

# **Device Modeling Report**

COMPONENTS:MAGNETIC CORE  
PART NUMBER:3F4  
MANUFACTURER:FERROXCUBE



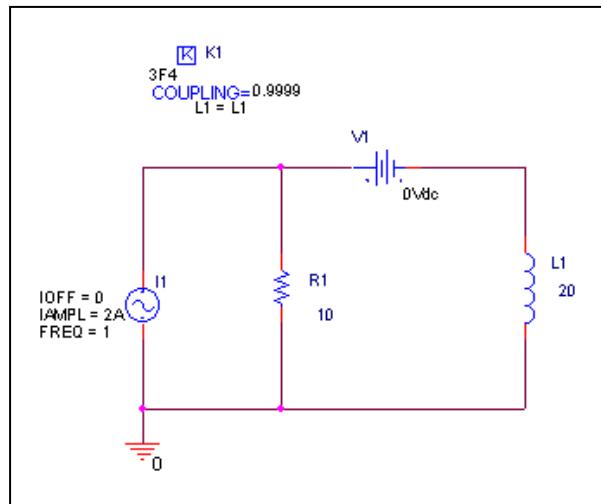
**Bee Technologies Inc.**

## MAGNETIC CORE

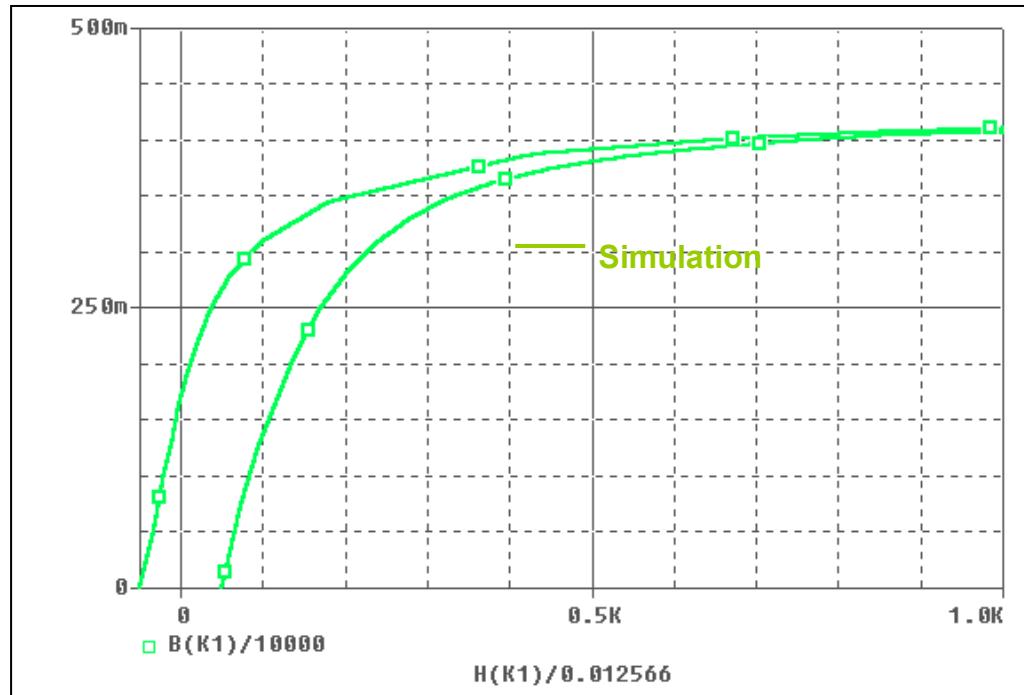
| Pspice model parameter | Model description           |
|------------------------|-----------------------------|
| A                      | thermal energy parameter    |
| K                      | domain anisotropy parameter |
| C                      | domain flexing parameter    |
| MS                     | magnetization saturation    |

## Hysteresis Curve Characteristics

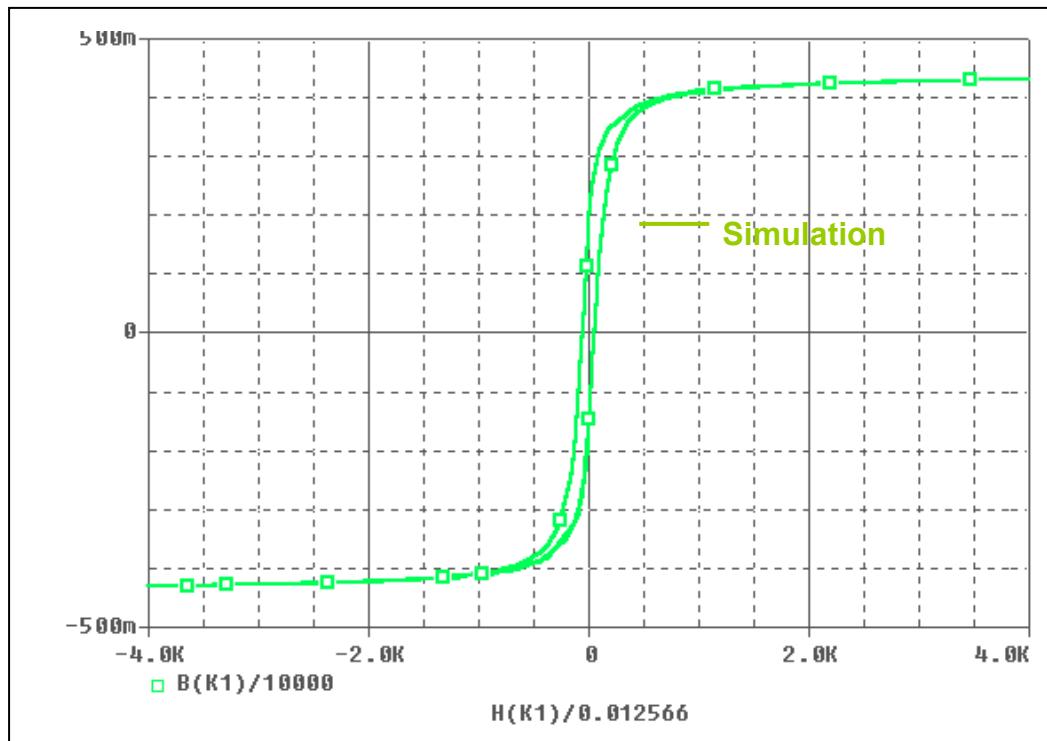
Evaluation Circuit



Simulation result



## Simulation result



**Comparison Table**

| H(A/m) | B(mT)<br>Measurement | B(mT)<br>Simulation | %Error |
|--------|----------------------|---------------------|--------|
| 0      | 160                  | 167.982             | 4.989  |
| 50     | 255                  | 266.304             | 4.433  |
| 100    | 300                  | 309.815             | 3.272  |
| 180    | 350                  | 345.262             | 1.354  |
| 260    | 370                  | 358.851             | 3.013  |
| 340    | 385                  | 372.082             | 3.355  |
| 420    | 390                  | 385.314             | 1.202  |
| 500    | 395                  | 390.869             | 1.046  |
| 600    | 400                  | 396.813             | 0.797  |
| 740    | 400                  | 403.418             | 0.855  |
| 820    | 405                  | 405.944             | 0.233  |
| 1000   | 405                  | 410.717             | 1.412  |
| 180    | 265                  | 260.847             | 1.567  |
| 260    | 330                  | 320.953             | 2.742  |
| 340    | 360                  | 351.835             | 2.268  |
| 420    | 380                  | 369.638             | 2.727  |
| 500    | 388                  | 380.761             | 1.866  |
| 600    | 400                  | 389.941             | 2.515  |
| 740    | 400                  | 398.388             | 0.403  |
| 820    | 405                  | 402.398             | 0.642  |
| 1000   | 405                  | 407.849             | 0.703  |