

Device Modeling Report

COMPONENTS: CAPACITOR/ CERAMIC
PART NUMBER: ECKATS221MB
MANUFACTURER: PANASONIC
REMARK: TA=25C



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

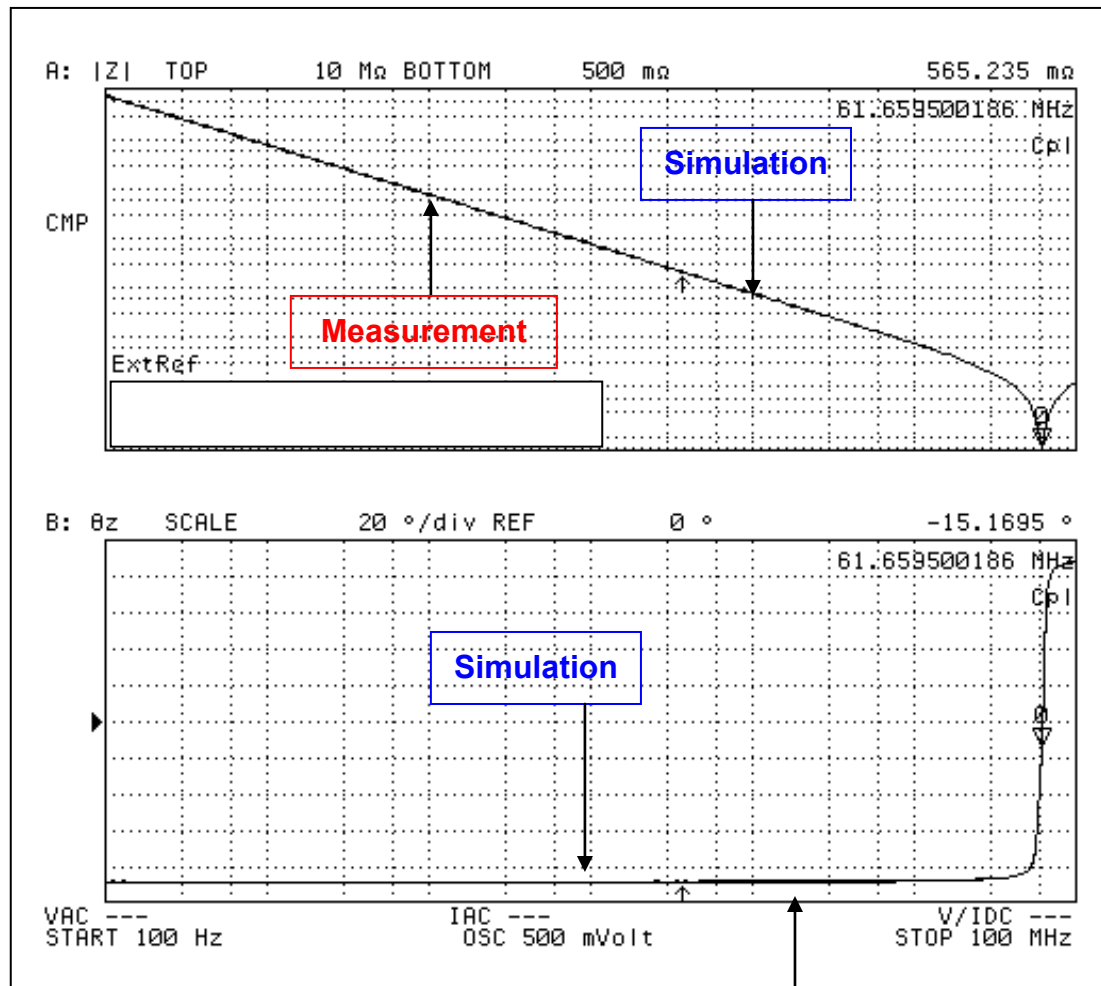
Optimization of Simulation

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

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

Attention)

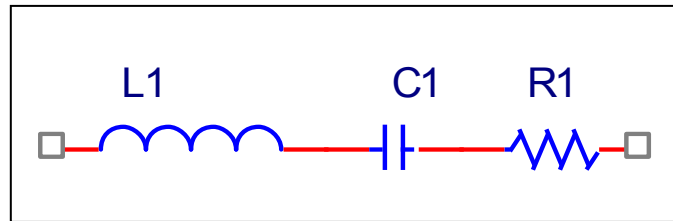
Please use SPICE MODEL within the range from 100Hz to 100M(Hz)



Measurement

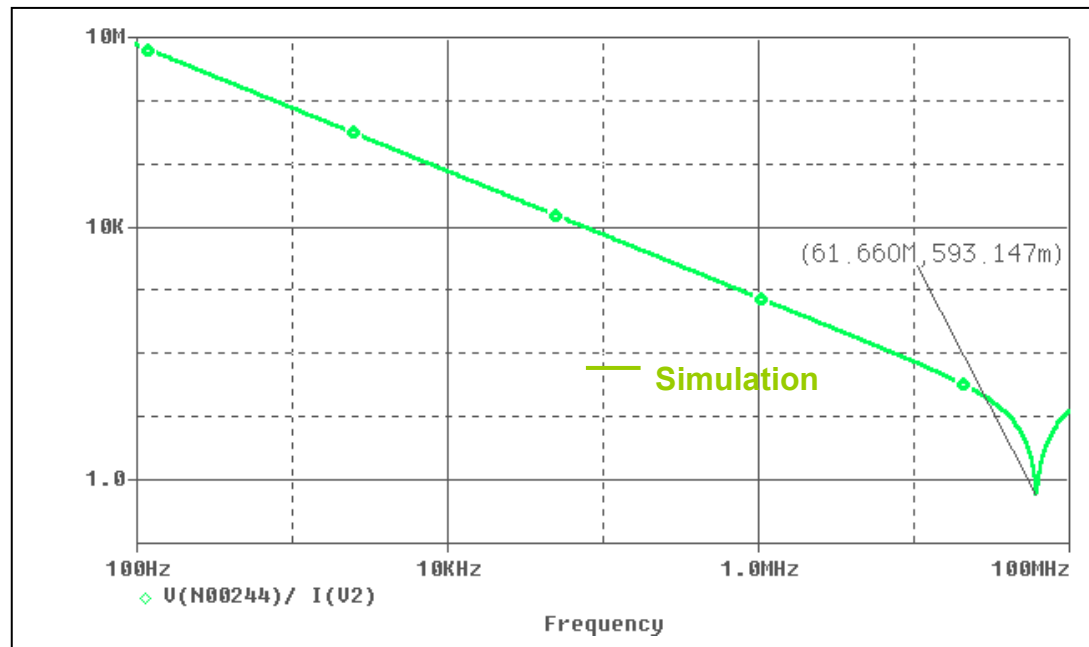
L1	
C1	
R1	

Equivalent circuit

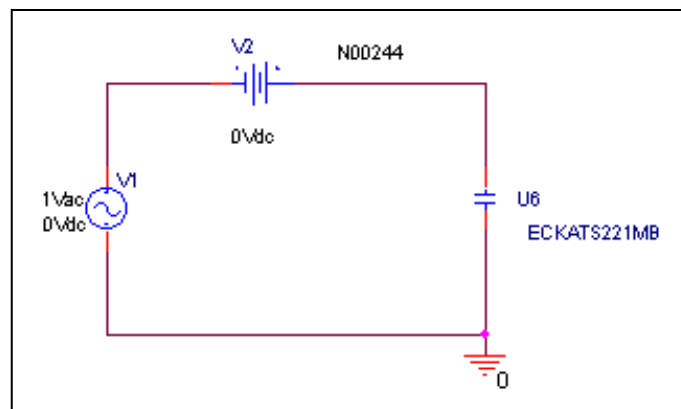


Frequency vs. |Z| Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

Frequency (Hz)	IZI (ohm) :Measurement	IZI (ohm) :Simulation	% Error
100	7.31711M	7.6203M	4.1436
1K	733.801K	762.028K	3.8467
10K	73.738K	76.203K	3.3429
100K	7.40683K	7.6303K	3.0171
1M	746.884	761.831	2.0012
10M	73.7124	74.227	0.6981
100M	12.0712	12.169	0.8102

	Measurement	Simulation	%Error
FSRF(Hz)	61.660M	61.660M	0.0008
IZI (ohm)	565.235m	593.147m	4.9381