



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

General Information

Series	T521
Dielectric	Polymer Tantalum
Style	SMD Chip
Description	SMD, Polymer, Molded, Low ESR, Non-Combustible
Features	Low ESR, High Voltage
RoHS	Yes
Termination	Tin
Typical Component Weight	434.83 mg
Shelf Life	52 Weeks
MSL	3

Specifications

Capacitance	47 uF
Tolerance	20%
Voltage DC	16 VDC (105C), 12.8 VDC (125C)
Temperature Range	-55/+125°C
Rated Temperature	105°C
Life	2000 Hrs (125C)
Humidity	60C, 90% RH, 500 Hours, No Load
Dissipation Factor	10% 120Hz 25C
Failure Rate	N/A
ESR	40 mOhms (100kHz 25C)
Ripple Current	2810 mA (rms, 100kHz 45/85C), 1967 mA (rms, 105C), 702.5 mA (rms, 125C)
Leakage Current	75.2 uA (5min 25°C)

Dimensions

L	7.3mm +/-0.3mm
W	4.3mm +/-0.3mm
H	2.8mm +/-0.3mm
T	0.13mm REF
S	1.3mm +/-0.3mm
F	2.4mm +/-0.1mm
A	3.8mm MIN
B	0.5mm +/-0.15mm
P	0.9mm REF
R	1mm REF
X	0.1mm +/-0.1mm REF

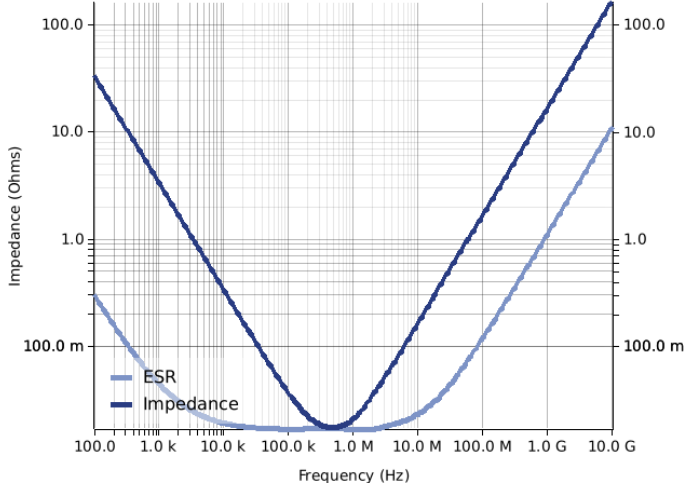
Packaging Specifications

Packaging	T&R, 178mm
Packaging Quantity	500

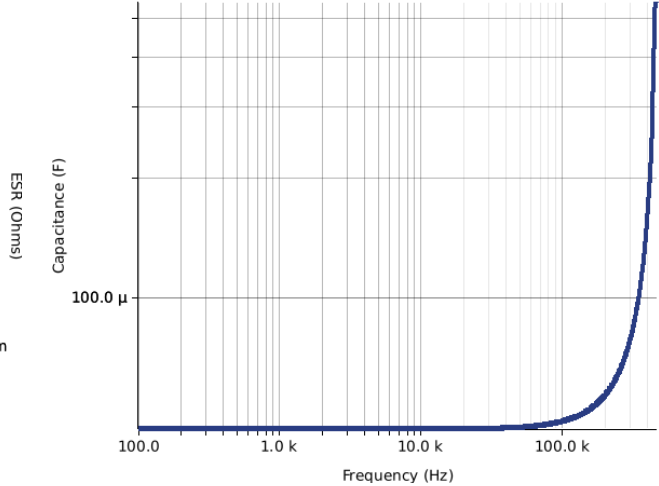
Simulations

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

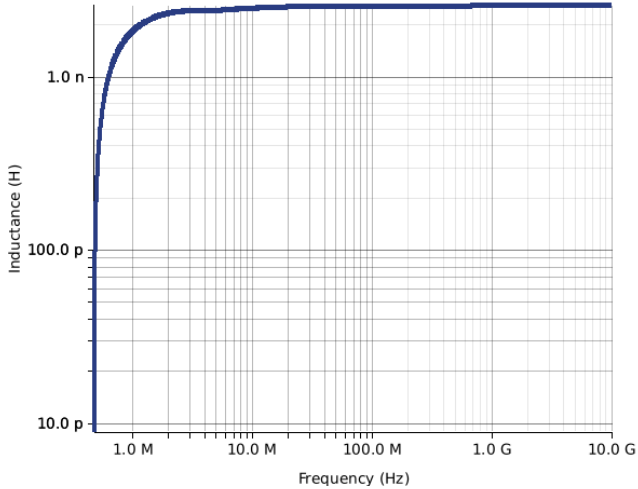
Impedance and ESR



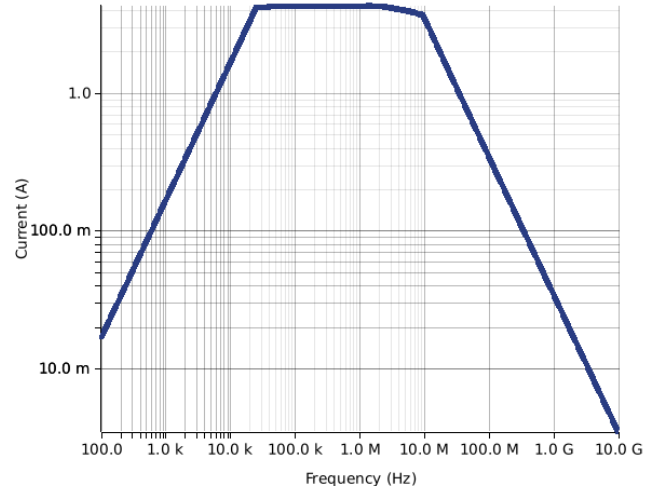
Capacitance



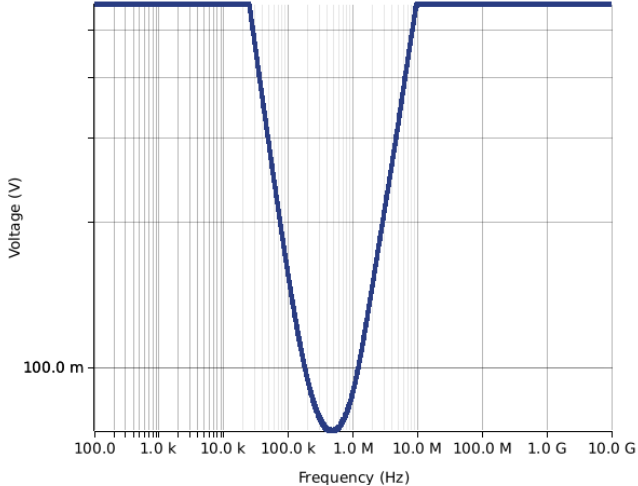
Inductance



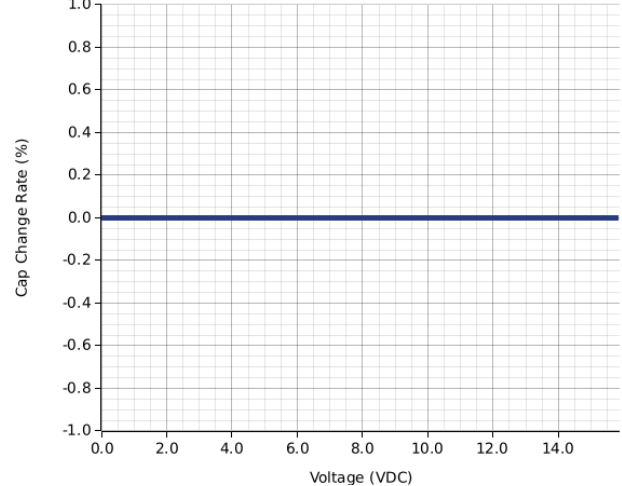
Current



Voltage

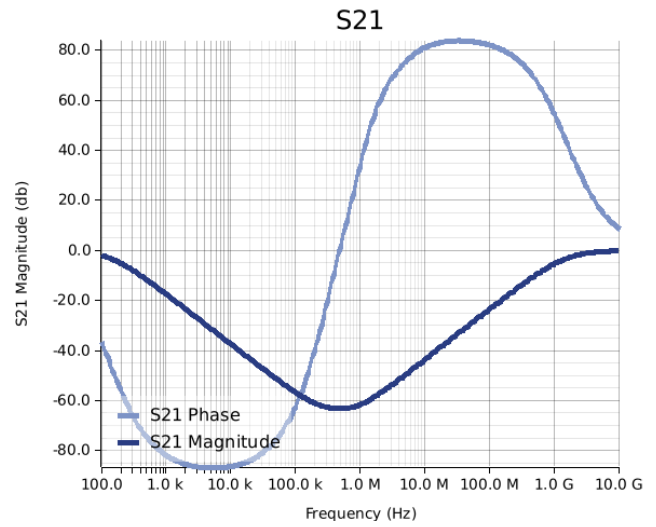
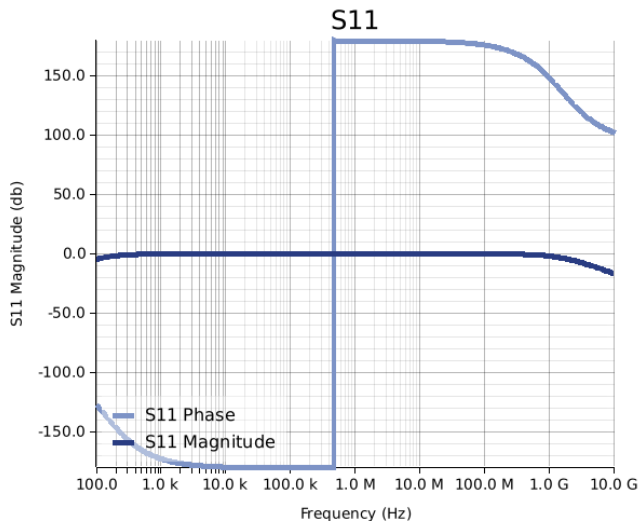


Capacitance Change vs. DC Voltage Bias



T521D476M016ATE040

T521, Tantalum, Polymer Tantalum, Commercial Grade, 47 uF, 20%, 16 VDC, SMD, Polymer, Molded, Low ESR, Non-Combustible, 40 mOhms, 3.1 mm, 2817 / 7343



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.