

Device Modeling Report

COMPONENTS:

DIODE/ SCHOTTKY RECTIFIER / STANDARD

PART NUMBER: CMS04

MANUFACTURER: TOSHIBA

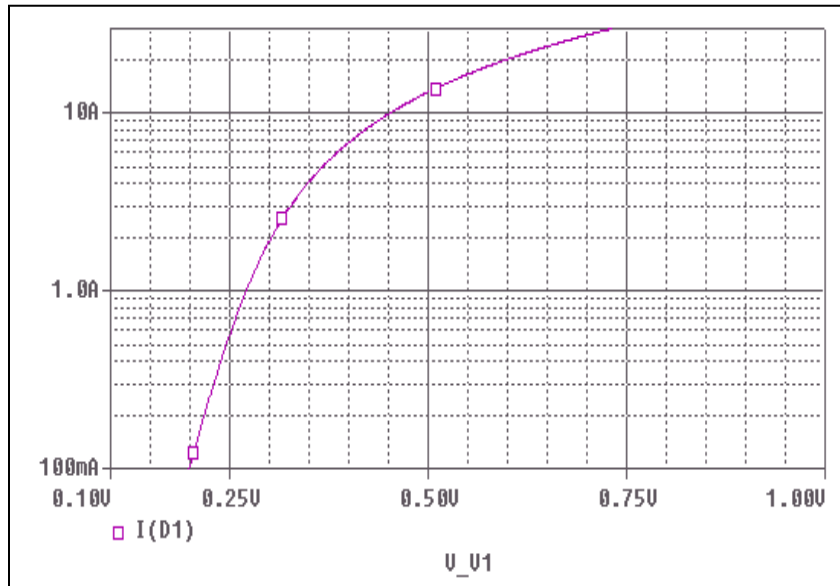


Bee Technologies Inc.

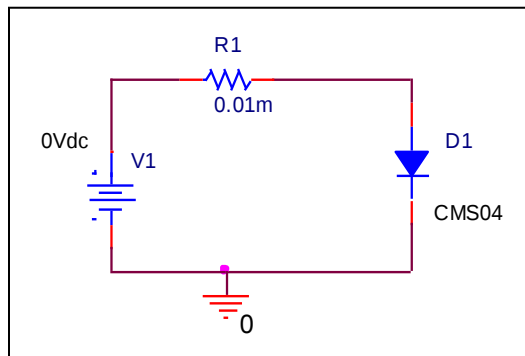
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

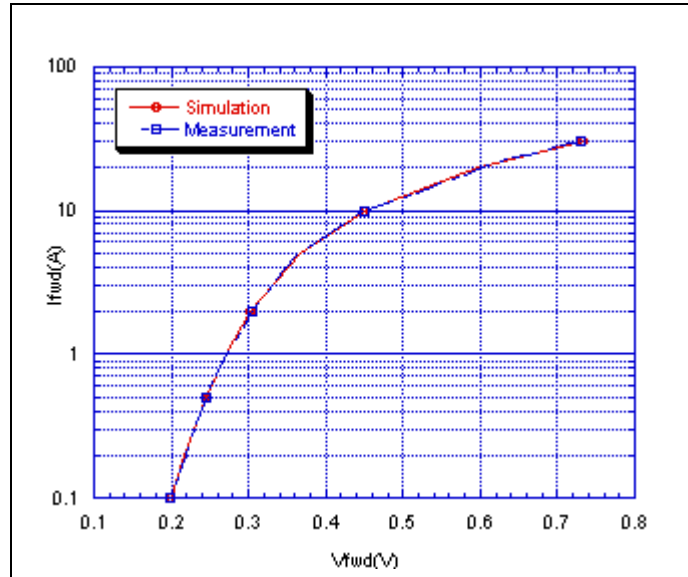


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

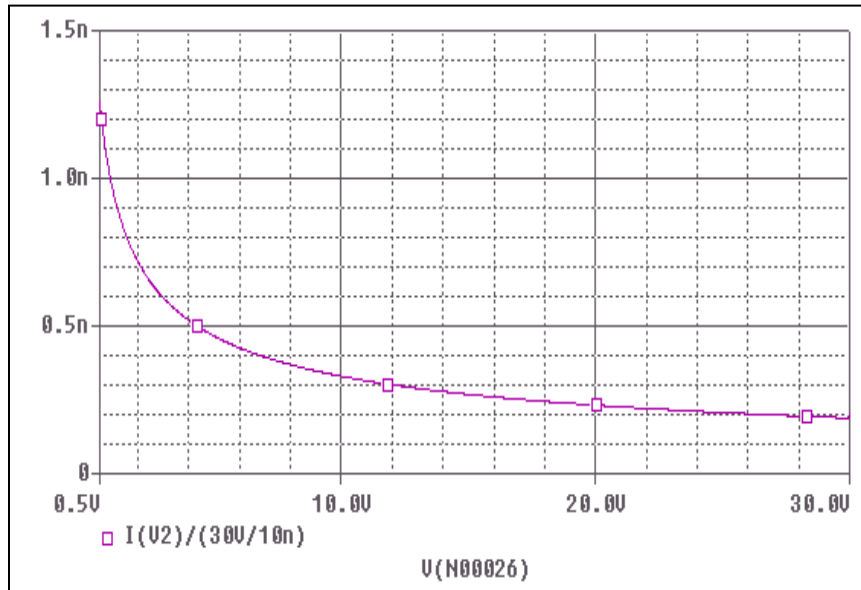


Simulation Result

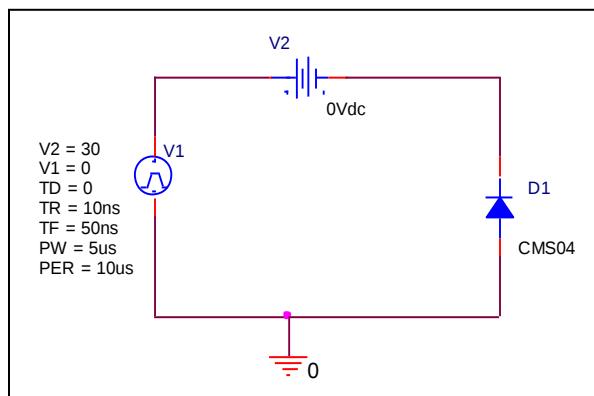
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.198	0.199	0.35
0.2	0.220	0.218	-0.91
0.5	0.244	0.246	0.74
1	0.270	0.271	0.22
2	0.305	0.302	-0.92
5	0.365	0.367	0.49
10	0.450	0.451	0.31
20	0.600	0.597	-0.47
30	0.730	0.732	0.22

Junction Capacitance Characteristic

Circuit Simulation Result

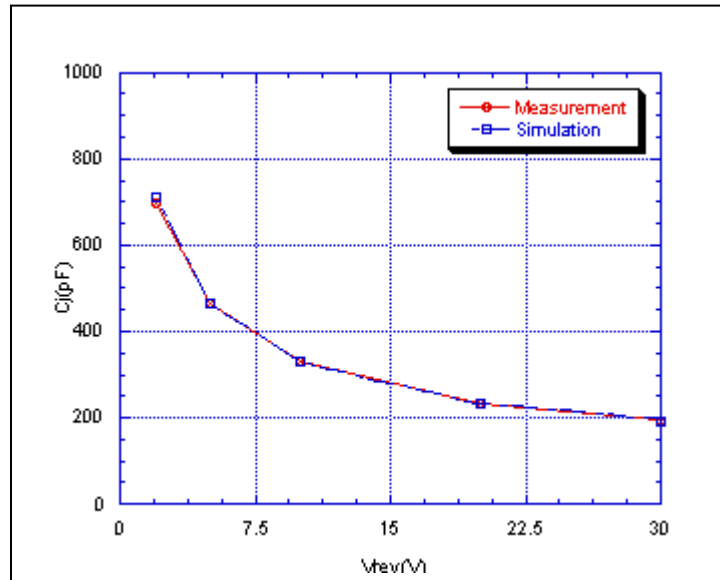


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
1	950.000	950.400	0.04
2	698.000	710.500	1.79
5	467.000	465.000	-0.43
10	330.000	332.000	0.61
20	235.000	234.900	-0.04
30	192.000	191.600	-0.21