

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / PROFESSIONAL
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MANUFACTURER: TOSHIBA

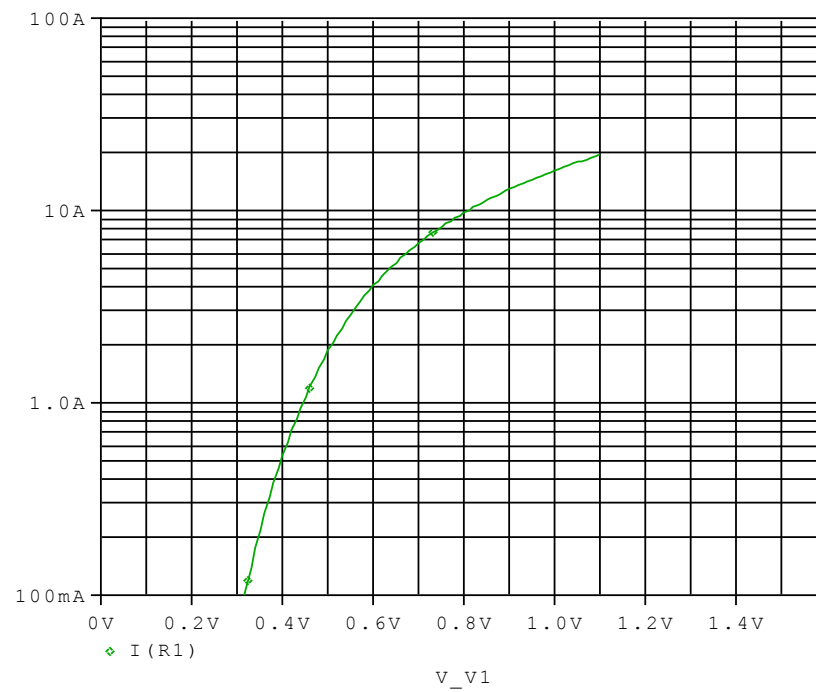


Bee Technologies Inc.

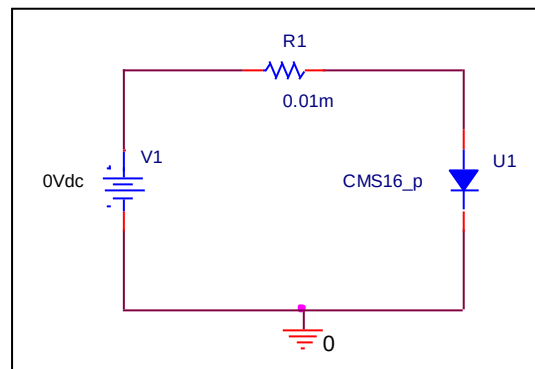
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

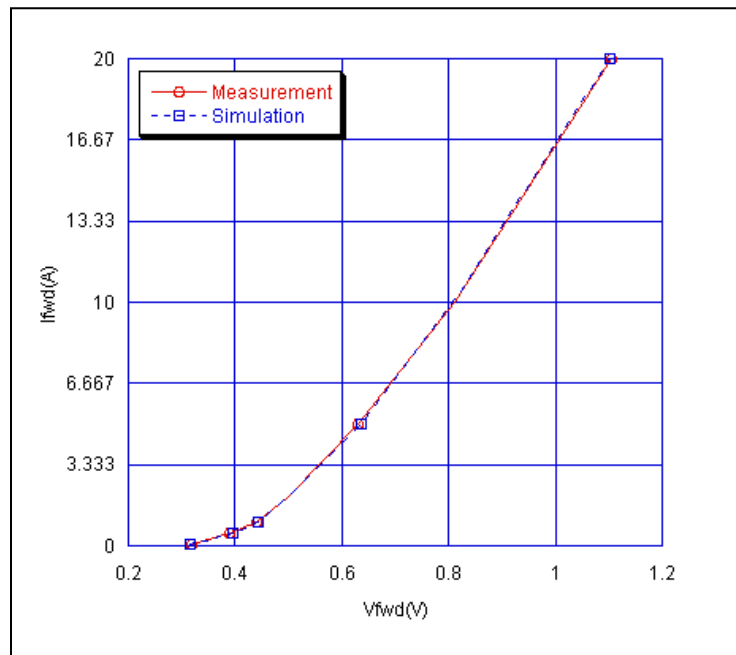


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

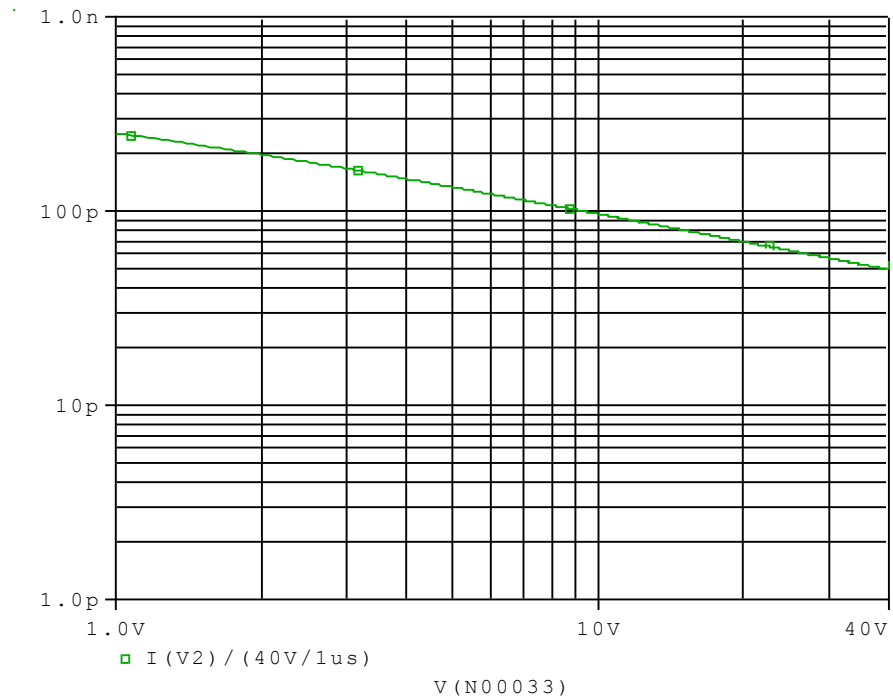


Simulation Result

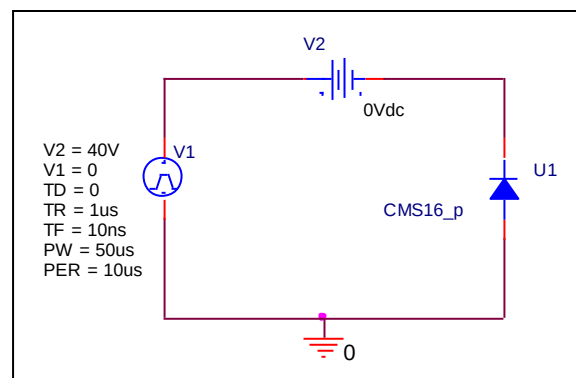
Ifwd(A)	Vfwd(V)		%Error
	Measurement	Simulation	
0.100	0.320	0.316	- 1.250
0.200	0.340	0.345	1.471
0.500	0.390	0.395	1.282
1.000	0.440	0.444	0.909
2.000	0.500	0.500	0.000
5.000	0.630	0.635	0.794
10.000	0.810	0.808	- 0.247
20.000	1.105	1.101	- 0.362

Capacitance Characteristic

Circuit Simulation Result

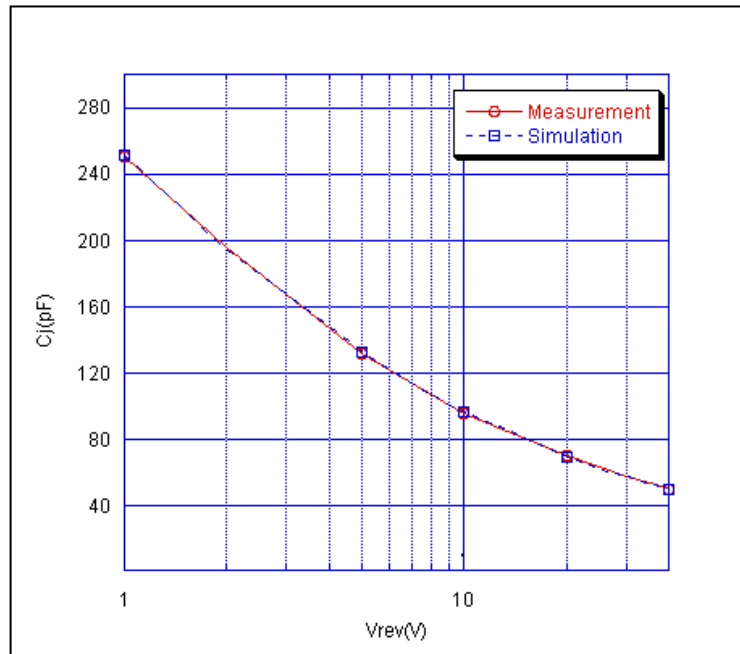


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

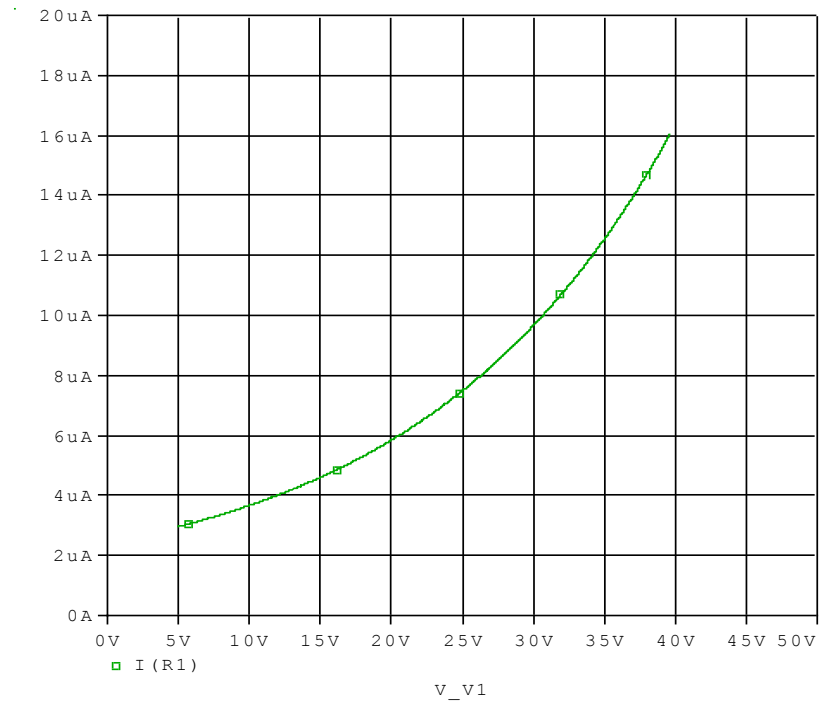


Simulation Result

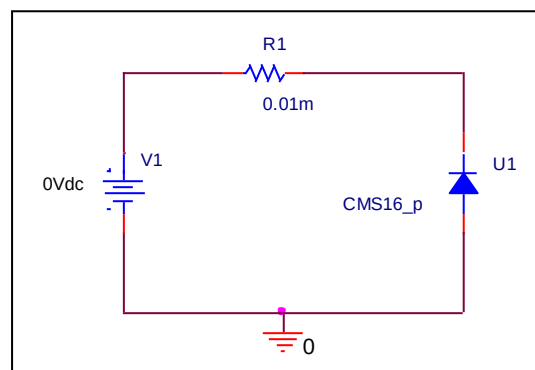
Vrev(V)	Cj(pF)		%Error
	Measurement	Simulation	
1.000	250.000	251.134	0.454
2.000	196.000	195.118	- 0.450
5.000	132.000	132.488	0.370
10.000	96.000	96.522	0.544
20.000	70.000	69.583	- 0.596
30.000	58.000	57.300	- 1.207
40.000	50.000	50.100	0.200

Reverse Characteristic

Circuit Simulation Result

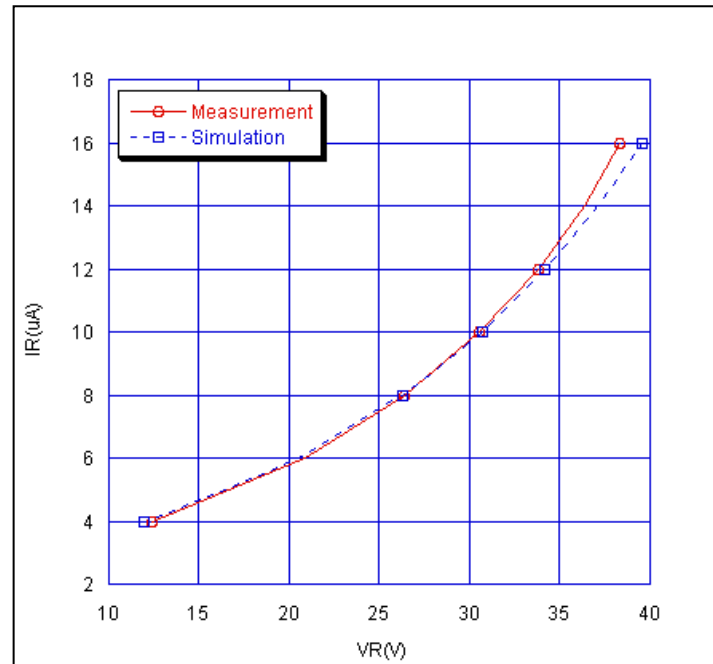


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

$I_R(\mu A)$	$V_R(V)$		Error(%)
	Measurement	Simulation	
4.000	12.400	11.939	- 3.718
6.000	20.850	20.545	- 1.463
8.000	26.400	26.316	- 0.318
10.000	30.558	30.688	0.425
12.000	33.850	34.165	0.931
14.000	36.400	37.082	1.874
16.000	38.300	39.556	3.279

Reverse Characteristic

Reference

