

## R413I222000M1M

Aliases (413I222000M1M)

R41, Film, Metallized Polypropylene, Automotive Safety, 0.022 uF, 20%, 1000 VDC, 300 VAC (X1), 300 VAC (Y2), 110°C, 15mm



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

### Dimensions

L	18mm +0.3/-0.5mm
H	12mm +0.1/-0.5mm
T	6mm +0.2/-0.5mm
S	15mm +/-0.4mm
LL	4mm +2mm
F	0.6mm +/-0.05mm

### Packaging Specifications

Packaging	Bulk, Bag
Packaging Quantity	1750

### General Information

Series	R41
Dielectric	Metallized Polypropylene
Style	Radial
Features	Automotive Grade, EMI Safety
RoHS	Yes
Termination	Cut (Tinned Wire)
Lead	Cut
Safety Class	X1/Y2
Qualifications	ENEC, UL, cUL, CQC, AEC-Q200
AEC-Q200	Yes
Typical Component Weight	1.556 g

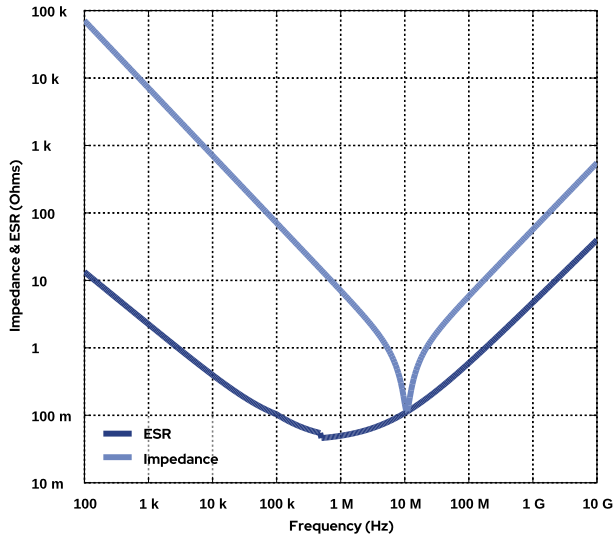
### Specifications

Capacitance	0.022 uF
Capacitance Tolerance	20%
Voltage DC	1000 VDC
Voltage AC	300 VAC (X1), 300 VAC (Y2)
Temperature Range	-40/+110°C
Rated Temperature	110°C
Dissipation Factor	0.3% 1kHz
Insulation Resistance	100 GOhms
Max dV/dt	600 V/us

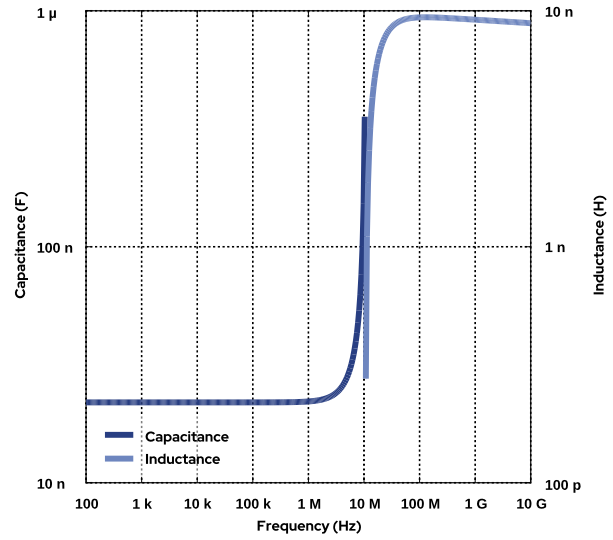
## Simulations

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

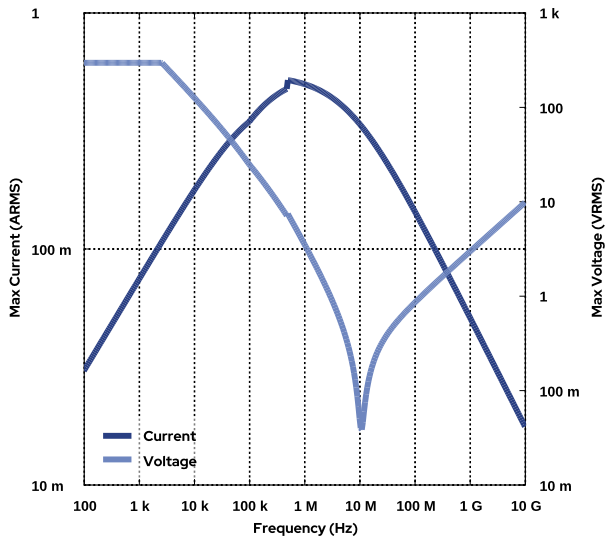
**Impedance and ESR**



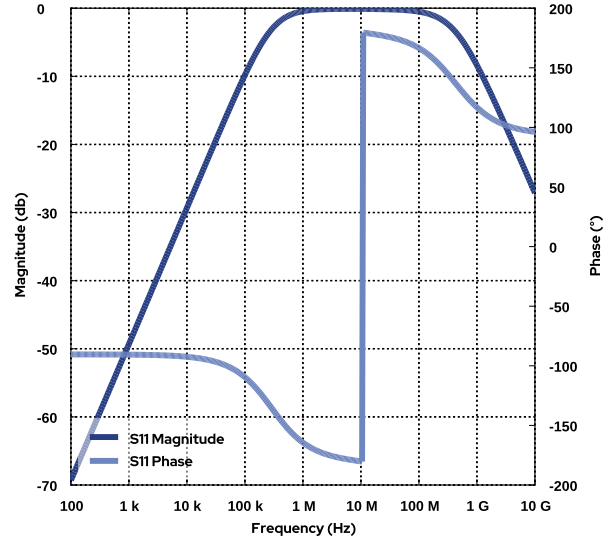
**Capacitance and Inductance**

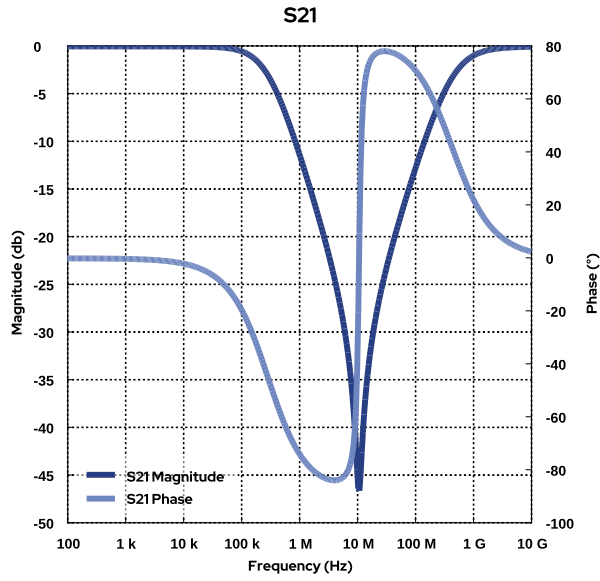


**Current and Voltage**



**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.