

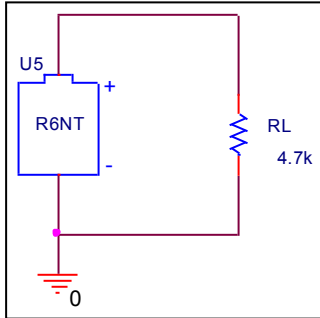
# Device Modeling Report

COMPONENTS: Manganese Cell  
PART NUMBER: R6NT  
MANUFACTURER: PANASONIC  
CONDITION:  $RL = 4.7(\Omega)$

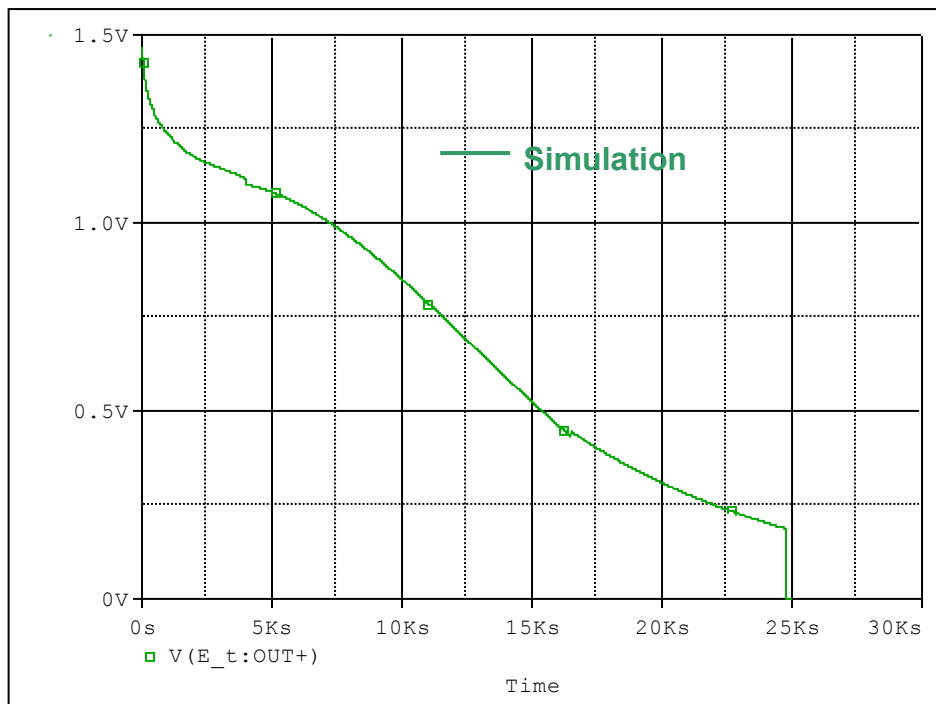


**Bee Technologies Inc.**

## Evaluation Circuit



## Simulation result



## Comparison Table

| Time (Sec) | Vdc(V)<br>Measurement | Vdc(V)<br>Simulation | %Error  |
|------------|-----------------------|----------------------|---------|
| 10.136     | 1.4626                | 1.4590               | -0.2438 |
| 50.002     | 1.4205                | 1.4254               | 0.3428  |
| 100.002    | 1.3902                | 1.3918               | 0.1116  |
| 200.002    | 1.3508                | 1.3472               | -0.2695 |
| 300.002    | 1.3239                | 1.3231               | -0.0627 |
| 400.002    | 1.3045                | 1.3074               | 0.2228  |
| 500.002    | 1.2894                | 1.2785               | -0.8489 |
| 600.002    | 1.2759                | 1.2728               | -0.2410 |
| 700.002    | 1.2637                | 1.2626               | -0.0849 |
| 800.002    | 1.2522                | 1.2530               | 0.0627  |
| 900.002    | 1.2417                | 1.2439               | 0.1809  |
| 1000.002   | 1.2325                | 1.2355               | 0.2475  |
| 1200.002   | 1.2184                | 1.2202               | 0.1452  |
| 1400.002   | 1.2066                | 1.2068               | 0.0147  |
| 1600.002   | 1.1964                | 1.1952               | -0.1031 |
| 1800.002   | 1.1870                | 1.1852               | -0.1526 |
| 2000.002   | 1.1782                | 1.1765               | -0.1454 |
| 2200.002   | 1.1699                | 1.1689               | -0.0813 |
| 2400.002   | 1.1624                | 1.1623               | -0.0123 |
| 2800.002   | 1.1502                | 1.1509               | 0.0650  |
| 3000.002   | 1.1448                | 1.1457               | 0.0805  |
| 3400.002   | 1.1346                | 1.1355               | 0.0830  |
| 3600.002   | 1.1293                | 1.1300               | 0.0607  |
| 4000.002   | 1.1183                | 1.1110               | -0.6543 |
| 5000.002   | 1.0867                | 1.0819               | -0.4417 |
| 6000.002   | 1.0501                | 1.0507               | 0.0589  |
| 6500.002   | 1.0290                | 1.0316               | 0.2544  |
| 7000.002   | 1.0073                | 1.0105               | 0.3163  |
| 7500.002   | 0.9847                | 0.9875               | 0.2905  |
| 8000.002   | 0.9607                | 0.9628               | 0.2138  |
| 8500.002   | 0.9353                | 0.9365               | 0.1240  |
| 9000.002   | 0.9085                | 0.9087               | 0.0218  |
| 9500.002   | 0.8810                | 0.8797               | -0.1463 |
| 10000.002  | 0.8519                | 0.8472               | -0.5509 |
| 10500.002  | 0.8206                | 0.8170               | -0.4409 |
| 11000.002  | 0.7885                | 0.7868               | -0.2041 |
| 11500.002  | 0.7570                | 0.7539               | -0.4037 |
| 12000.002  | 0.7250                | 0.7216               | -0.4722 |

| <b>Time (Sec)</b> | <b>Vdc(V)<br/>Measurement</b> | <b>Vdc(V)<br/>Simulation</b> | <b>%Error</b> |
|-------------------|-------------------------------|------------------------------|---------------|
| 12500.002         | 0.6919                        | 0.6885                       | -0.4917       |
| 13000.002         | 0.6573                        | 0.6552                       | -0.3192       |
| 13500.002         | 0.6216                        | 0.6208                       | -0.1425       |
| 14000.002         | 0.5850                        | 0.5890                       | 0.6832        |
| 14500.002         | 0.5493                        | 0.5563                       | 1.2764        |
| 15000.002         | 0.5180                        | 0.5227                       | 0.9056        |
| 15500.002         | 0.4903                        | 0.4916                       | 0.2670        |
| 16000.002         | 0.4644                        | 0.4622                       | -0.4868       |
| 16500.002         | 0.4389                        | 0.4332                       | -1.2883       |
| 17000.002         | 0.4163                        | 0.4210                       | 1.1140        |
| 17500.002         | 0.3972                        | 0.3996                       | 0.6173        |
| 18000.002         | 0.3805                        | 0.3806                       | 0.0317        |
| 18500.002         | 0.3651                        | 0.3608                       | -1.1870       |
| 19000.002         | 0.3498                        | 0.3427                       | -2.0246       |
| 20000.002         | 0.3158                        | 0.3086                       | -2.2943       |
| 21000.002         | 0.2819                        | 0.2778                       | -1.4304       |
| 22000.002         | 0.2492                        | 0.2502                       | 0.4010        |
| 23000.002         | 0.2228                        | 0.2252                       | 1.0698        |
| 24000.002         | 0.2012                        | 0.2028                       | 0.7765        |
| 24500.002         | 0.1917                        | 0.1927                       | 0.5140        |
| 24800.002         | 0.1859                        | 0.1811                       | -2.5652       |

## Comparison Graph

