

Device Modeling Report

COMPONENTS:

DIODE/ SCHOTTKY RECTIFIER / STANDARD

PART NUMBER: 1SS385F

MANUFACTURER: TOSHIBA

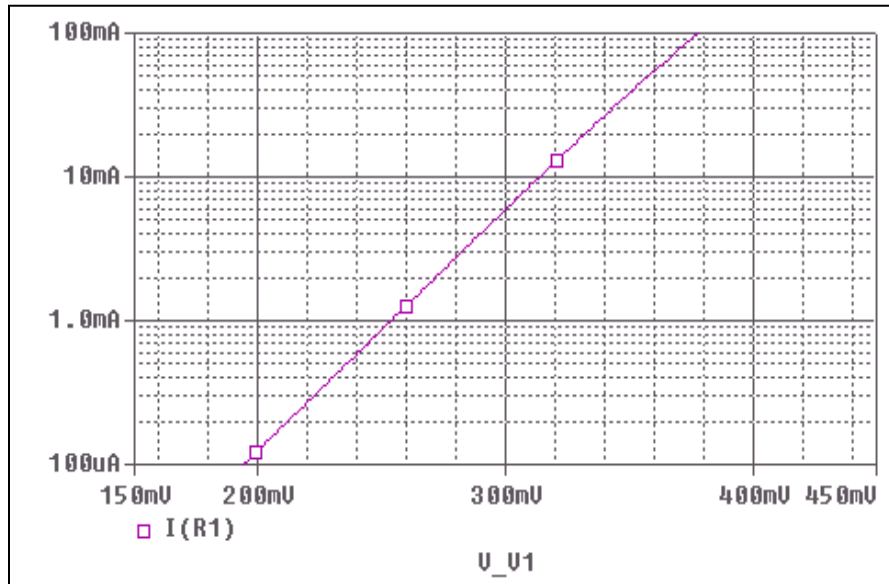


Bee Technologies Inc.

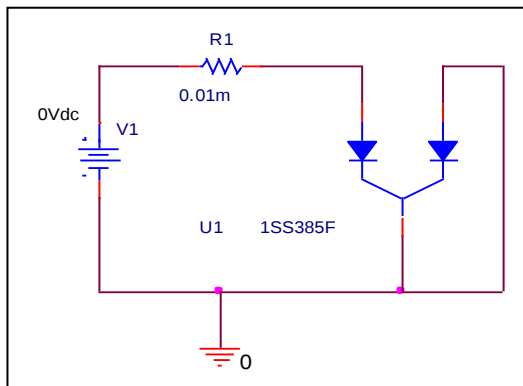
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

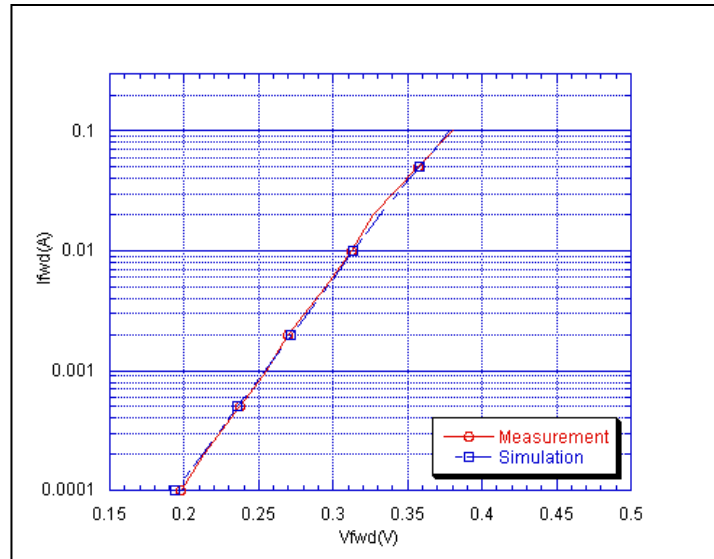


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

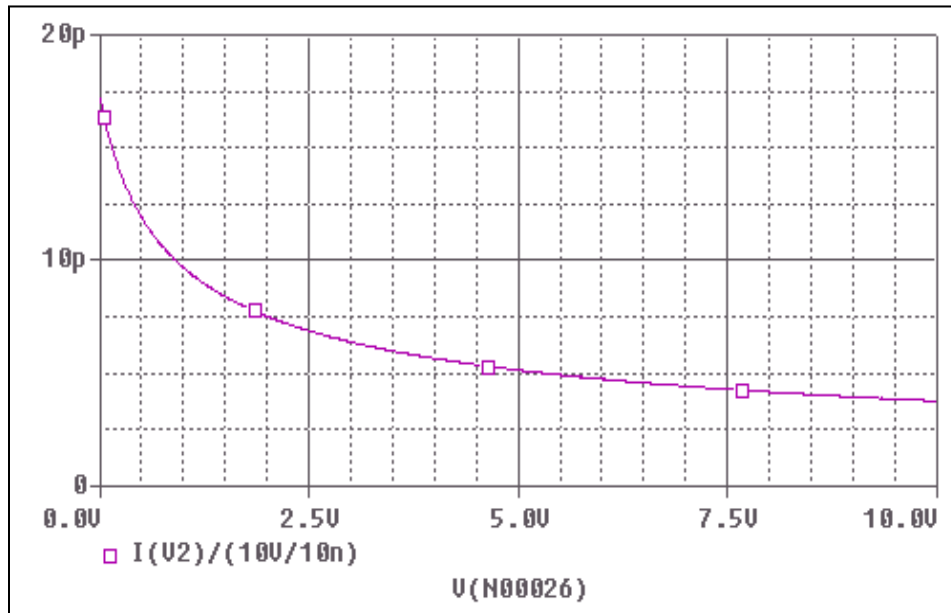


Simulation Result

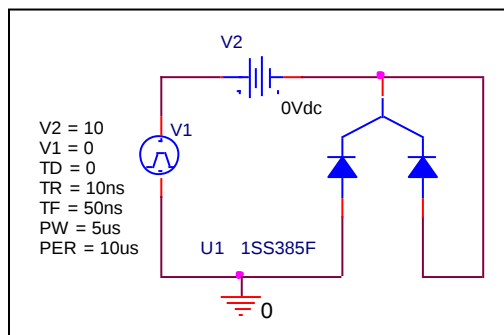
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.0001	0.198	0.194	-1.97
0.0002	0.213	0.212	-0.47
0.0005	0.238	0.236	-0.97
0.001	0.255	0.254	-0.51
0.002	0.270	0.272	0.59
0.005	0.295	0.296	0.17
0.01	0.312	0.314	0.54
0.02	0.327	0.332	1.59
0.05	0.357	0.358	0.20
0.1	0.380	0.378	-0.42

Junction Capacitance Characteristic

Circuit Simulation Result

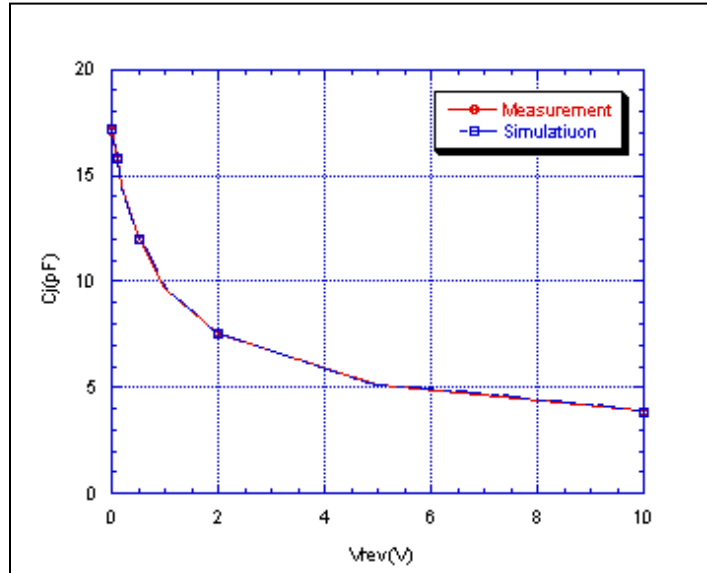


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0.02	17.120	17.160	0.23
0.05	16.600	16.620	0.12
0.1	15.800	15.810	0.06
0.2	14.500	14.520	0.14
0.5	12.000	11.970	-0.25
1	9.700	9.730	0.31
2	7.500	7.540	0.53
5	5.150	5.140	-0.19
10	3.800	3.790	-0.26