

Device Modeling Report

COMPONENTS:

DIODE/ SCHOOTKY RECTIFIER / STANDARD

PART NUMBER: 1SS383

MANUFACTURER: TOSHIBA

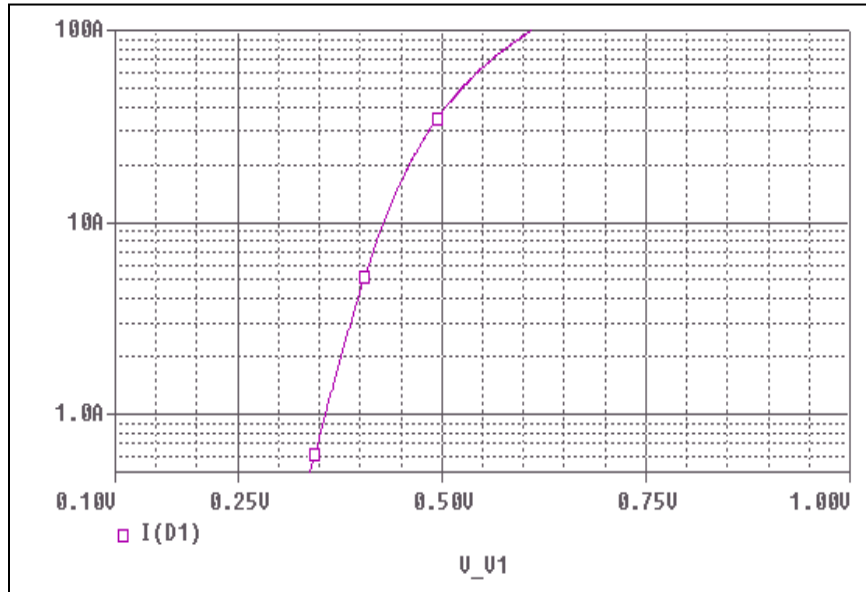


Bee Technologies Inc.

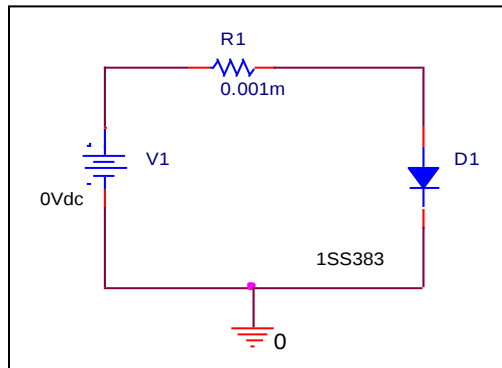
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

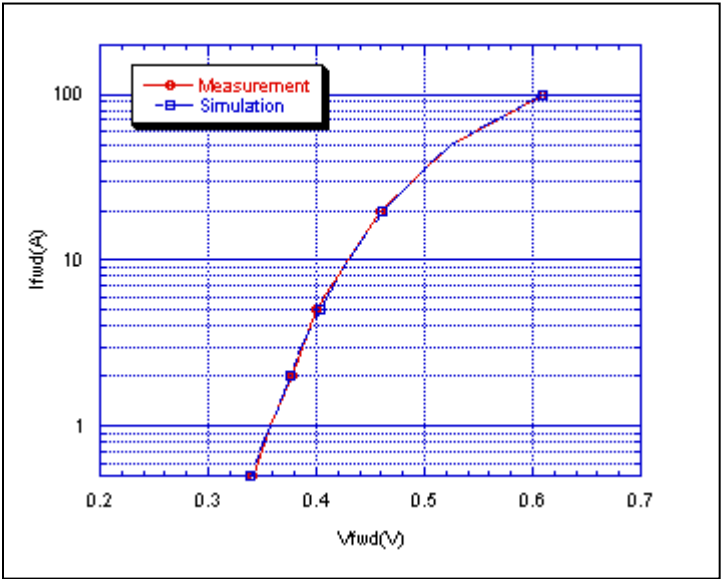


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

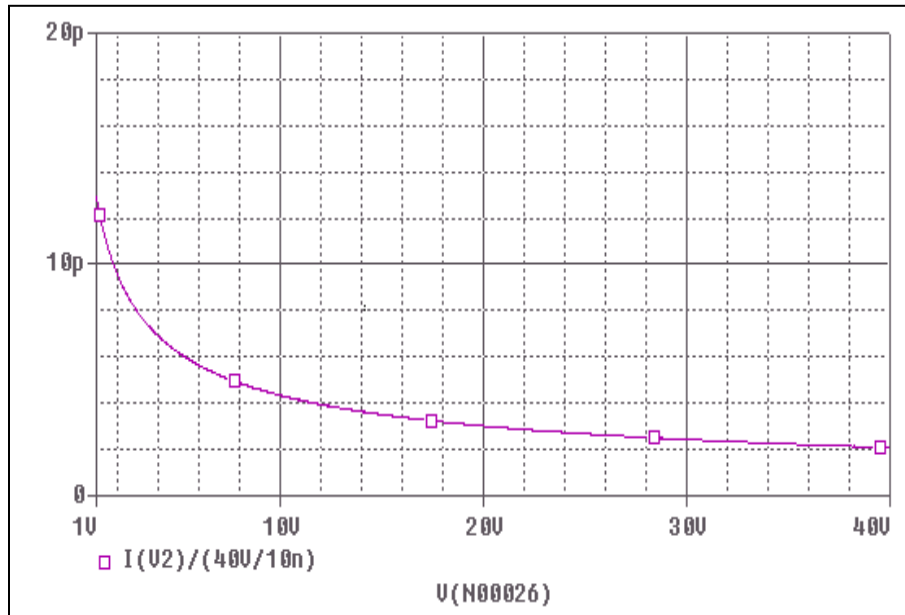


Simulation Result

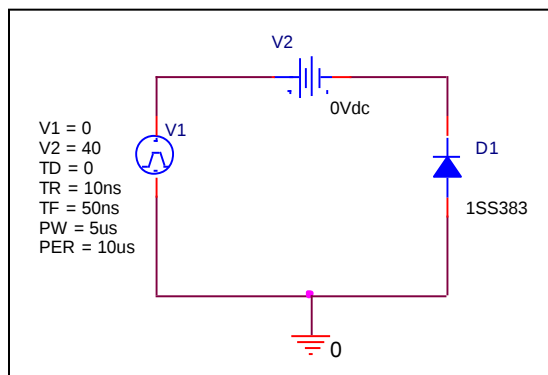
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.5	0.340	0.338	-0.47
1	0.359	0.357	-0.56
2	0.378	0.376	-0.45
5	0.400	0.404	1.03
10	0.430	0.429	-0.28
20	0.463	0.460	-0.58
50	0.527	0.525	-0.44
100	0.610	0.610	0.02

Junction Capacitance Characteristic

Circuit Simulation Result

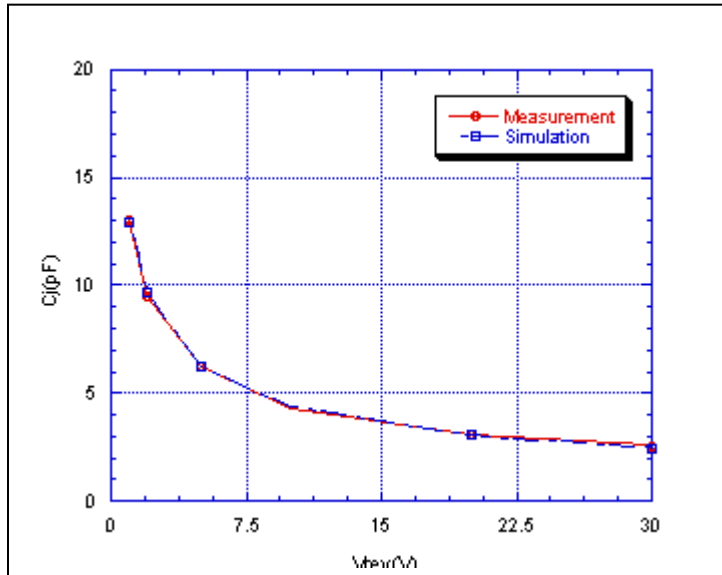


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	13.000	12.905	-0.73
2	9.500	9.636	1.43
5	6.200	6.199	-0.02
10	4.300	4.351	1.19
20	3.100	3.053	-1.53
30	2.500	2.452	-1.94