

Device Modeling Report

COMPONENTS: CAPACITOR/ ELECTROLYTIC
PART NUMBER: ECEA0JKG470
MANUFACTURER: Panasonic
THERMAL: Ta= 40C (degree)



Bee Technologies Inc.

Theory: Auto Balancing Bridge Method

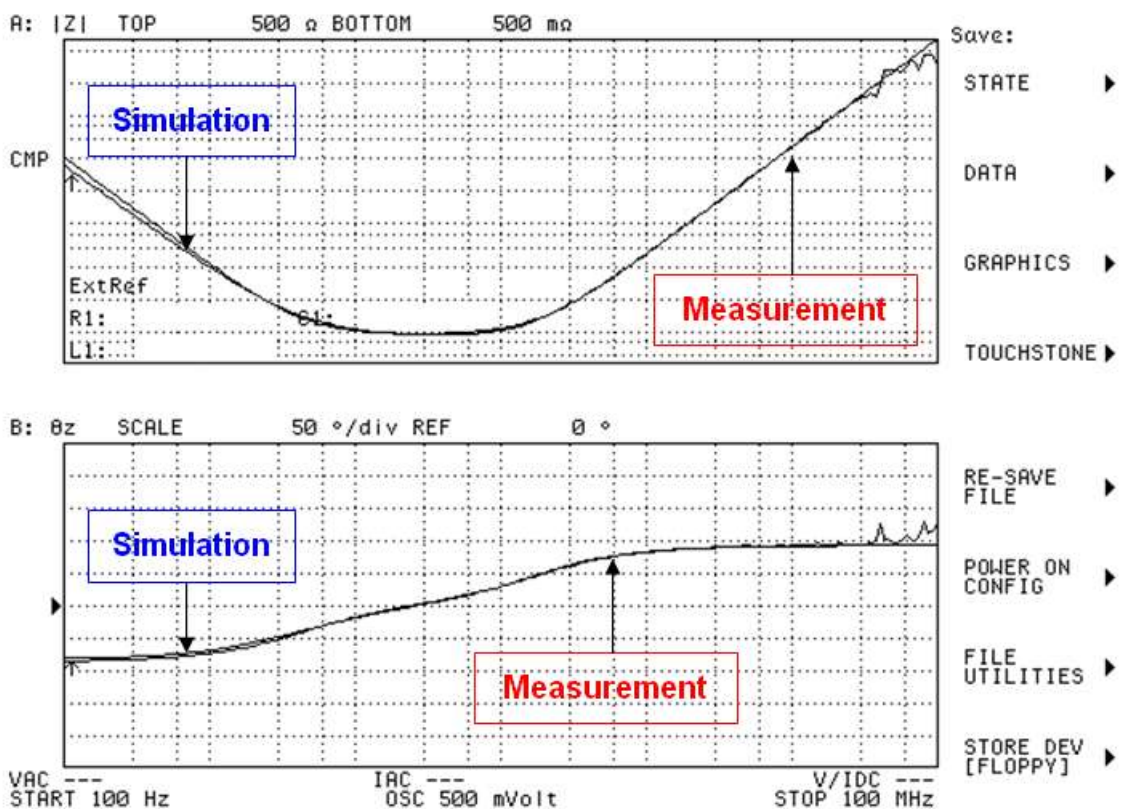
Optimization of Simulation

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

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

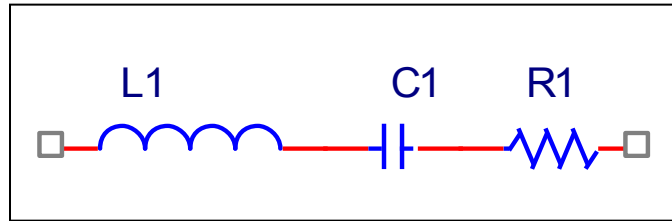
Attention)

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



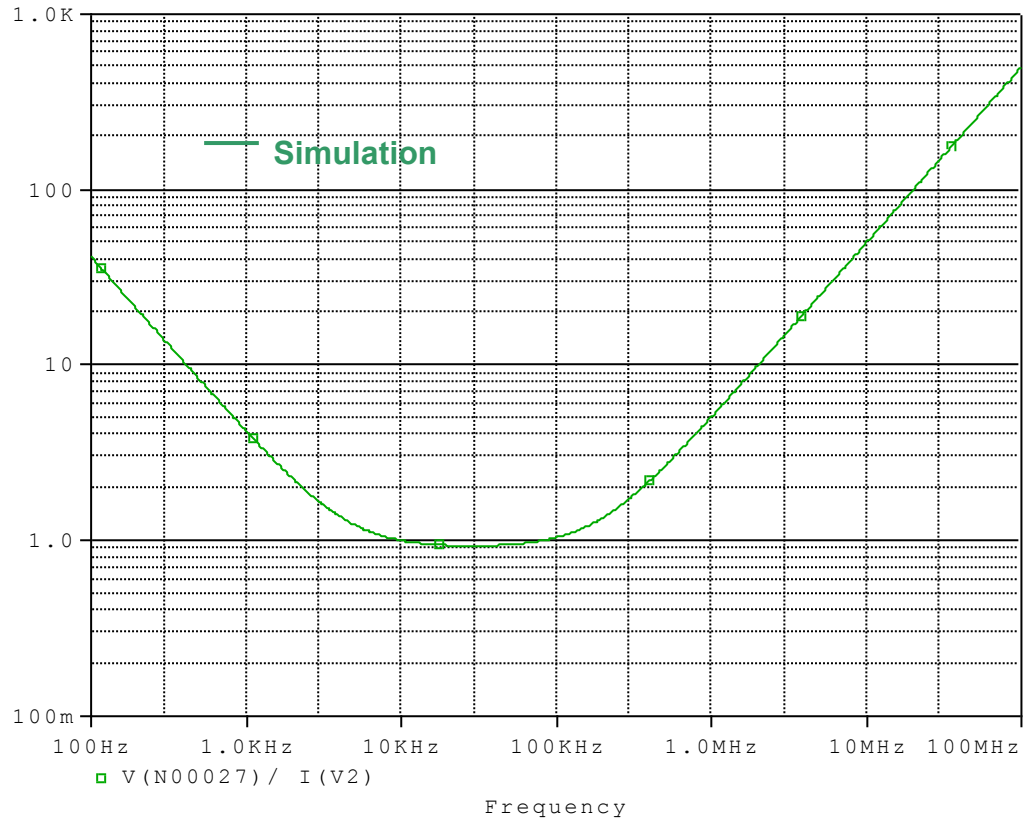
| | Measurement | |
|----|-------------|--|
| R1 | | |
| C1 | | |
| L1 | | |

Equivalent circuit

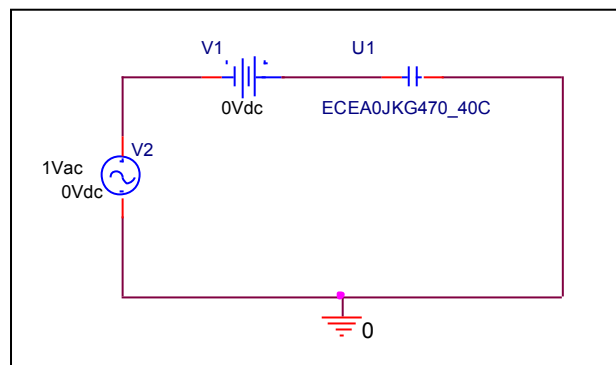


Frequency vs. IZI Characteristic

Circuit Simulation result



Evaluation Circuit



Simulation result

| Frequency (Hz) | IZI (Ω) | | % Error |
|----------------|------------------|------------|----------|
| | Measurement | Simulation | |
| 100 | 35.008 | 41.284 | 17.926 |
| 1K | 3.909 | 4.228 | 8.147 |
| 10K | 1.181 | 1.004 | - 14.946 |
| 100K | 1.127 | 1.042 | - 7.525 |
| 1M | 5.346 | 5.066 | - 5.230 |
| 10M | 50.008 | 49.841 | - 0.335 |