

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / STANDARD
PART NUMBER: 1SS377
MANUFACTURER: TOSHIBA

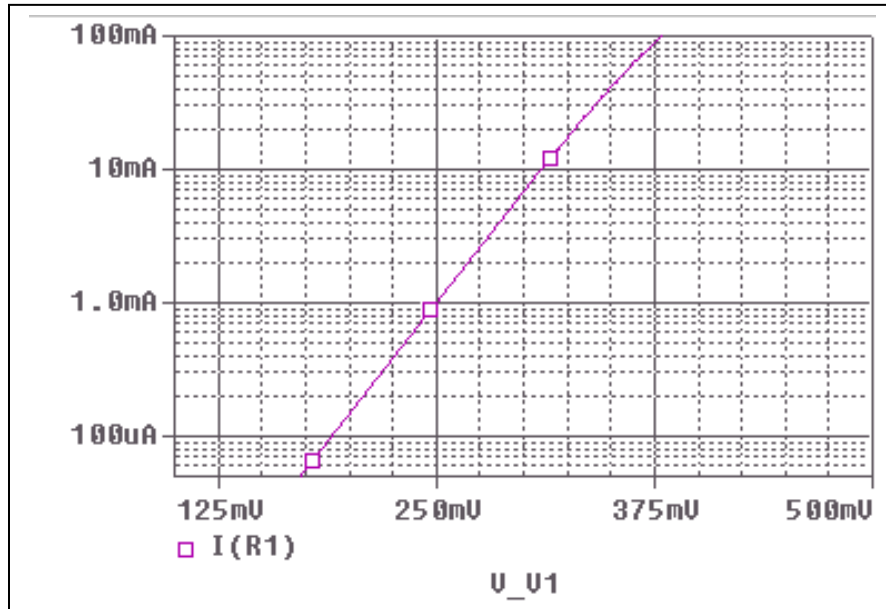


Bee Technologies Inc.

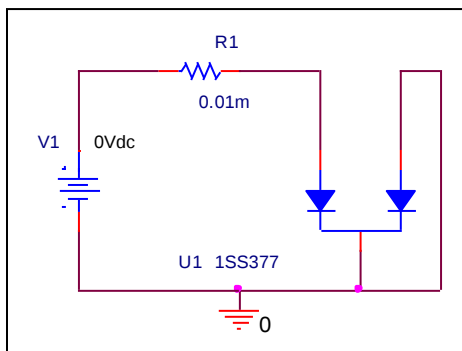
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

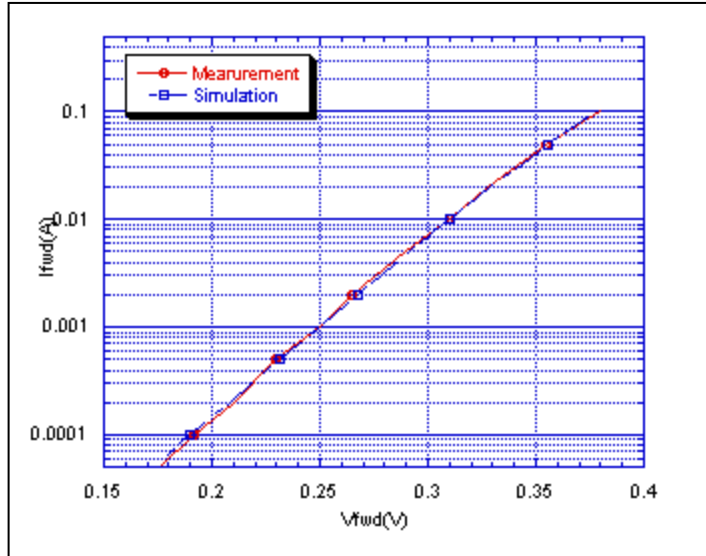


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

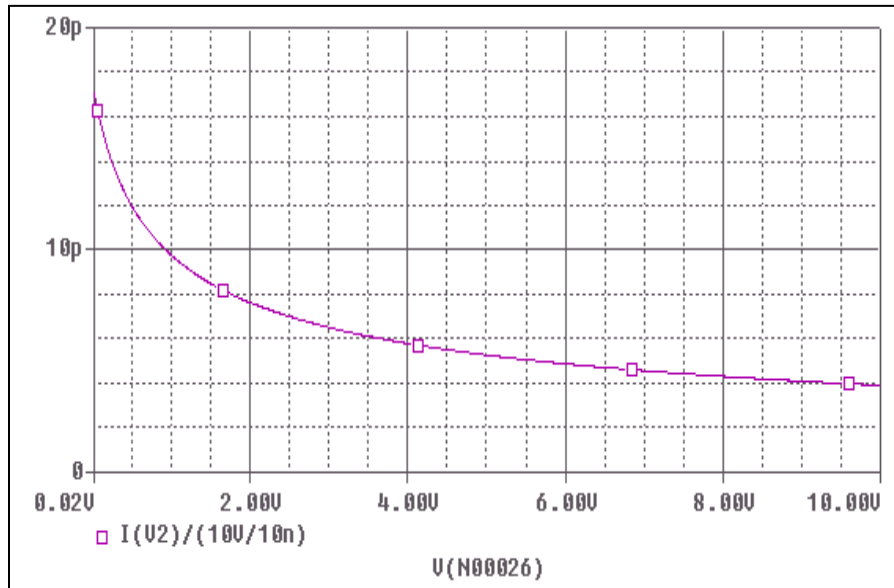


Simulation Result

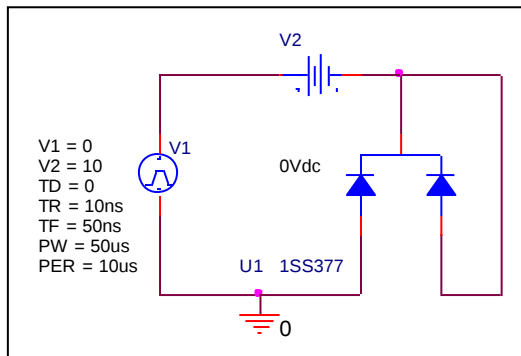
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.00005	0.175	0.172	-1.71
0.0001	0.192	0.190	-1.09
0.0002	0.210	0.208	-1.00
0.0005	0.230	0.232	0.70
0.001	0.250	0.250	-0.16
0.002	0.265	0.268	0.98
0.005	0.290	0.292	0.55
0.01	0.310	0.310	0.03
0.02	0.328	0.329	0.34
0.05	0.355	0.356	0.25
0.1	0.380	0.379	-0.24

Junction Capacitance Characteristic

Circuit Simulation Result

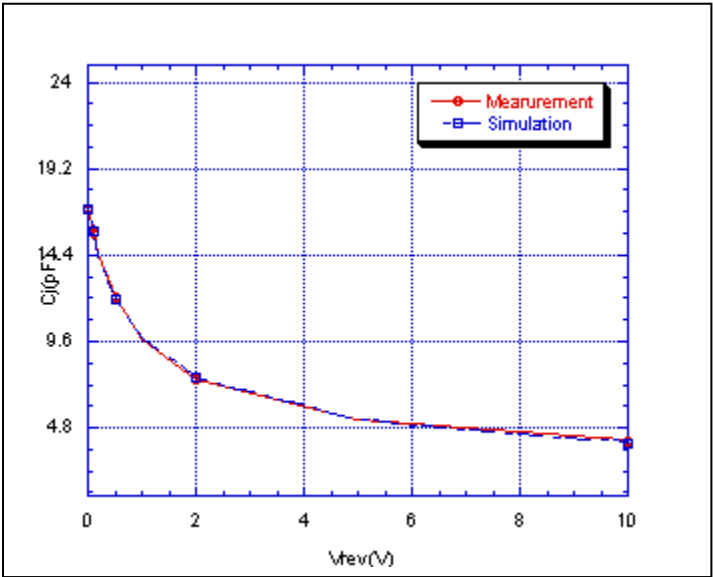


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0.02	17.100	17.000	-0.58
0.05	16.550	16.500	-0.30
0.1	15.600	15.700	0.64
0.2	14.500	14.400	-0.69
0.5	12.000	11.900	-0.83
1	9.750	9.770	0.21
2	7.500	7.600	1.33
5	5.300	5.200	-1.89
10	4.000	3.900	-2.50