

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: DE1E3KX332MA5B
MANUFACTURER: MURATA
REMARK: TA=60C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

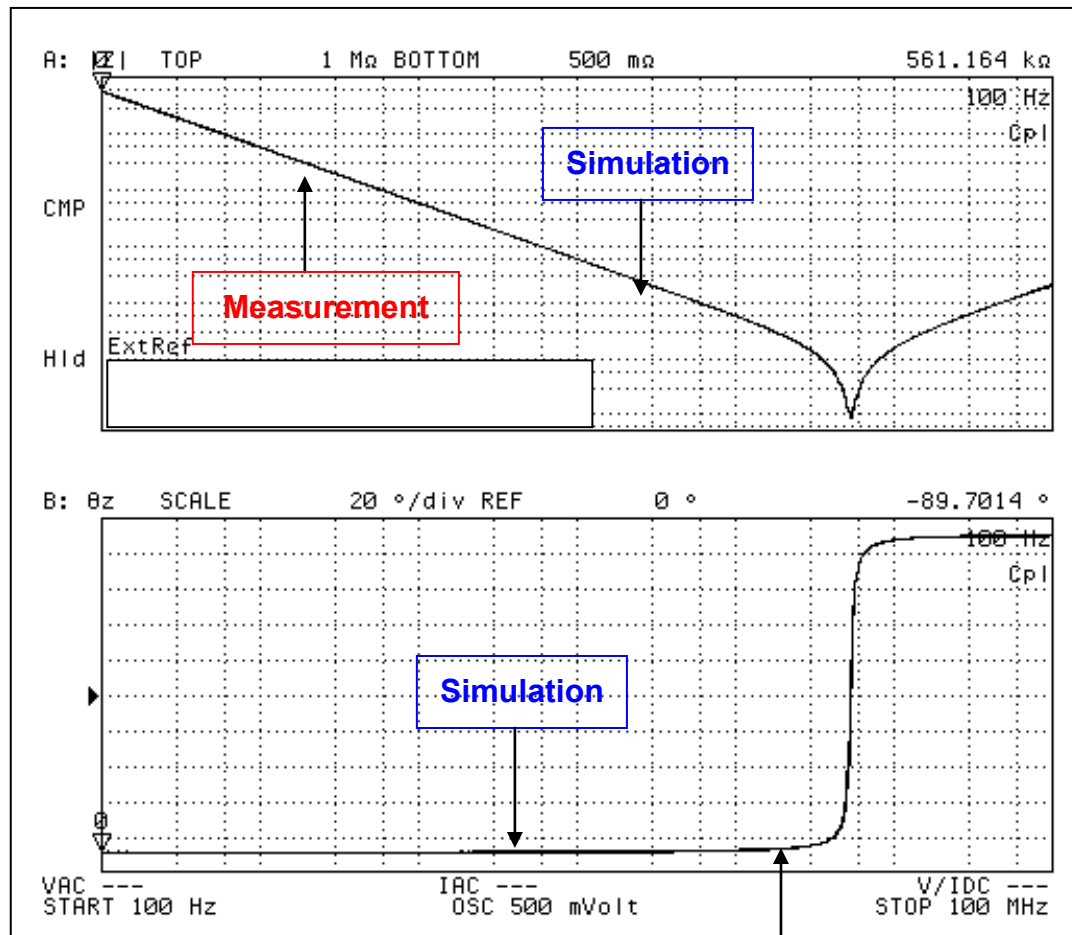
Optimization of Simulation

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

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

Attention)

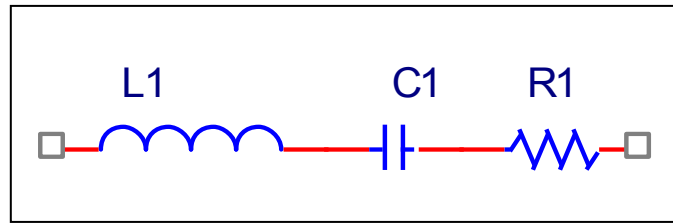
Please use SPICE MODEL within the range from 100Hz to 100M(Hz)



Measurement

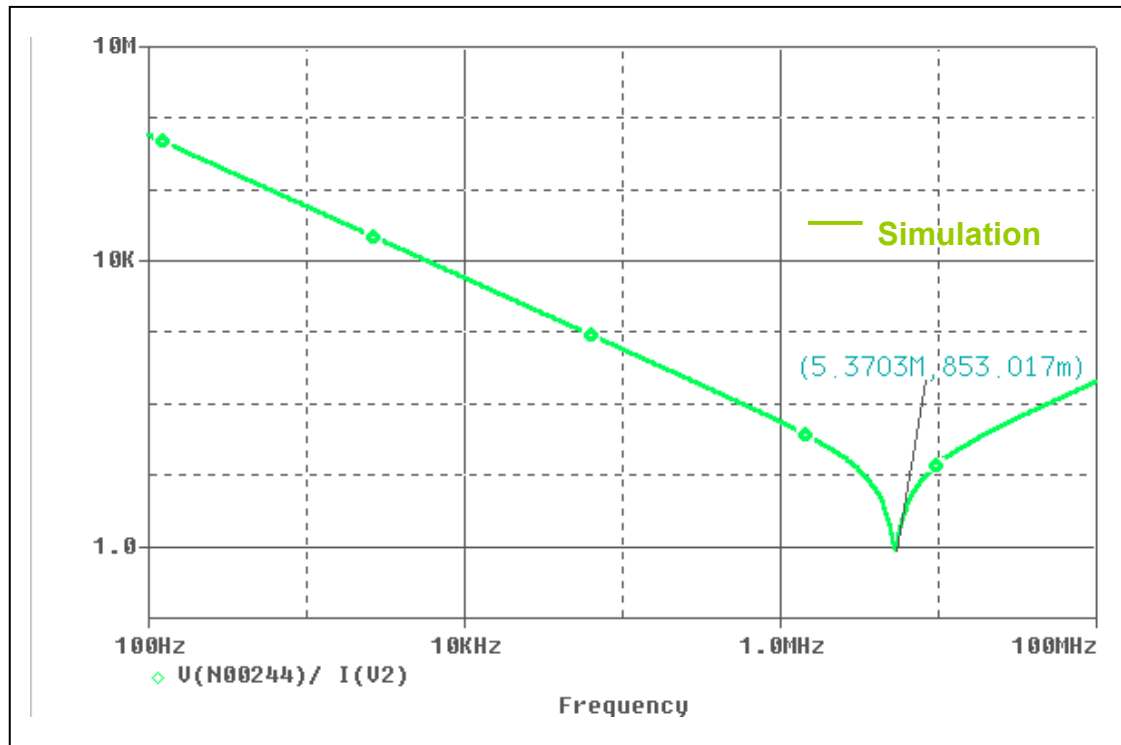
L1	
C1	
R1	

Equivalent circuit

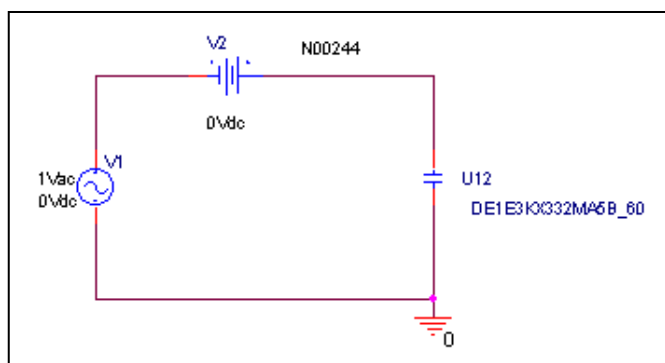


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	561.164K	579.74K	3.3103
1K	56.7767K	57.974K	2.1088
10K	5.71806K	5.7974K	1.3875
100K	577.211	579.54	0.4035
1M	56.758	55.972	1.3848
10M	14.236	14.318	0.5760
100M	185.31	200.324	8.1021

	Measurement	Simulation	%Error
FSRF(Hz)	5.4013M	5.3703M	0.5739
IZI (ohm)	805.965	853.017	5.8380