

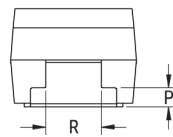
CATHODE (-) END VIEW



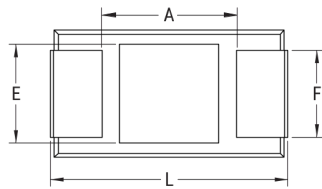
SIDE VIEW



ANODE (+) END VIEW



BOTTOM VIEW



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

### Dimensions

Footprint	3528
L	3.5mm +/-0.2mm
W	2.8mm +/-0.2mm
H	1.9mm +/-0.2mm
T	0.13mm REF
S	0.8mm +/-0.3mm
F	2.2mm +/-0.1mm
A	1.9mm MIN
B	0.4mm +/-0.15mm
E	2.2mm REF
G	1.8mm REF
P	0.35mm MIN
R	1mm REF
X	0.1mm +/-0.1mm

### Packaging Specifications

Packaging	T&R, 178mm
Packaging Quantity	2000

### General Information

Series	T493 HRA
Dielectric	MnO2 Tantalum
Style	SMD Chip
Description	SMD, MnO2, Molded, High Reliability
Features	High Reliability
RoHS	Yes
Termination	Tin
AEC-Q200	No
Component Weight	102.3 mg
Notes	P and R dimensions represents the minimum solderable area of the termination surface entirely below cutout (if one is present).

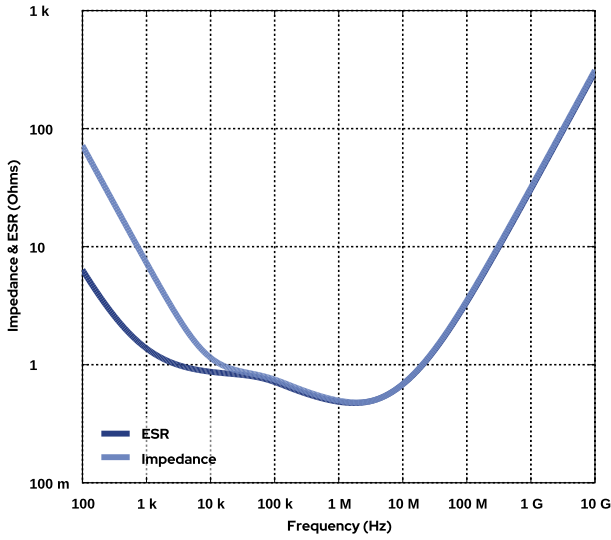
### Specifications

Capacitance	22 uF
Capacitance Tolerance	20%
Voltage DC	16 VDC (85C), 10.72 VDC (125C)
Temperature Range	-55/+125°C
Rated Temperature	85°C
Dissipation Factor	6% 120Hz 25C
Failure Rate	N/A
Resistance	0.8 Ohms (100kHz 25C)
Ripple Current	306 mA (rms, 100kHz 25C)
Leakage Current	3.5 uA (5min 25°C)
Testing and Reliability	10 Cycles Surge Current Testing At +25C After Weibull

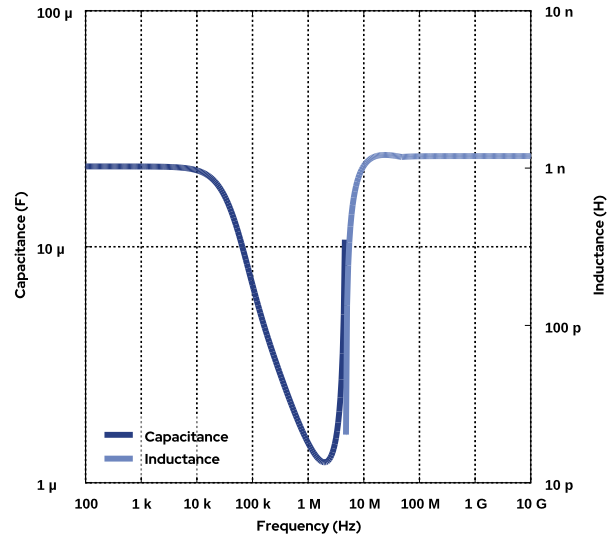
## Simulations

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

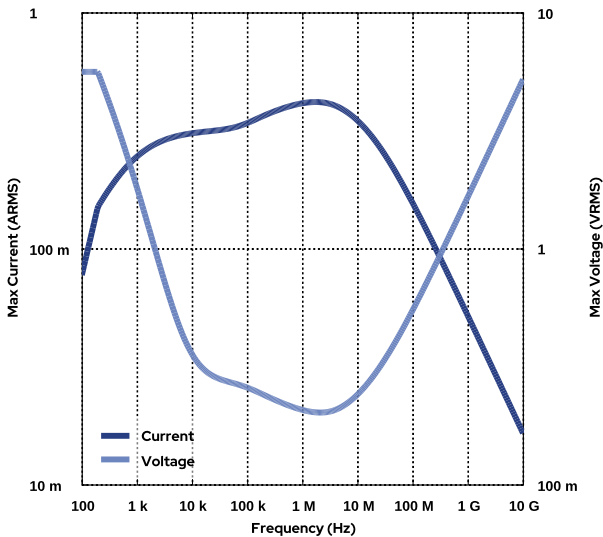
**Impedance and ESR**



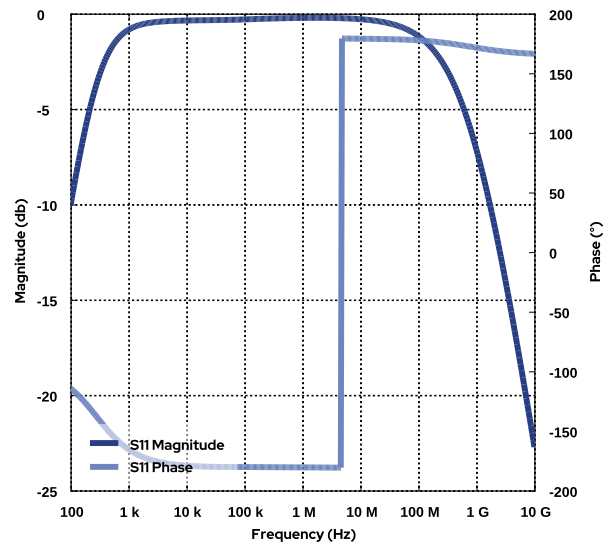
**Capacitance and Inductance**

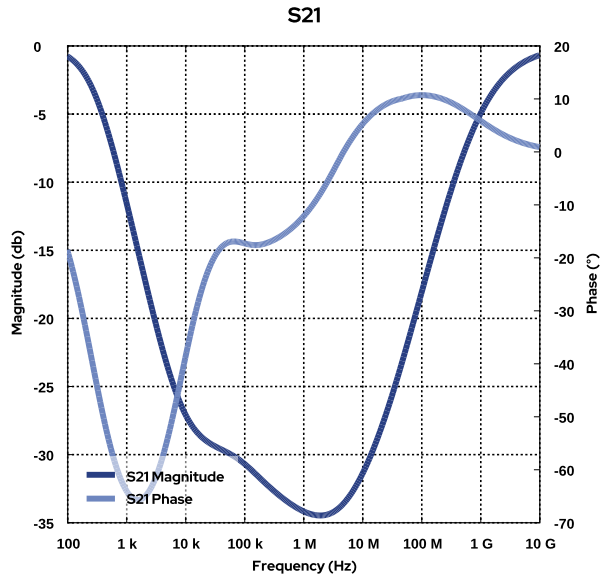


**Current and Voltage**



**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.