

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1E3KX152MA5B
MANUFACTURER: MURATA
REMARK: TA=40C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

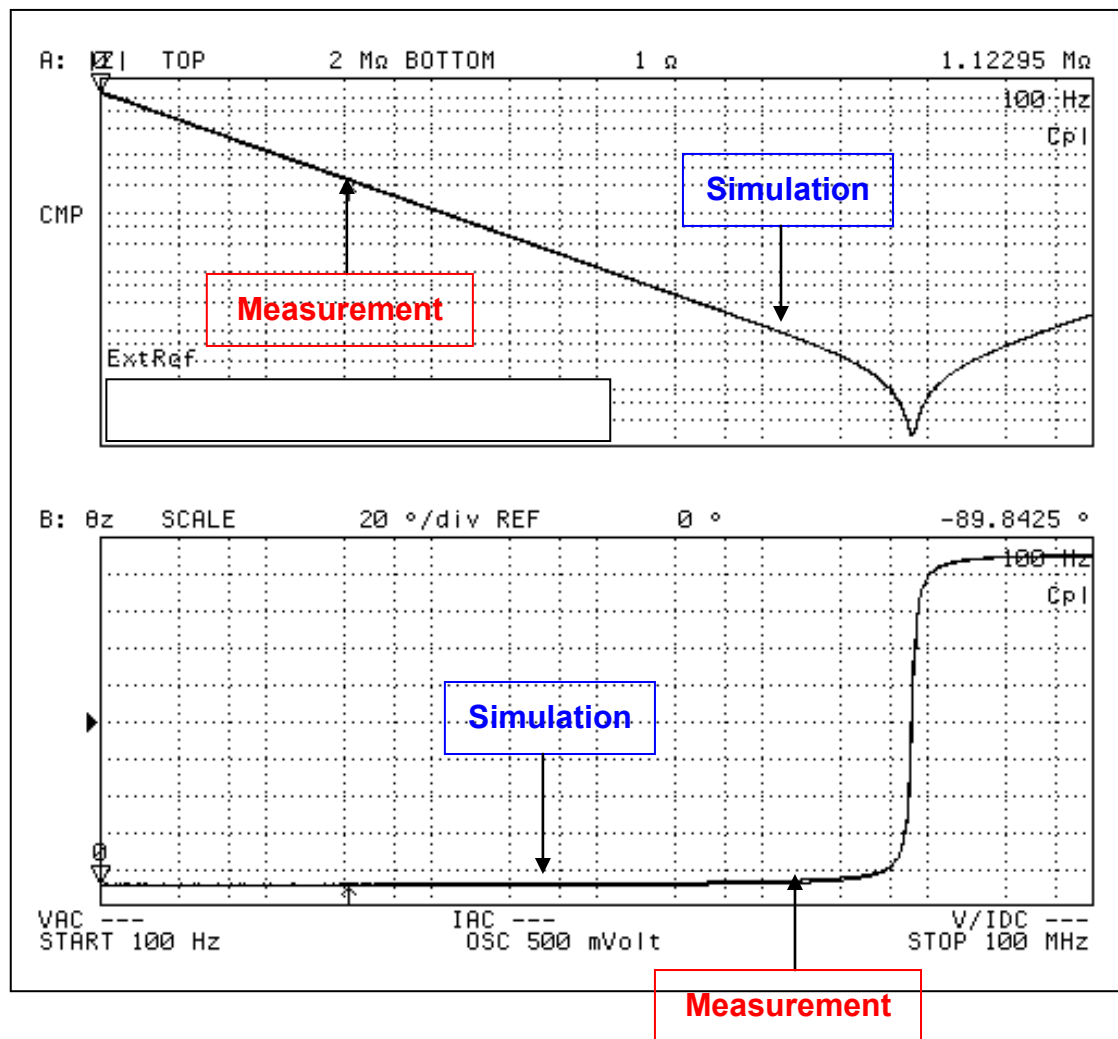
Optimization of Simulation

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)



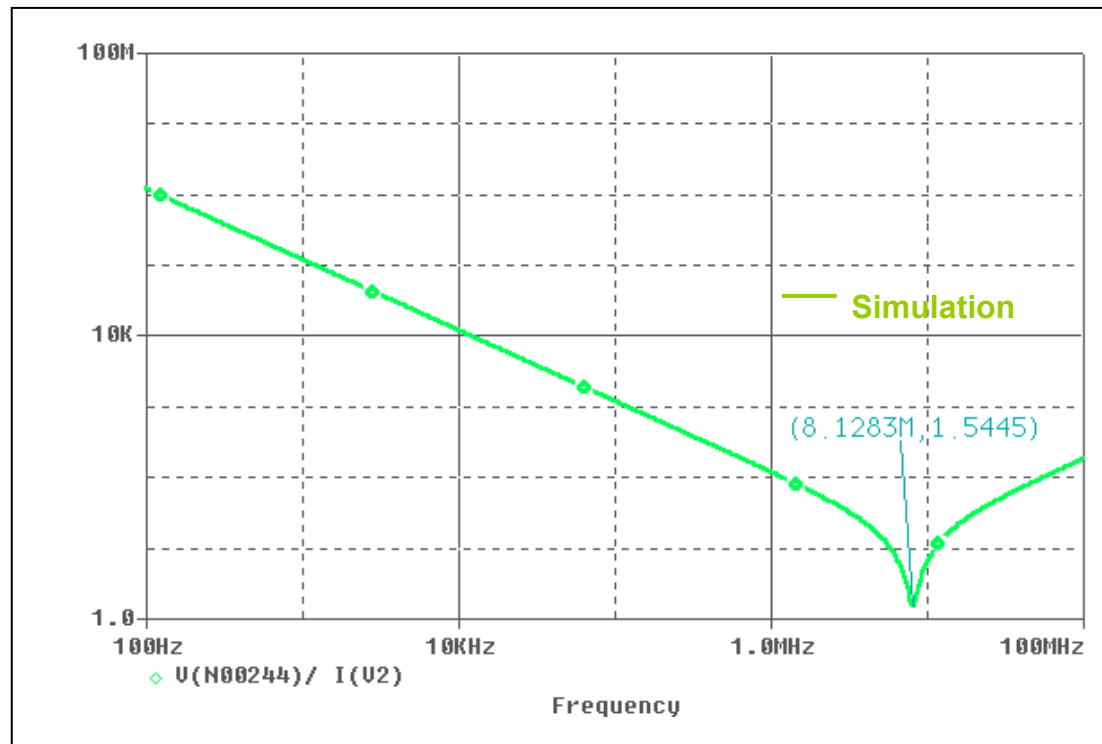
L1	
C1	
R1	

Equivalent circuit

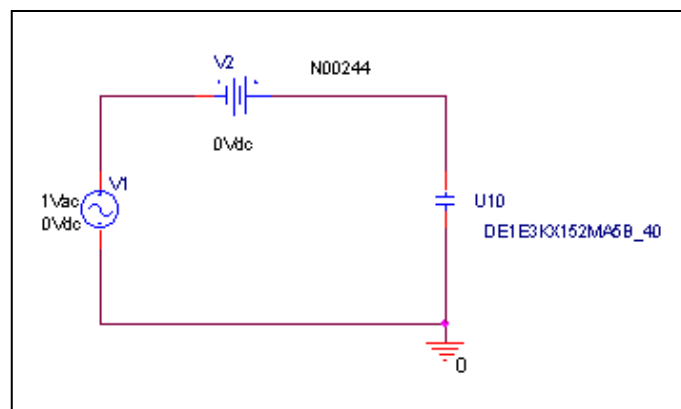


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	1.12797M	1.2094M	7.2192
1K	113.945K	120.935K	6.1345
10K	11.4959K	12.094K	5.2027
100K	1.16516K	1.2092K	3.7797
1M	118.063	119.107	0.8843
10M	6.28038	6.4968	3.4460
100M	173.466	182.597	5.2639

	Measurement	Simulation	%Error
FSRF(Hz)	8.1752M	8.1283M	0.5737
IZI (ohm)	1.5309	1.54450	0.8884