

Device Modeling Report

COMPONENTS: RESISTOR
PART NUMBER: ERF5AK1R0
THERMAL: TA=120(degree)
MANUFACTURER: MATSUSHITA



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

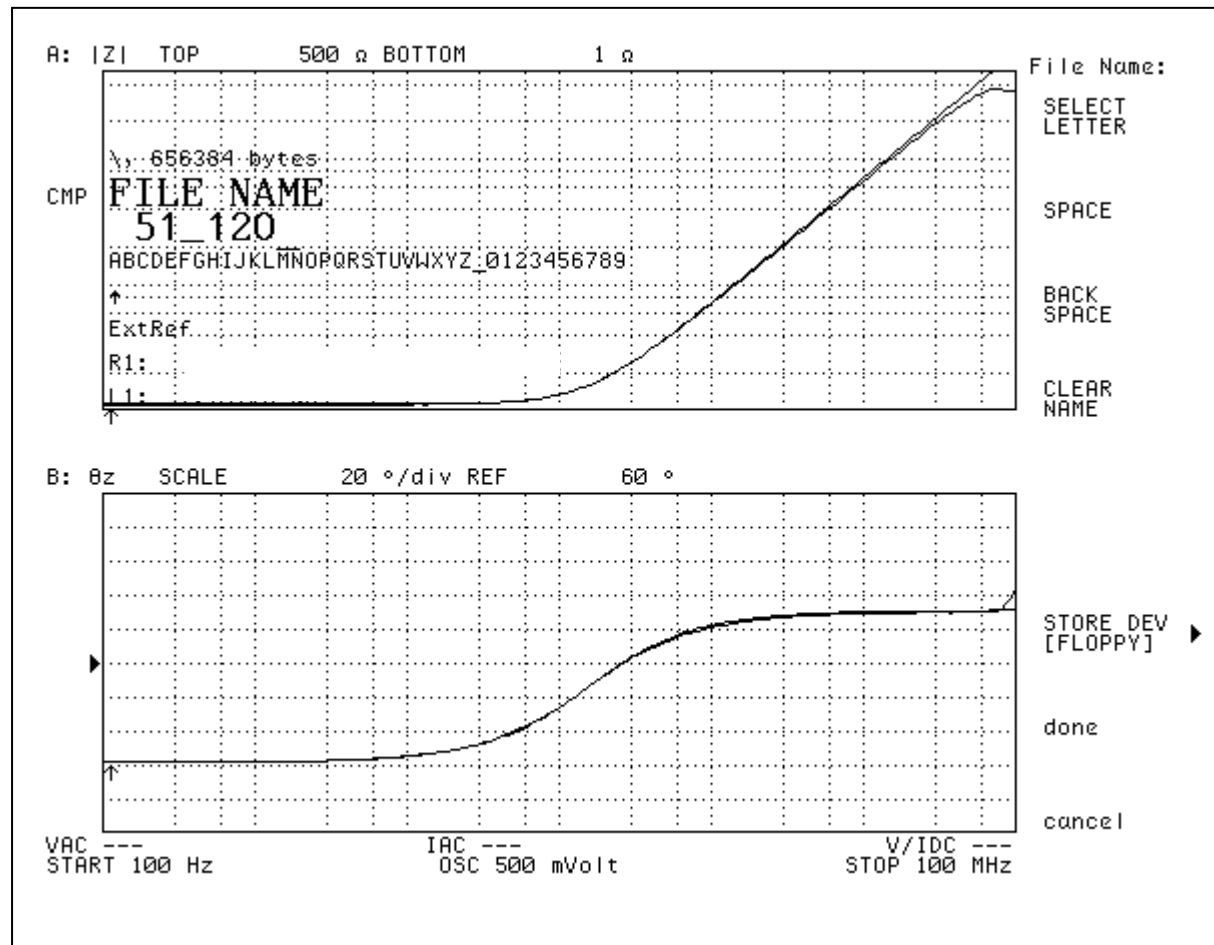
Optimization of Simulation

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

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

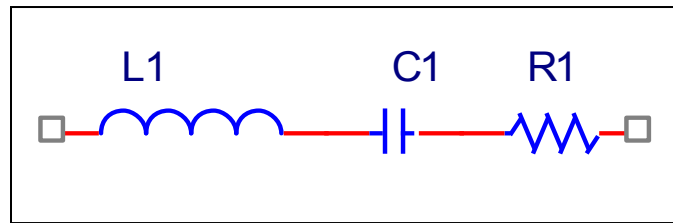
Attention

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



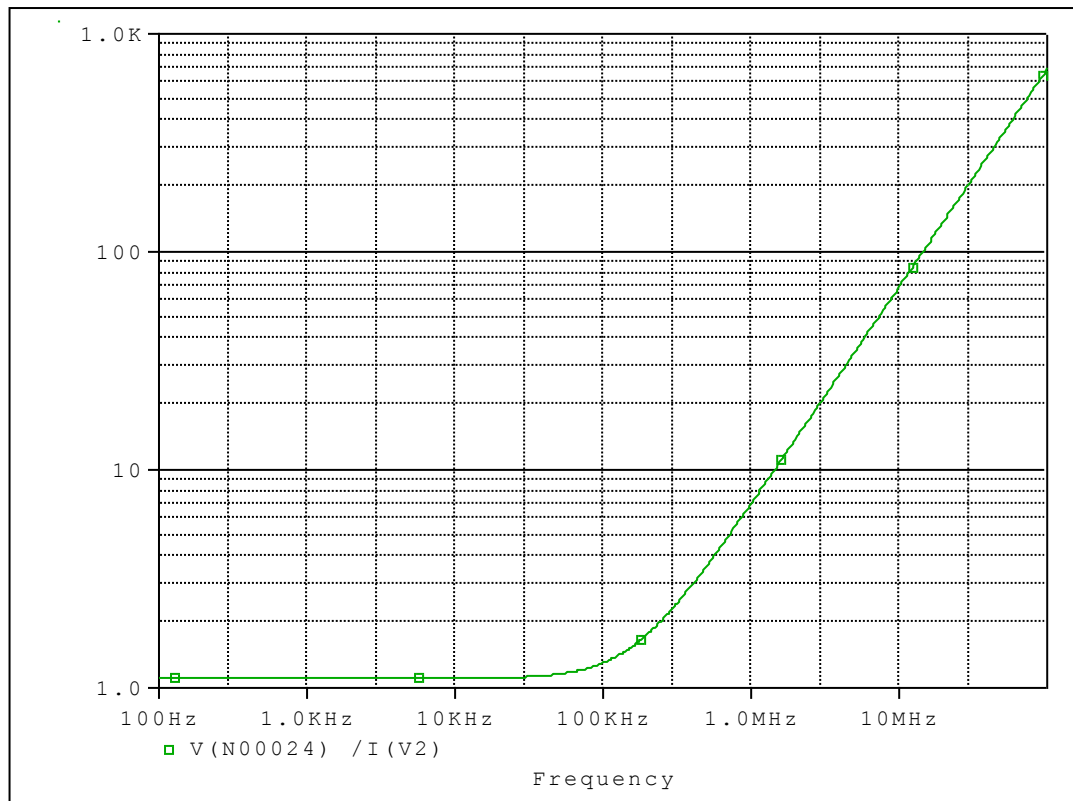
Measurement		
R1		
L1		
C1		

Equivalent circuit

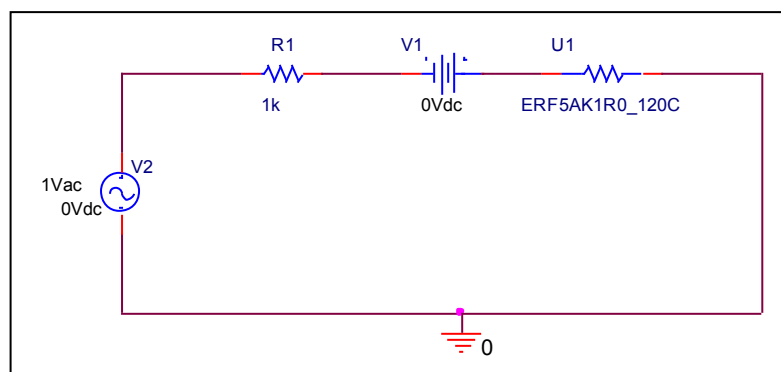


Frequency vs. $|Z|$ Characteristic

Circuit simulation result



Evaluation Circuit



Simulation Result

Frequency(HZ)	 Z (ohm) Measurement	 Z (ohm) Circuit Simulation	%Error
100	1.096	1.104	0.727
1K	1.096	1.104	0.716
10K	1.101	1.106	0.427
100K	1.306	1.303	0.285
1M	7.162	7.007	2.164
10M	66.832	69.202	3.547