

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1E3KX392MA5B
MANUFACTURER: MURATA
REMARK: TA=60C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

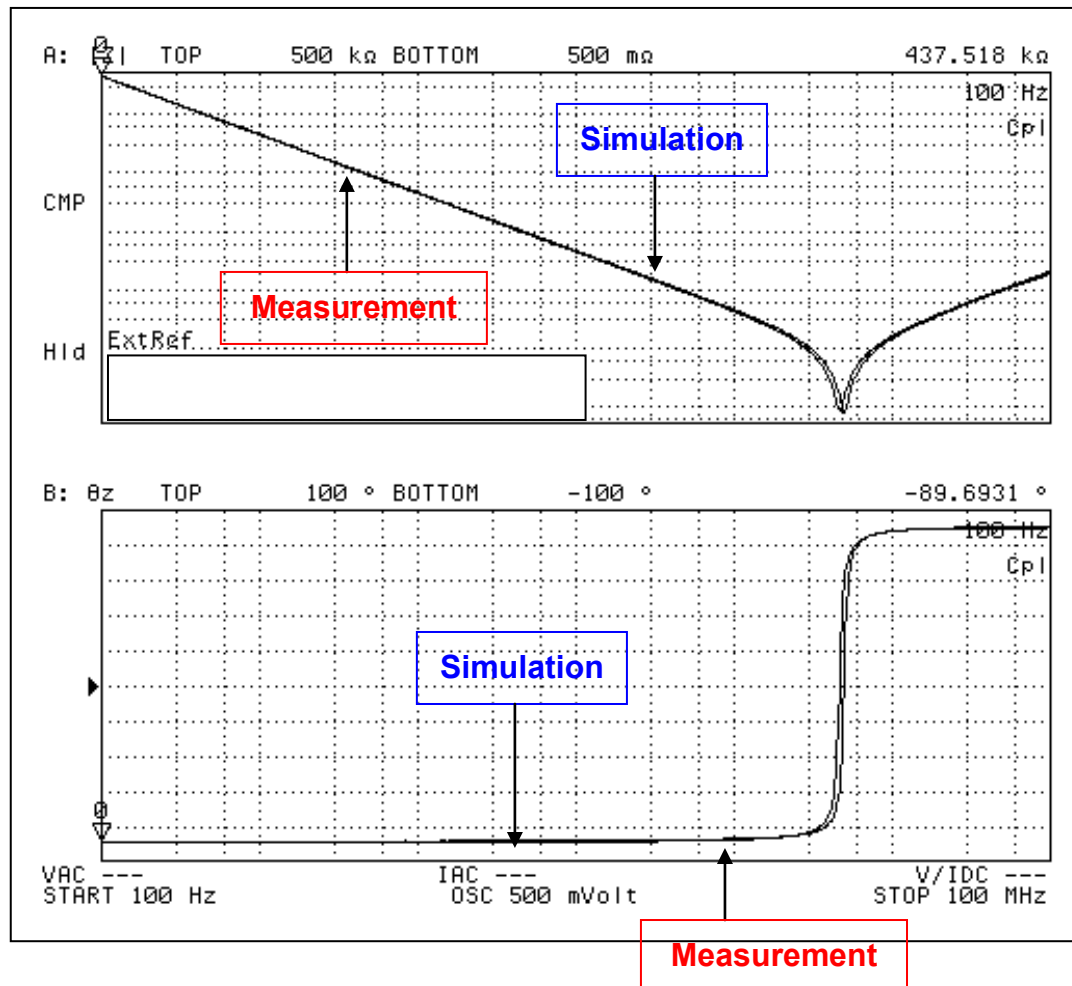
Optimization of Simulation

Range of adjustment Frequency: 100Hz to 100M(Hz)

Frequency vs. $|Z|$ and Frequency vs. θ_z Characteristic

Attention)

Please use SPICE MODEL within the range from 100Hz to 100M(Hz)

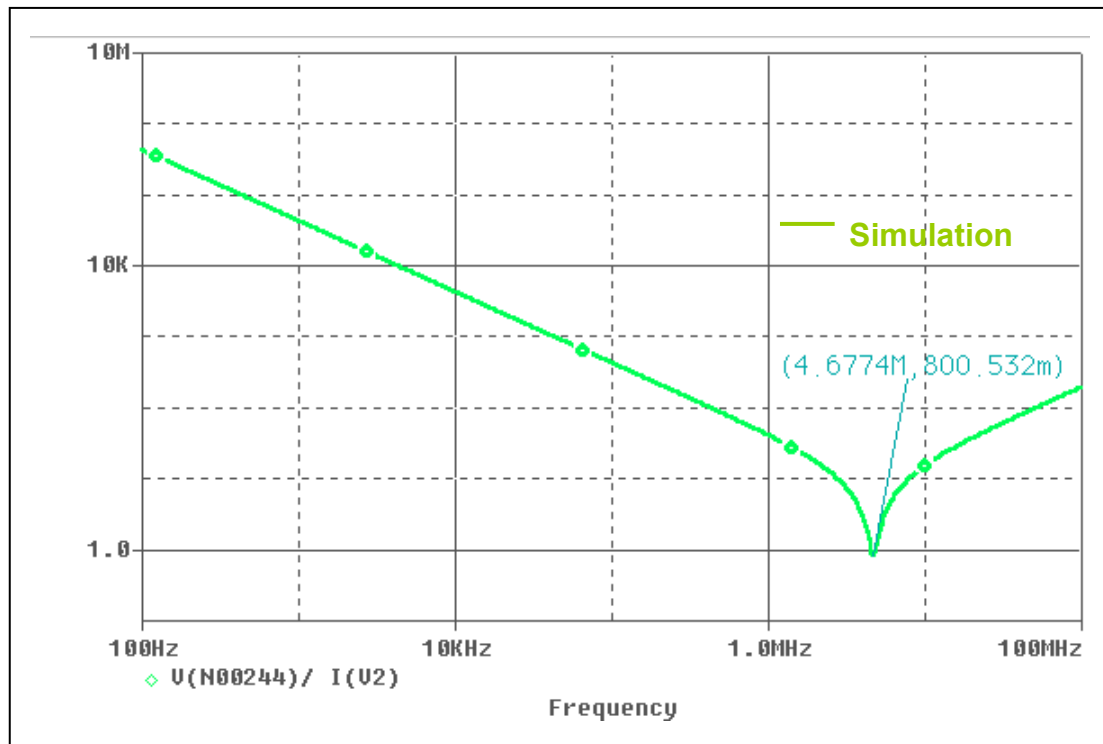


Equivalent circuit

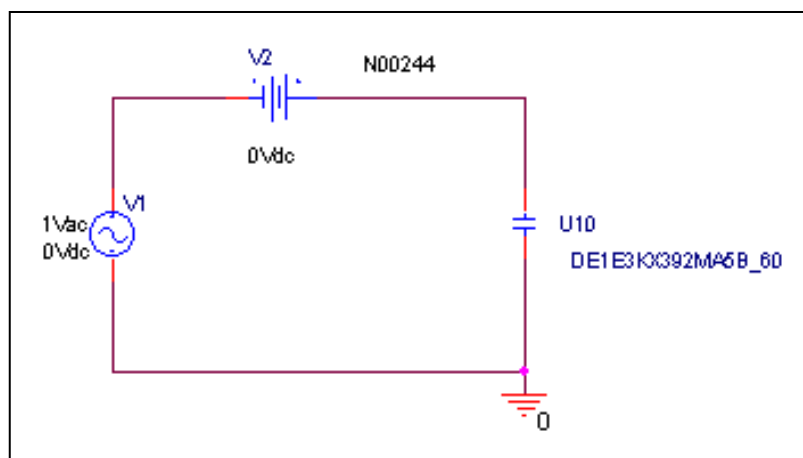


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	437.518K	431.264K	1.4294
1K	44.3627K	43.126K	2.7877
10K	4.46768K	4.3126K	3.4712
100K	451.389	431.07	4.5014
1M	44.2287	41.188	6.8749
10M	13.8848	15.173	9.2778
100M	175.678	194.223	10.5562

	Measurement	Simulation	%Error
FSRF(Hz)	4.9545M	4.6774M	5.5929
IZI (ohm)	771.377m	800.532m	3.7796