

# Device Modeling Report

COMPONENTS:MAGNETIC CORE  
PART NUMBER:PC47  
MANUFACTURER:TDK



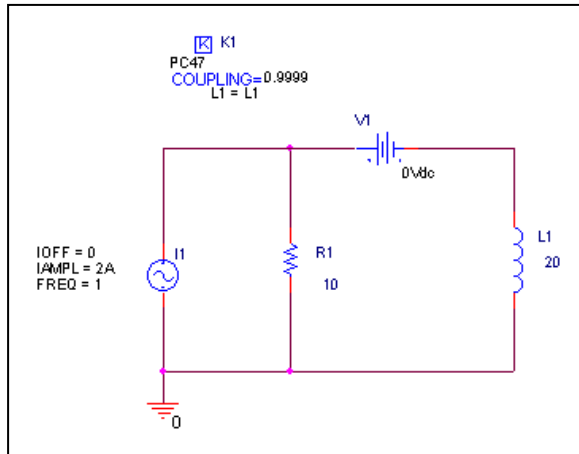
**Bee Technologies Inc.**

## MAGNETIC CORE

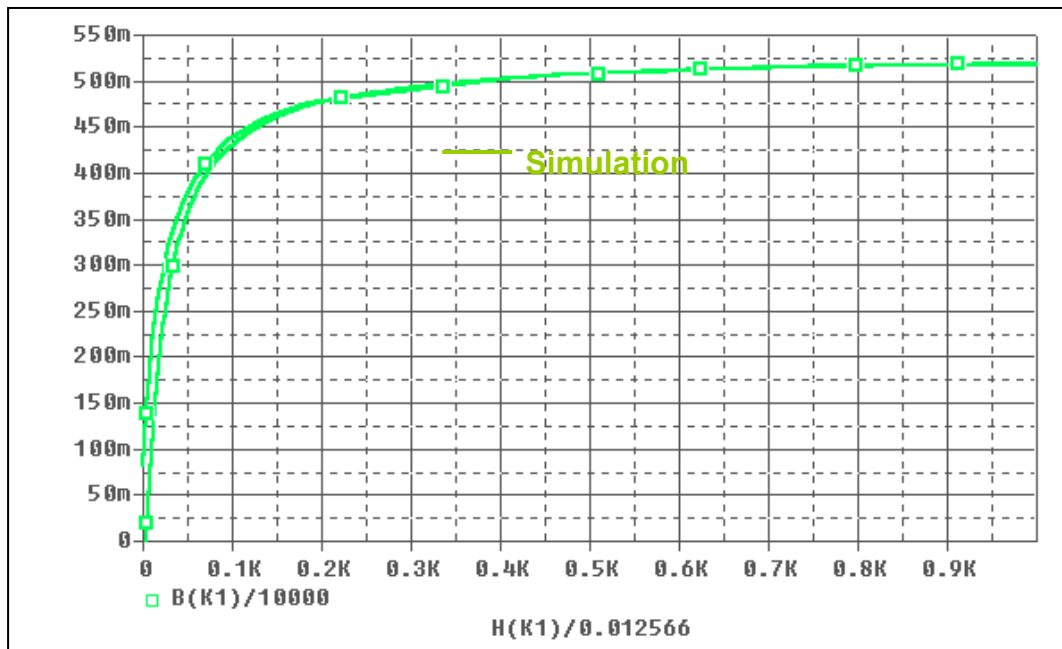
| Pspice model parameter | Model description           |
|------------------------|-----------------------------|
| A                      | thermal energy parameter    |
| K                      | domain anisotropy parameter |
| C                      | domain flexing parameter    |
| MS           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

# Hysteresis Curve Characteristics

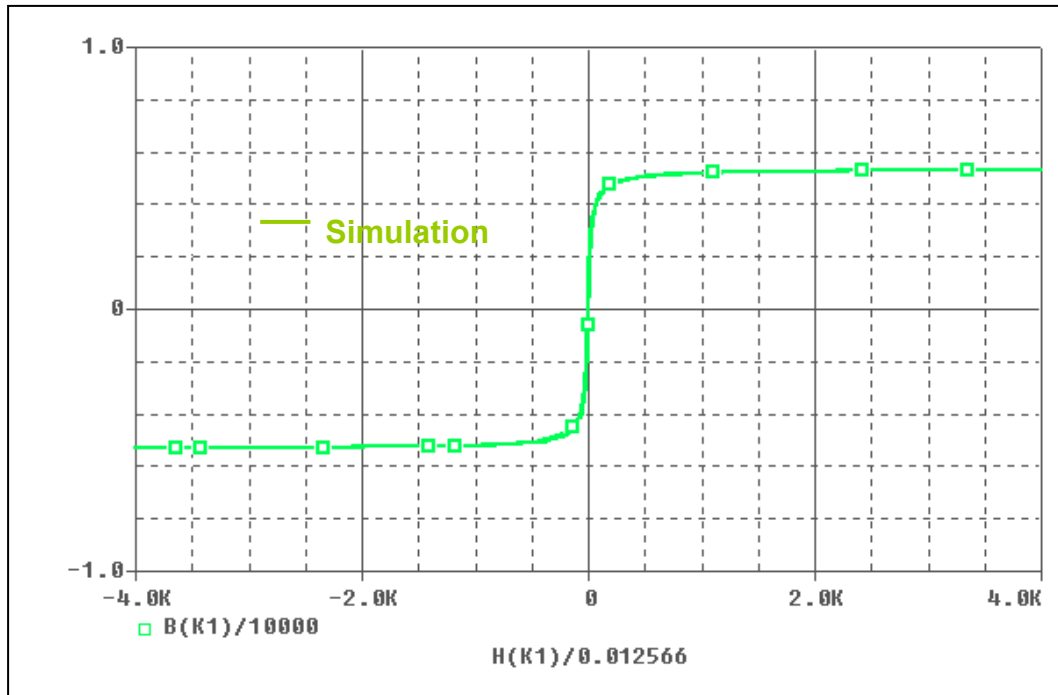
## Evaluation Circuit



## Simulation result



## Simulation result



Comparison Table

| H(A/m) | B(mT)<br>Measurement | B(mT)<br>Simulation | %Error |
|--------|----------------------|---------------------|--------|
| 100    | 450                  | 437.53              | 2.771  |
| 200    | 470                  | 476.949             | 1.479  |
| 300    | 490                  | 488.957             | 0.213  |
| 400    | 500                  | 500.965             | 0.193  |
| 500    | 505                  | 507.509             | 0.497  |
| 600    | 510                  | 511.161             | 0.228  |
| 700    | 515                  | 514.51              | 0.095  |
| 800    | 520                  | 516.337             | 0.704  |
| 900    | 525                  | 518.163             | 1.302  |
| 1000   | 525                  | 519.501             | 1.047  |
| 100    | 440                  | 430.526             | 2.153  |
| 200    | 460                  | 476.27              | 3.537  |
| 300    | 490                  | 493.159             | 0.645  |
| 400    | 500                  | 502.027             | 0.405  |
| 500    | 505                  | 507.48              | 0.491  |
| 600    | 510                  | 511.531             | 0.300  |
| 700    | 515                  | 513.96              | 0.202  |
| 800    | 520                  | 516.389             | 0.694  |
| 900    | 525                  | 517.959             | 1.341  |
| 1000   | 525                  | 519.373             | 1.072  |