

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTTKY RECTIFIER / STANDARD
PART NUMBER: 1SS405
MANUFACTURER: TOSHIBA

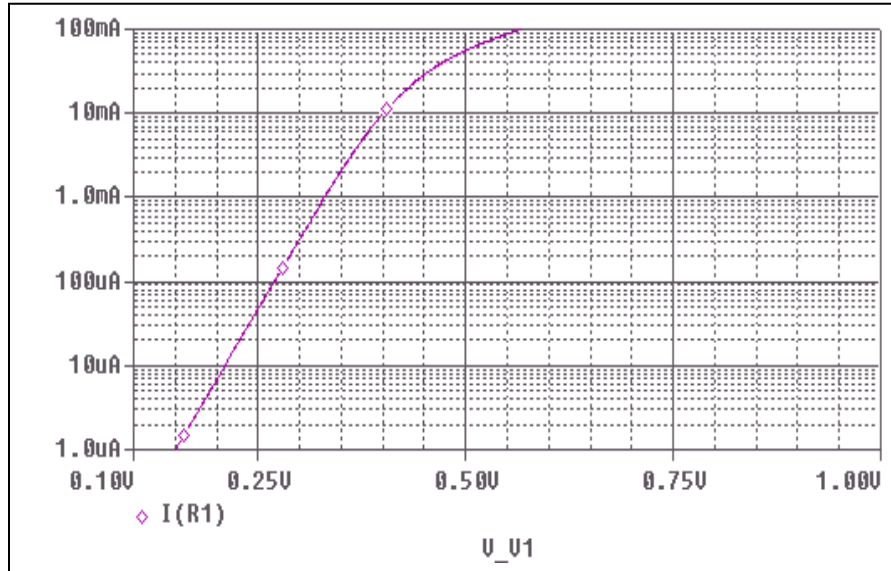


Bee Technologies Inc.

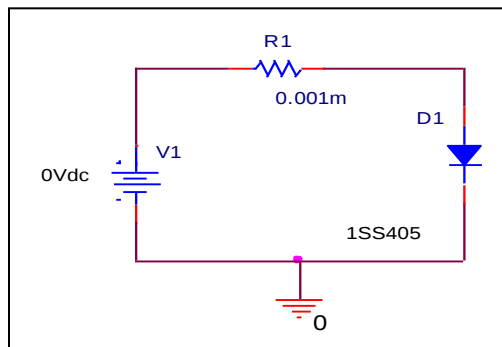
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

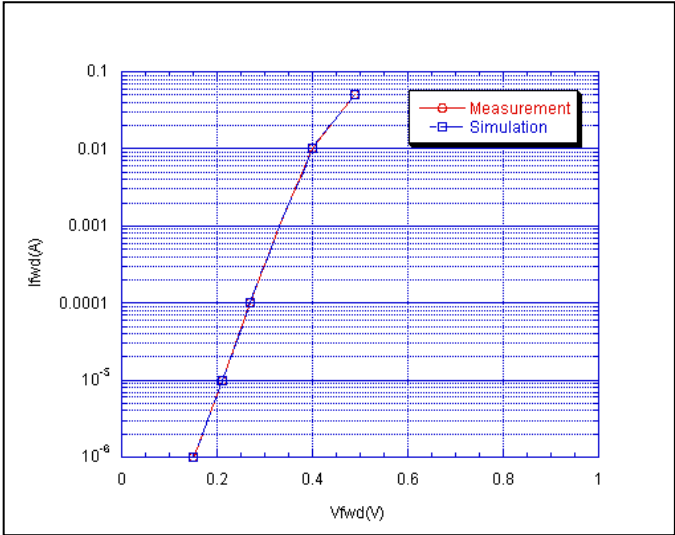


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

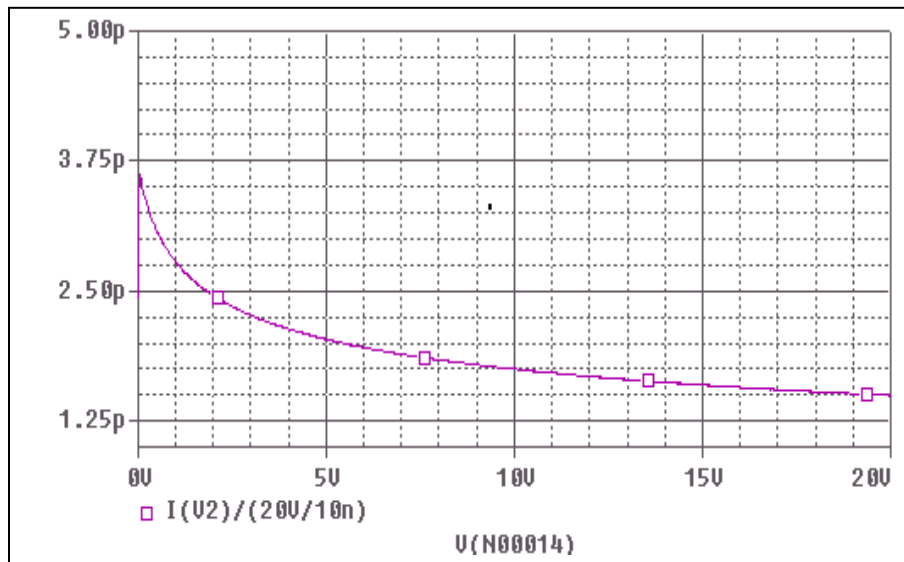


Simulation Result

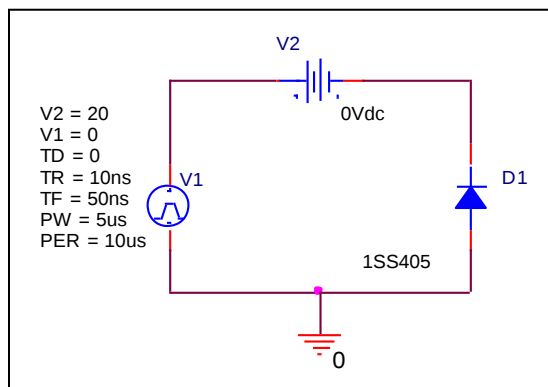
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
1.00E-06	0.150	0.150	0.20
1.00E-05	0.210	0.210	0.19
1.00E-04	0.270	0.269	-0.22
1.00E-03	0.331	0.330	-0.30
1.00E-02	0.401	0.400	-0.25
5.00E-02	0.490	0.490	-0.02

Junction Capacitance Characteristic

Circuit Simulation Result

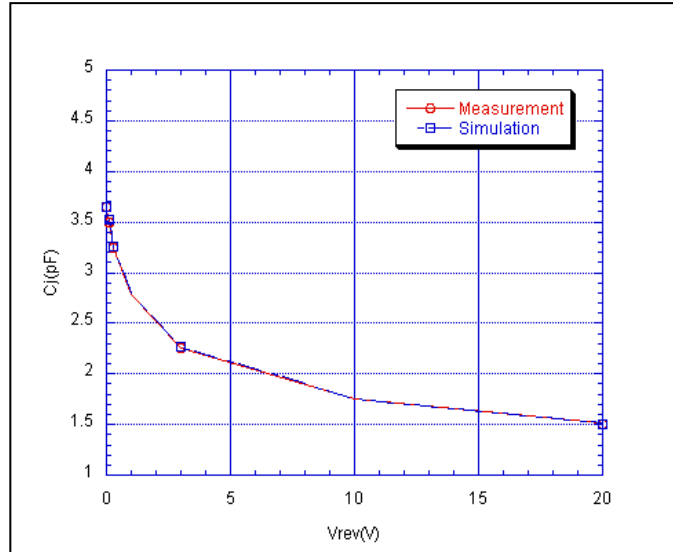


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0.01	3.655	3.650	-0.14
0.03	3.610	3.512	-2.71
0.1	3.500	3.523	0.66
0.3	3.250	3.262	0.37
1	2.780	2.781	0.04
3	2.250	2.268	0.80
10	1.750	1.749	-0.06
20	1.500	1.498	-0.13