |                                                |
| 5.0                                                          | A            | 20, 10, 5        | T197A505(1)050AS     | 1.0                               | 3.0                             | 7.96                                   | 580                                            |
| 10.0                                                         | A            | 20, 10, 5        | T197A106(1)050AS     | 1.0                               | 4.0                             | 5.31                                   | 715                                            |
| 25.0                                                         | B            | 20, 10, 5        | T197B256(1)050AS     | 1.0                               | 8.0                             | 4.25                                   | 1005                                           |
| 47.0                                                         | B            | 20, 10, 5        | T197B476(1)050AS     | 1.0                               | 13.0                            | 3.67                                   | 1155                                           |
| 60.0                                                         | C            | 20, 10, 5        | T197C606(1)050AS     | 2.0                               | 12.0                            | 2.65                                   | 1335                                           |
| 82.0                                                         | C            | 20, 10, 5        | T197C826(1)050AS     | 2.0                               | 15.0                            | 2.43                                   | 1400                                           |
| 160.0                                                        | D            | 20, 10           | T197D167(1)050AS     | 8.0                               | 17.0                            | 1.41                                   | 1900                                           |
| <b>60 Volt Rating at +85°C (30 Volt Rating at +200°C)</b>    |              |                  |                      |                                   |                                 |                                        |                                                |
| 4.0                                                          | A            | 20, 10, 5        | T197A405(1)060AS     | 1.0                               | 2.8                             | 9.29                                   | 525                                            |
| 8.2                                                          | A            | 20, 10, 5        | T197A825(1)060AS     | 1.0                               | 4.0                             | 6.47                                   | 625                                            |
| 10.0                                                         | A            | 20, 10, 5        | T197A106(1)060AS     | 1.0                               | 4.0                             | 5.30                                   | 570                                            |
| 20.0                                                         | B            | 20, 10, 5        | T197B206(1)060AS     | 1.0                               | 7.0                             | 4.64                                   | 930                                            |
| 39.0                                                         | B            | 20, 10, 5        | T197B396(1)060AS     | 1.0                               | 12.0                            | 4.08                                   | 1110                                           |
| 50.0                                                         | C            | 20, 10, 5        | T197C506(1)060AS     | 2.0                               | 10.0                            | 2.65                                   | 1330                                           |
| 68.0                                                         | C            | 20, 10, 5        | T197C686(1)060AS     | 2.0                               | 13.0                            | 2.54                                   | 1365                                           |
| 100.0                                                        | C            | 20, 10, 5        | T197C107(1)060AS     | 2.0                               | 18.0                            | 2.39                                   | 1420                                           |
| 140.0                                                        | D            | 20, 10           | T197D147(1)060AS     | 8.0                               | 16.0                            | 1.52                                   | 1850                                           |
| 150.0                                                        | D            | 20, 10           | T197D157(1)060AS     | 6.0                               | 17.0                            | 1.50                                   | 1865                                           |
| <b>75 Volt Rating at +85°C (37.5 Volt Rating at +200°C)</b>  |              |                  |                      |                                   |                                 |                                        |                                                |
| 3.5                                                          | A            | 20, 10, 5        | T197A355(1)075AS     | 1.0                               | 2.5                             | 9.48                                   | 525                                            |
| 6.8                                                          | A            | 20, 10, 5        | T197A685(1)075AS     | 1.0                               | 3.5                             | 6.83                                   | 610                                            |
| 15.0                                                         | B            | 20, 10, 5        | T197B156(1)075AS     | 1.0                               | 6.0                             | 5.31                                   | 890                                            |
| 33.0                                                         | B            | 20, 10, 5        | T197B336(1)075AS     | 1.0                               | 10.0                            | 4.02                                   | 1000                                           |
| 40.0                                                         | C            | 20, 10, 5        | T197C406(1)075AS     | 2.0                               | 9.0                             | 2.99                                   | 1250                                           |
| 56.0                                                         | C            | 20, 10, 5        | T197C566(1)075AS     | 2.0                               | 11.0                            | 2.61                                   | 1335                                           |
| 68.0                                                         | C            | 20, 10, 5        | T197C686(1)075AS     | 2.0                               | 13.0                            | 2.54                                   | 1520                                           |
| 110.0                                                        | D            | 20, 10           | T197D117(1)075AS     | 9.0                               | 12.0                            | 1.45                                   | 1850                                           |
| 120.0                                                        | D            | 20, 10           | T197D127(1)075AS     | 9.0                               | 12.0                            | 1.33                                   | 1915                                           |
| <b>100 Volt Rating at +85°C (50 Volt Rating at +200°C)</b>   |              |                  |                      |                                   |                                 |                                        |                                                |
| 2.5                                                          | A            | 20, 10, 5        | T197A255(1)100AS     | 1.0                               | 2.0                             | 10.62                                  | 505                                            |
| 4.7                                                          | A            | 20, 10, 5        | T197A475(1)100AS     | 1.0                               | 3.0                             | 8.47                                   | 565                                            |
| 11.0                                                         | B            | 20, 10, 5        | T197B116(1)100AS     | 1.0                               | 5.0                             | 6.03                                   | 835                                            |
| 22.0                                                         | B            | 20, 10, 5        | T197B226(1)100AS     | 1.0                               | 8.0                             | 4.82                                   | 965                                            |
| 30.0                                                         | C            | 20, 10, 5        | T197C306(1)100AS     | 2.0                               | 7.0                             | 3.10                                   | 1240                                           |
| 43.0                                                         | C            | 20, 10, 5        | T197C436(1)100AS     | 2.0                               | 8.5                             | 2.62                                   | 1335                                           |
| 86.0                                                         | D            | 20, 10           | T197D866(1)100AS     | 9.0                               | 10.0                            | 1.54                                   | 1800                                           |
| <b>125 Volt Rating at +85°C (62.5 Volt Rating at +200°C)</b> |              |                  |                      |                                   |                                 |                                        |                                                |
| 1.7                                                          | A            | 20, 10, 5        | T197A175(1)125AS     | 1.0                               | 2.0                             | 15.61                                  | 415                                            |
| 2.7                                                          | A            | 20, 10, 5        | T197A275(1)125AS     | 1.0                               | 3.0                             | 14.73                                  | 450                                            |
| 3.6                                                          | A            | 20, 10, 5        | T197A365(1)125AS     | 1.0                               | 3.0                             | 11.05                                  | 520                                            |
| 9.0                                                          | B            | 20, 10, 5        | T197B905(1)125AS     | 1.0                               | 5.0                             | 7.37                                   | 755                                            |
| 14.0                                                         | B            | 20, 10, 5        | T197B146(1)125AS     | 1.0                               | 6.0                             | 5.69                                   | 860                                            |
| 18.0                                                         | C            | 20, 10, 5        | T197C186(1)125AS     | 2.0                               | 5.0                             | 3.69                                   | 1130                                           |
| 25.0                                                         | C            | 20, 10, 5        | T197C256(1)125AS     | 2.0                               | 6.0                             | 3.18                                   | 1200                                           |
| 56.0                                                         | D            | 20, 10           | T197D566(1)125AS     | 10.0                              | 6.5                             | 1.54                                   | 1800                                           |

(1) To complete KEMET part number, insert capacitance tolerance: K = ±10%, M = ±20% and J = ±5%.



## Wet Tantalum T198 Series

### T198 High Temperature Ratings & Part Number Reference

| Cap<br>μF                                                   | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C<br>Leakage<br>μA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mAmps at<br>85°C 40 kHz |
|-------------------------------------------------------------|--------------|-------------|----------------------|---------------------------------|-------------------------------|----------------------------------------|---------------------------------------------------|
| <b>6 Volt Rating at +85°C (3 Volt Rating at +200°C)</b>     |              |             |                      |                                 |                               |                                        |                                                   |
| 220.0                                                       | A            | 20, 10      | T198A227(1)006AS     | 2.0                             | 50.0                          | 3.02                                   | 1000                                              |
| 470.0                                                       | B            | 20, 10      | T198B477(1)006AS     | 2.0                             | 90.0                          | 2.54                                   | 1280                                              |
| 820.0                                                       | B            | 20, 10      | T198B827(1)006AS     | 3.0                             | 155.0                         | 2.51                                   | 1500                                              |
| 1500.0                                                      | C            | 20, 10      | T198C158(1)006AS     | 5.0                             | 172.0                         | 1.52                                   | 1900                                              |
| 2200.0                                                      | D            | 20, 10      | T198D228(1)006AS     | 6.0                             | 170.0                         | 1.03                                   | 2300                                              |
| <b>8 Volt Rating at +85°C (4 Volt Rating at +200°C)</b>     |              |             |                      |                                 |                               |                                        |                                                   |
| 180.0                                                       | A            | 20, 10      | T198A187(1)008AS     | 2.0                             | 41.0                          | 3.02                                   | 1000                                              |
| 680.0                                                       | B            | 20, 10      | T198B687(1)008AS     | 3.0                             | 130.0                         | 2.54                                   | 1500                                              |
| 1500.0                                                      | C            | 20, 10      | T198C158(1)008AS     | 5.0                             | 170.0                         | 1.50                                   | 1900                                              |
| 1800.0                                                      | D            | 20, 10      | T198D188(1)008AS     | 7.0                             | 138.0                         | 1.02                                   | 2300                                              |
| <b>10 Volt Rating at +85°C (5 Volt Rating at +200°C)</b>    |              |             |                      |                                 |                               |                                        |                                                   |
| 120.0                                                       | A            | 20, 10      | T198A127(1)010AS     | 2.0                             | 29.0                          | 3.2                                    | 900                                               |
| 150.0                                                       | A            | 20, 10      | T198A157(1)010AS     | 2.0                             | 34.0                          | 3.01                                   | 900                                               |
| 560.0                                                       | B            | 20, 10      | T198B567(1)010AS     | 3.0                             | 106.0                         | 2.51                                   | 1450                                              |
| 1000.0                                                      | C            | 20, 10      | T198C108(1)010AS     | 4.0                             | 92.0                          | 1.22                                   | 1720                                              |
| 1200.0                                                      | C            | 20, 10      | T198C128(1)010AS     | 5.0                             | 137.0                         | 1.51                                   | 1850                                              |
| 1500.0                                                      | D            | 20, 10      | T198D158(1)010AS     | 7.0                             | 114.0                         | 1.01                                   | 2300                                              |
| <b>15 Volt Rating at +85°C (7.5 Volt Rating at +200°C)</b>  |              |             |                      |                                 |                               |                                        |                                                   |
| 100.0                                                       | A            | 20, 10      | T198A107(1)015AS     | 2.0                             | 30.0                          | 3.98                                   | 900                                               |
| 390.0                                                       | B            | 20, 10      | T198B397(1)015AS     | 3.0                             | 74.0                          | 2.52                                   | 1450                                              |
| 820.0                                                       | C            | 20, 10      | T198C827(1)015AS     | 6.0                             | 111.0                         | 1.80                                   | 1800                                              |
| 1000.0                                                      | D            | 20, 10      | T198D108(1)015AS     | 8.0                             | 92.0                          | 1.22                                   | 2300                                              |
| <b>25 Volt Rating at +85°C (12.5 Volt Rating at +200°C)</b> |              |             |                      |                                 |                               |                                        |                                                   |
| 68.0                                                        | A            | 20, 10      | T198A686(1)025AS     | 2.0                             | 22.0                          | 4.29                                   | 850                                               |
| 180.0                                                       | B            | 20, 10      | T198B187(1)025AS     | 3.0                             | 35.0                          | 2.58                                   | 1130                                              |
| 270.0                                                       | B            | 20, 10      | T198B277(1)025AS     | 3.0                             | 55.0                          | 2.70                                   | 1400                                              |
| 390.0                                                       | C            | 20, 10      | T198C397(1)025AS     | 7.0                             | 48.0                          | 1.63                                   | 1400                                              |
| 470.0                                                       | C            | 20, 10      | T198C477(1)025AS     | 7.0                             | 48.0                          | 1.35                                   | 1400                                              |
| 560.0                                                       | C            | 20, 10      | T198C567(1)025AS     | 7.0                             | 76.0                          | 1.80                                   | 1750                                              |
| 680.0                                                       | D            | 20, 10      | T198D687(1)025AS     | 8.0                             | 63.0                          | 1.23                                   | 2100                                              |
| <b>30 Volt Rating at +85°C (15 Volt Rating at +200°C)</b>   |              |             |                      |                                 |                               |                                        |                                                   |
| 56.0                                                        | A            | 20, 10      | T198A566(1)030AS     | 2.0                             | 22.0                          | 5.21                                   | 800                                               |
| 220.0                                                       | B            | 20, 10      | T198B227(1)030AS     | 3.0                             | 42.0                          | 2.53                                   | 1200                                              |
| 470.0                                                       | C            | 20, 10      | T198C477(1)030AS     | 8.0                             | 64.0                          | 1.81                                   | 1500                                              |
| 560.0                                                       | D            | 20, 10      | T198D567(1)030AS     | 9.0                             | 55.0                          | 1.30                                   | 2000                                              |
| <b>35 Volt Rating at +85°C (17.5 Volt Rating at 200°C)</b>  |              |             |                      |                                 |                               |                                        |                                                   |
| 39.0                                                        | A            | 20, 10      | T198A396(1)035AS     | 2.0                             | 12.0                          | 4.10                                   | 820                                               |
| 270.0                                                       | C            | 20, 10      | T198A277(1)035AS     | 7.0                             | 37.0                          | 1.82                                   | 1373                                              |
| <b>50 Volt Rating at +85°C (25 Volt Rating at +200°C)</b>   |              |             |                      |                                 |                               |                                        |                                                   |
| 33.0                                                        | A            | 20, 10      | T198A336(1)050AS     | 2.0                             | 12.3                          | 4.95                                   | 700                                               |
| 120.0                                                       | B            | 20, 10      | T198B127(1)050AS     | 4.0                             | 22.5                          | 2.49                                   | 1200                                              |
| 270.0                                                       | C            | 20, 10      | T198C277(1)050AS     | 8.0                             | 37.0                          | 1.82                                   | 1450                                              |
| 330.0                                                       | D            | 20, 10      | T198D337(1)050AS     | 9.0                             | 38.0                          | 1.53                                   | 1900                                              |

(1) To complete KEMET part number, insert capacitance tolerance: K = ±10%, M = ±20% and J = ±5%.

# Wet Tantalum T198 Series

**T198 High Temperature Ratings & Part Number Reference**

| Cap<br>μF                                                   | Case<br>Size | Cap<br>Tol. | KEMET Part<br>Number | Max. D.C<br>Leakage<br>μA +25°C | Max. D.F.<br>@ 25°C<br>120 Hz | Max. ESR<br>Ohms at<br>+25°C<br>120 Hz | Max. Ripple<br>Current<br>mAmps at<br>85°C 40 kHz |
|-------------------------------------------------------------|--------------|-------------|----------------------|---------------------------------|-------------------------------|----------------------------------------|---------------------------------------------------|
| <b>60 Volt Rating at +85°C (30 Volt Rating at +200°C)</b>   |              |             |                      |                                 |                               |                                        |                                                   |
| 12.0                                                        | A            | 20, 10      | T198A126(1)060AS     | 3.0                             | 7.0                           | 7.74                                   | 700                                               |
| 15.0                                                        | A            | 20, 10      | T198A156(1)060AS     | 3.0                             | 8.0                           | 7.10                                   | 700                                               |
| 27.0                                                        | A            | 20, 10      | T198A276(1)060AS     | 3.0                             | 10.2                          | 5.00                                   | 700                                               |
| 47.0                                                        | B            | 20, 10      | T198B476(1)060AS     | 4.0                             | 13.0                          | 3.67                                   | 1150                                              |
| 56.0                                                        | B            | 20, 10      | T198B566(1)060AS     | 4.0                             | 18.0                          | 4.26                                   | 1150                                              |
| 82.0                                                        | B            | 20, 10      | T198B826(1)060AS     | 4.0                             | 22.0                          | 3.56                                   | 1150                                              |
| 100.0                                                       | B            | 20, 10      | T198B107(1)060AS     | 4.0                             | 19.0                          | 2.52                                   | 1100                                              |
| 120.0                                                       | C            | 20, 10      | T198C127(1)060AS     | 8.0                             | 20.0                          | 2.21                                   | 1420                                              |
| 220.0                                                       | C            | 20, 10      | T198C227(1)060AS     | 8.0                             | 37.0                          | 2.23                                   | 1400                                              |
| 270.0                                                       | D            | 20, 10      | T198D277(1)060AS     | 9.0                             | 27.0                          | 1.33                                   | 1850                                              |
| 330.0                                                       | D            | 20, 10      | T198D337(1)060AS     | 10.0                            | 32.0                          | 1.29                                   | 1850                                              |
| <b>75 Volt Rating at +85°C (37.5 Volt Rating at +200°C)</b> |              |             |                      |                                 |                               |                                        |                                                   |
| 8.2                                                         | A            | 20, 10      | T198A825(1)075AS     | 3.0                             | 6.0                           | 9.70                                   | 610                                               |
| 22.0                                                        | A            | 20, 10      | T198A226(1)075AS     | 3.0                             | 8.5                           | 5.13                                   | 600                                               |
| 47.0                                                        | B            | 20, 10      | T198B476(1)075AS     | 4.0                             | 15.0                          | 4.23                                   | 1050                                              |
| 68.0                                                        | B            | 20, 10      | T198B686(1)075AS     | 4.0                             | 21.0                          | 4.10                                   | 1050                                              |
| 82.0                                                        | B            | 20, 10      | T198B826(1)075AS     | 4.0                             | 15.2                          | 2.46                                   | 1000                                              |
| 100.0                                                       | C            | 20, 10      | T198C107(1)075AS     | 8.0                             | 19.0                          | 2.52                                   | 1335                                              |
| 110.0                                                       | B            | 20, 10      | T198B117(1)075AS     | 2.0                             | 11.0                          | 1.33                                   | 1650                                              |
| 150.0                                                       | C            | 20, 10      | T198C157(1)075AS     | 9.0                             | 25.0                          | 2.21                                   | 1335                                              |
| 180.0                                                       | C            | 20, 10      | T198C187(1)075AS     | 9.0                             | 28.0                          | 2.06                                   | 1300                                              |
| 220.0                                                       | D            | 20, 10      | T198D227(1)075AS     | 10.0                            | 37.0                          | 2.23                                   | 1800                                              |
| <b>100 Volt Rating at +85°C (50 Volt Rating at +200°C)</b>  |              |             |                      |                                 |                               |                                        |                                                   |
| 5.6                                                         | A            | 20, 10      | T198A565(1)100AS     | 2.0                             | 6.0                           | 14.21                                  | 530                                               |
| 10.0                                                        | A            | 20, 10      | T198A106(1)100AS     | 3.0                             | 4.5                           | 5.97                                   | 800                                               |
| 33.0                                                        | B            | 20, 10      | T198B336(1)100AS     | 3.0                             | 14.0                          | 5.63                                   | 1065                                              |
| 39.0                                                        | B            | 20, 10      | T198B396(1)100AS     | 5.0                             | 10.4                          | 3.54                                   | 1300                                              |
| 47.0                                                        | C            | 20, 10      | T198C476(1)100AS     | 4.0                             | 9.0                           | 2.54                                   | 1335                                              |
| 56.0                                                        | C            | 20, 10      | T198C566(1)100AS     | 8.0                             | 11.0                          | 2.21                                   | 1600                                              |
| 68.0                                                        | C            | 20, 10      | T198C686(1)100AS     | 10.0                            | 15.0                          | 2.93                                   | 1600                                              |
| 120.0                                                       | D            | 20, 10      | T198D127(1)100AS     | 12.0                            | 25.0                          | 2.76                                   | 2000                                              |
| 220.0                                                       | D            | 20, 10      | T198D227(1)100AS     | 12.0                            | 30.0                          | 1.81                                   | 2000                                              |
| <b>125 Volt Rating at +85°C (62.5 Volt Rating at 200°C)</b> |              |             |                      |                                 |                               |                                        |                                                   |
| 5.6                                                         | A            | 20, 10      | T198A565(1)125AS     | 3.0                             | 6.0                           | 14.21                                  | 530                                               |
| 6.8                                                         | A            | 20, 10      | T198A685(1)125AS     | 3.0                             | 6.0                           | 11.71                                  | 700                                               |
| 18.0                                                        | B            | 20, 10      | T198B186(1)125AS     | 3.0                             | 8.0                           | 5.89                                   | 1065                                              |
| 27.0                                                        | B            | 20, 10      | T198B276(1)125AS     | 5.0                             | 7.2                           | 3.54                                   | 1200                                              |
| 39.0                                                        | C            | 20, 10      | T198C396(1)125AS     | 8.0                             | 8.0                           | 2.72                                   | 1280                                              |
| 47.0                                                        | C            | 20, 10      | T198C476(1)125AS     | 10.0                            | 9.0                           | 2.54                                   | 1500                                              |
| 68.0                                                        | D            | 20, 10      | T198D686(1)125AS     | 12.0                            | 8.0                           | 1.56                                   | 1860                                              |
| 82.0                                                        | D            | 20, 10      | T198D826(1)125AS     | 12.0                            | 17.4                          | 2.82                                   | 1900                                              |

(1) To complete KEMET part number, insert capacitance tolerance: K = ±10%, M = ±20% and J = ±5%.



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