

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / STANDARD
PART NUMBER: CMS05
MANUFACTURER: TOSHIBA

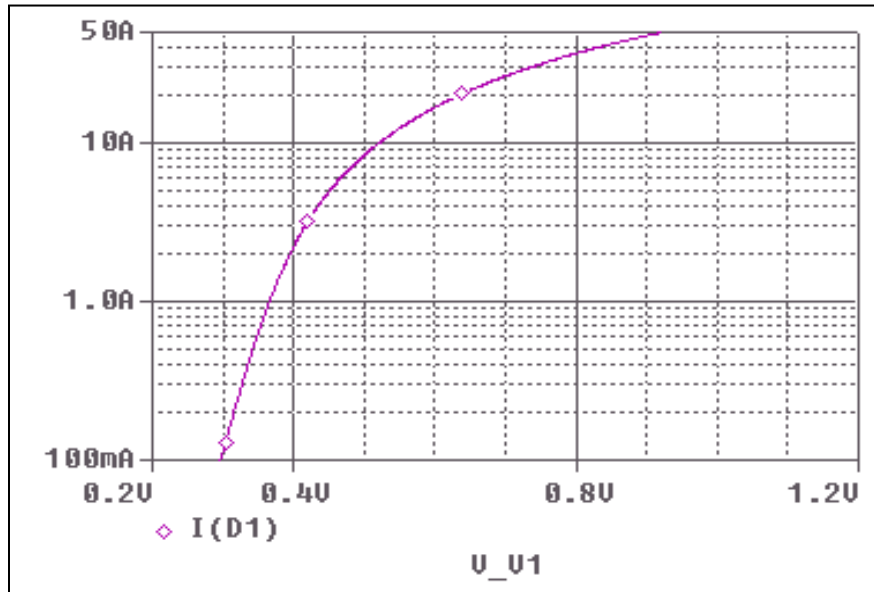


Bee Technologies Inc.

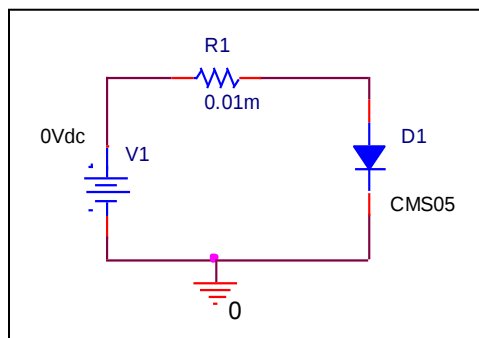
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a positive value)
IBV	Reverse Breakdown Current(a positive value)
TT	Transit Time
EG	Energy-band Gap

Forward Current Characteristic

Circuit Simulation Result

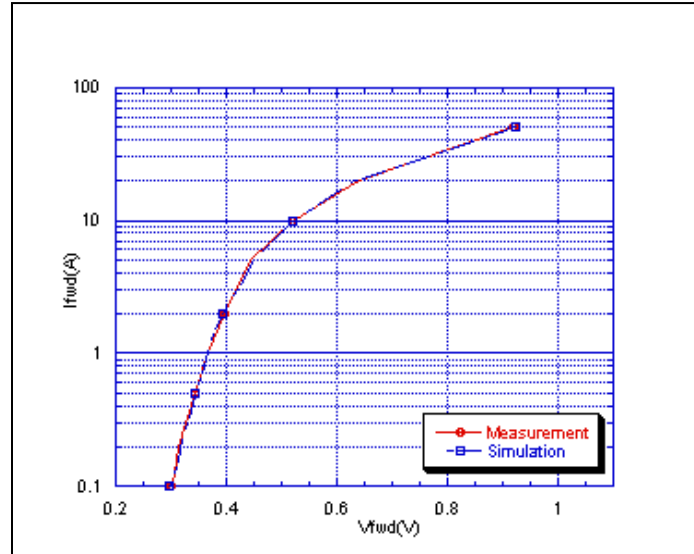


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

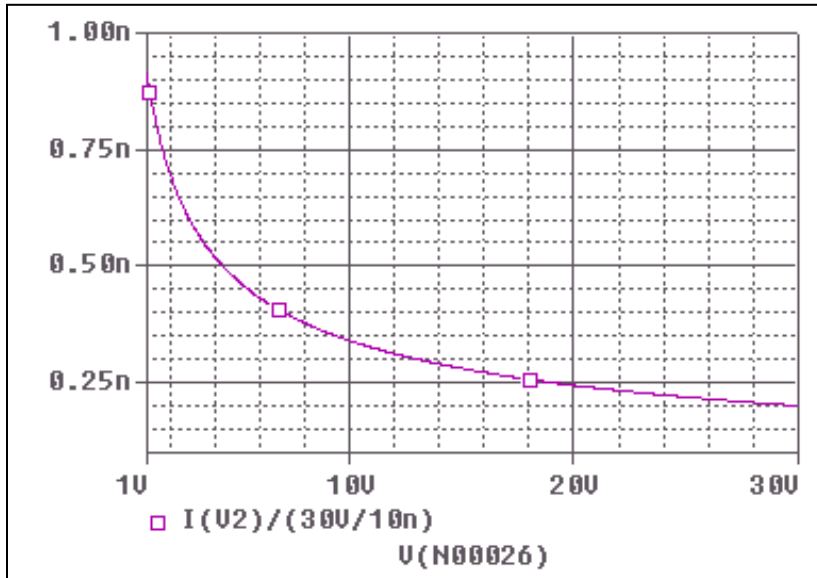


Simulation Result

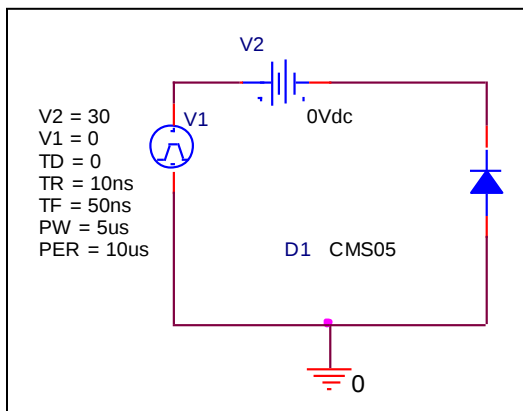
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.300	0.296	-1.30
0.2	0.315	0.315	0.06
0.5	0.342	0.343	0.15
1	0.365	0.366	0.22
2	0.395	0.395	-0.05
5	0.445	0.451	1.37
10	0.520	0.521	0.15
20	0.640	0.635	-0.84
50	0.920	0.922	0.22

Junction Capacitance Characteristic

Circuit Simulation Result

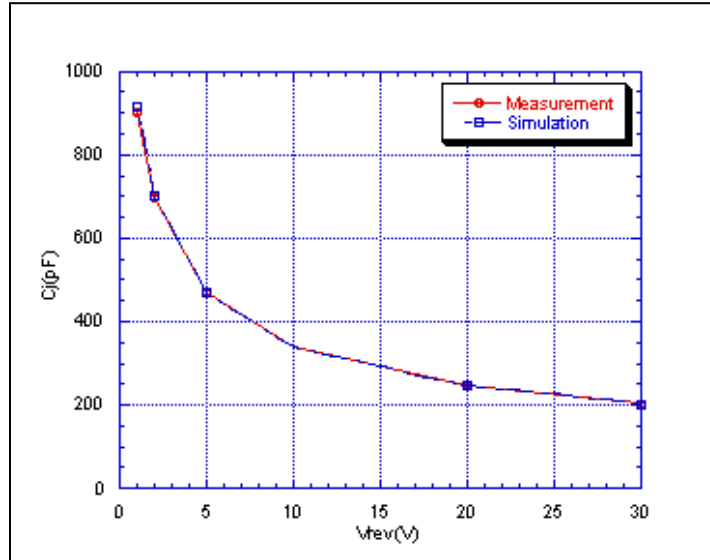


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
1	900.00	913.40	1.49
2	695.00	700.60	0.81
5	470.00	470.30	0.06
10	340.00	340.70	0.21
20	245.00	244.60	-0.16
30	200.00	201.10	0.55