

Device Modeling Report

COMPONENTS:

DIODE/ SCHOTTKY RECTIFIER / STANDARD

PART NUMBER: CMS11

MANUFACTURER: TOSHIBA

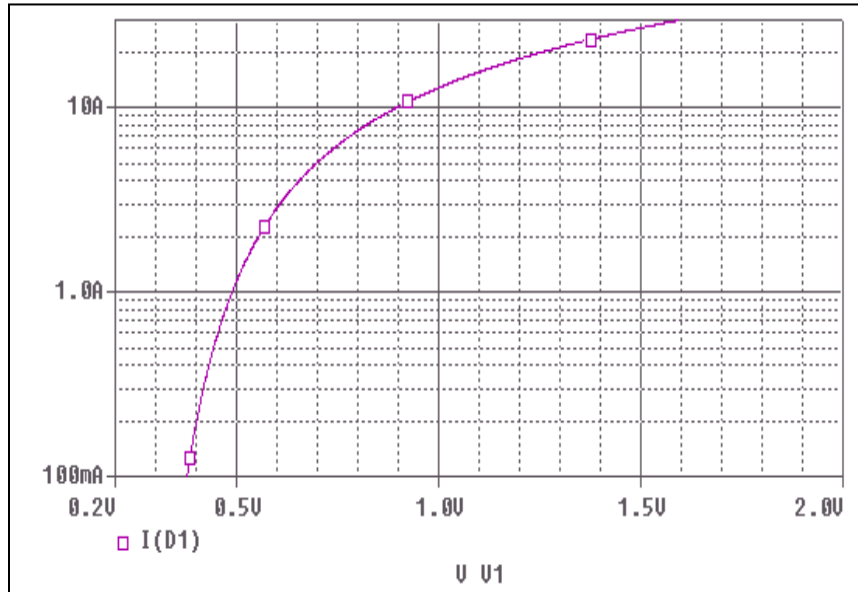


Bee Technologies Inc.

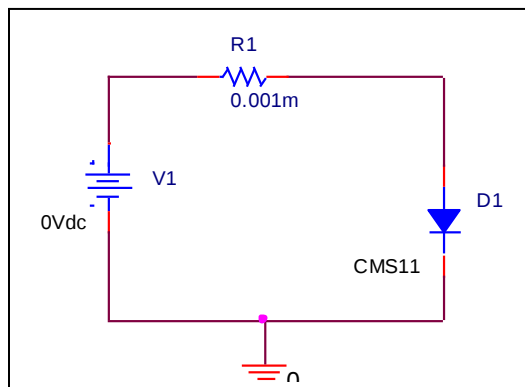
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

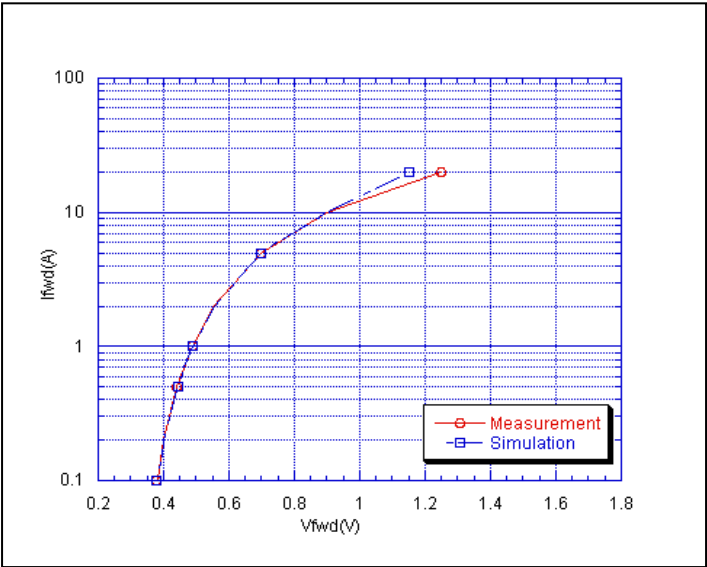


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

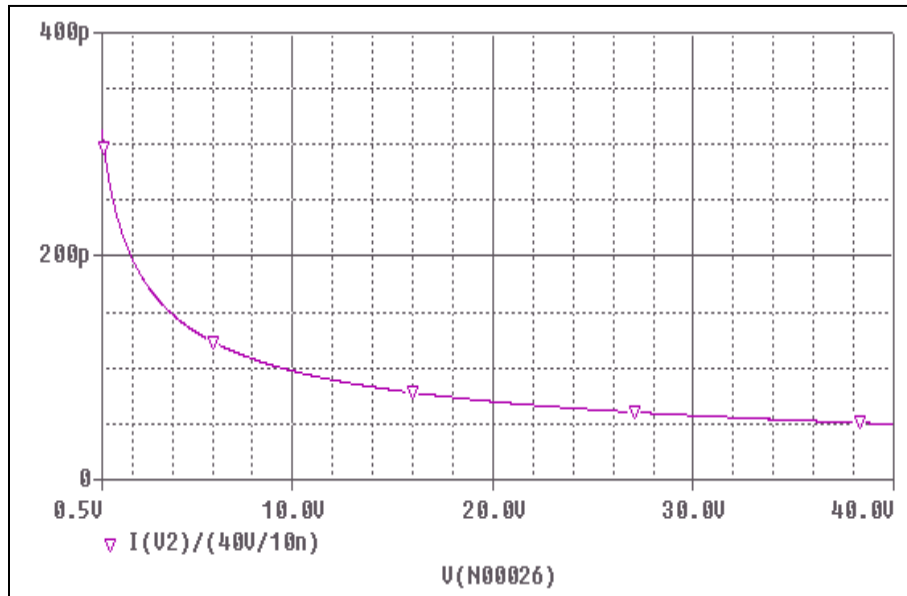


Simulation Result

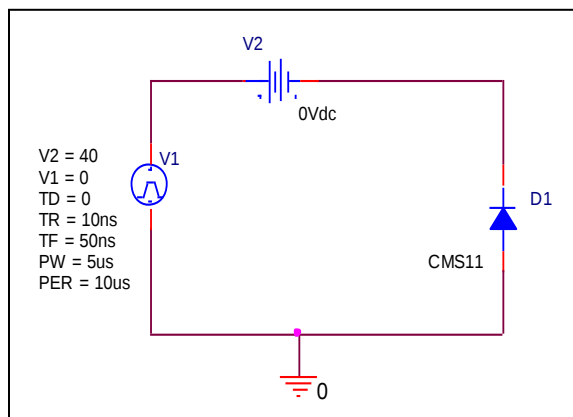
$I_{fwd}(A)$	$V_{fwd}(V)$ Measurement	$V_{fwd}(V)$ Simulation	%Error
0.1	0.380	0.377	-0.79
0.2	0.400	0.401	0.30
0.5	0.440	0.443	0.73
1	0.490	0.490	0.08
2	0.550	0.554	0.78
5	0.700	0.698	-0.34
10	0.900	0.897	-0.36
20	1.250	1.280	2.40

Junction Capacitance Characteristic

Circuit Simulation Result

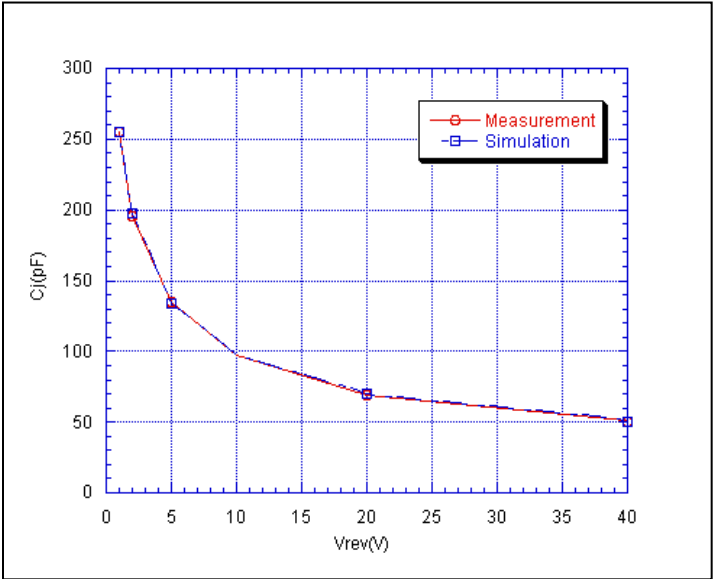


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	255.00	255.11	0.04
2	195.00	198.09	1.58
5	135.00	134.09	-0.67
10	97.00	97.63	0.65
20	69.50	69.98	0.69
40	50.00	50.03	0.06