

## T591X477M010ATE025

T591, Tantalum, Polymer Tantalum, 470 uF, 20%, 10 VDC, SMD, Polymer, Molded, Low ESR, 25 mOhms, 7343, Height Max = 4.3mm

CATHODE (-) END VIEW



SIDE VIEW

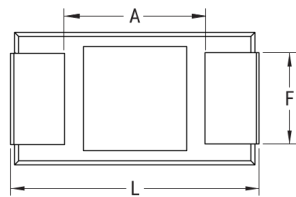


ANODE (+) END VIEW



Termination cutout at KEMET's option, either end

BOTTOM VIEW



Click [here](#) for the 3D model.

### Dimensions

|           |                 |
|-----------|-----------------|
| Footprint | 7343            |
| L         | 7.3mm +/-0.3mm  |
| W         | 4.3mm +/-0.3mm  |
| H         | 4mm +/-0.3mm    |
| T         | 0.13mm REF      |
| S         | 1.3mm +/-0.3mm  |
| F         | 2.4mm +/-0.1mm  |
| A         | 3.6mm MIN       |
| B         | 0.5mm +/-0.15mm |
| P         | 1.7mm REF       |
| R         | 1mm REF         |
| X         | 0.1mm +/-0.1mm  |

### Packaging Specifications

|                    |            |
|--------------------|------------|
| Packaging          | T&R, 178mm |
| Packaging Quantity | 500        |

### General Information

|                  |  |
|------------------|--|
| Series           | T591                                     |
| Dielectric       | Polymer Tantalum                         |
| Style            | SMD Chip                                 |
| Description      | SMD, Polymer, Molded, Low ESR            |
| Features         | Automotive                               |
| RoHS             | Yes                                      |
| Termination      | Tin                                      |
| Qualifications   | AEC-Q200 (Limited 500 Hrs 85C/85% RH/Ur) |
| AEC-Q200         | Subject to PPAP/PSW and change control   |
| Component Weight | 554 mg                                   |
| Shelf Life       | 52 Weeks                                 |
| MSL              | 3  |

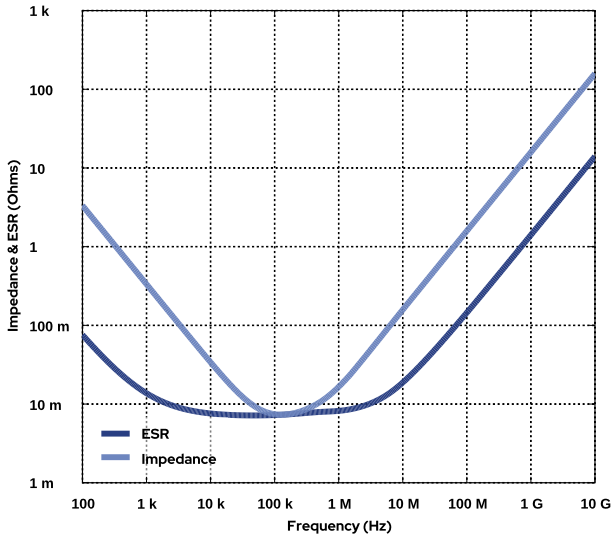
### Specifications

|                       |   |
|-----------------------|---|
| Capacitance           | 470 uF  |
| Capacitance Tolerance | 20%   |
| Voltage DC            | 10 VDC (105C), 6 VDC (125C)   |
| Temperature Range     | -55/+125°C  |
| Rated Temperature     | 105°C   |
| Humidity              | 85C, 85% RH, load, 500 Hours  |
| Dissipation Factor    | 10% 120Hz 25C   |
| Failure Rate          | N/A   |
| Resistance            | 25 mOhms (100kHz 25C)   |
| Ripple Current        | 4470 mA (rms, 100kHz 45C), 3129 mA (rms, 105C), 1117.5 mA (rms, 125C) |
| Leakage Current       | 470 uA (5min 25°C)  |

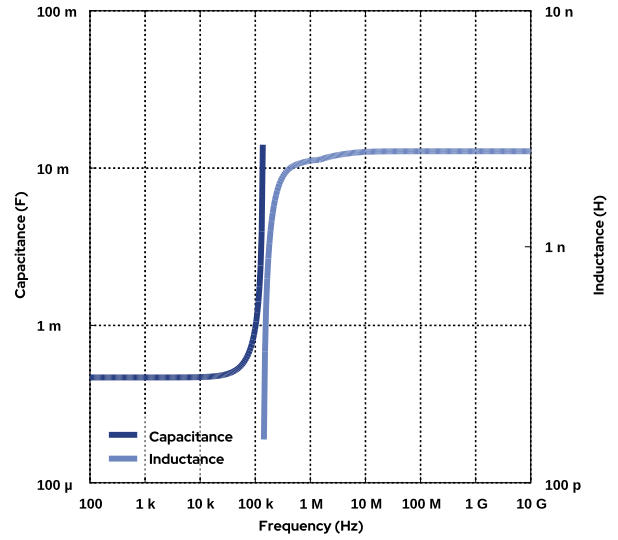
## Simulations

For the complete simulation environment please visit [K-SIM](#).

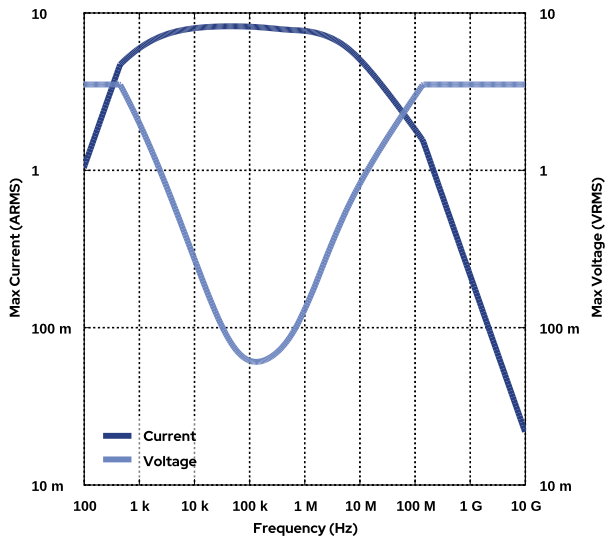
**Impedance and ESR**



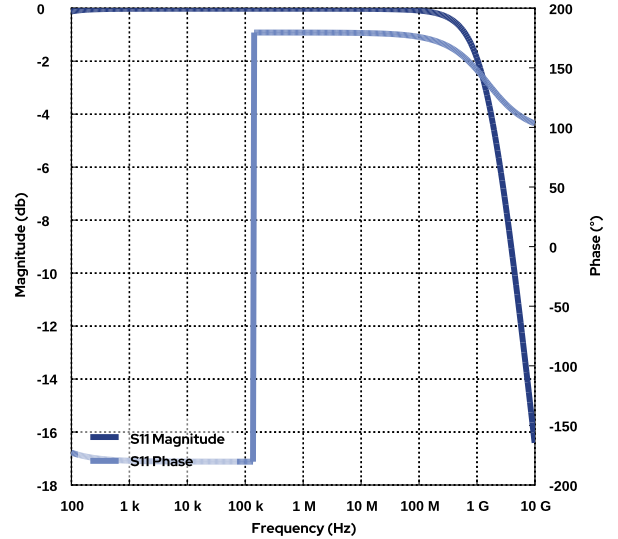
**Capacitance and Inductance**

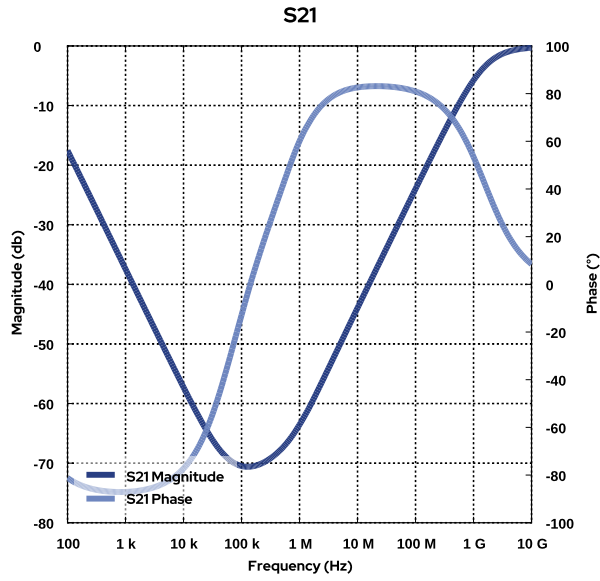


**Current and Voltage**



**S11**





**These are simulations.**

This is not a specification!

The responses shown represent the typical response for each part type. Specific responses may vary, depending on manufacturing variation affects of all parameters involved, including the specified tolerances applied to capacitance and unspecified variations of ESR, ESL, and leakage resistance.

The responses shown do not represent a specified or implied maximum capability of the device for all applications.

- The ESR used for ripple "Ripple Current/Voltage vs. Frequency" plots is the ESR at ambient temperature.
- The ESR in the "Temperature Rise vs. Ripple Current" plots is adjusted to each incremental temperature rise before the power and ripple current is calculated.
- The effects shown herein are based on measured data from a multiple part sample of the parts in question.
- Ripple capability of this device will be factored by thermal resistance (Rth) created by circuit traces (addi affects of all parameters involved, including the specified tolerances applied to capacitance and unspecified variations of ESR, ESL, and leakage resistance.
- The peak voltages generated in the "Temperature Rise vs. Combined Ripple Currents" plot are calculated for each frequency and are not combined with voltages generated at any other harmonics.
- Please consult with the catalog or field applications engineer for maximum capability of the device in specific applications.

All product information and data (collectively, the "Information") are subject to change without notice.

KEMET K-SIM is designed to simulate behavior of components with respect to frequency, ambient temperature, and DC bias levels. The responses shown represent the typical response for each part type. Specific responses may vary, depending on manufacturing variation effects of all parameters involved, including the specified tolerances applied to capacitance and unspecified variations of ESR, ESL, and leakage resistance.

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If you have any questions please contact K-SIM.