

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTKY RECTIFIER /STANDARD
PART NUMBER: U1GWJ49
MANUFACTURER: TOSHIBA

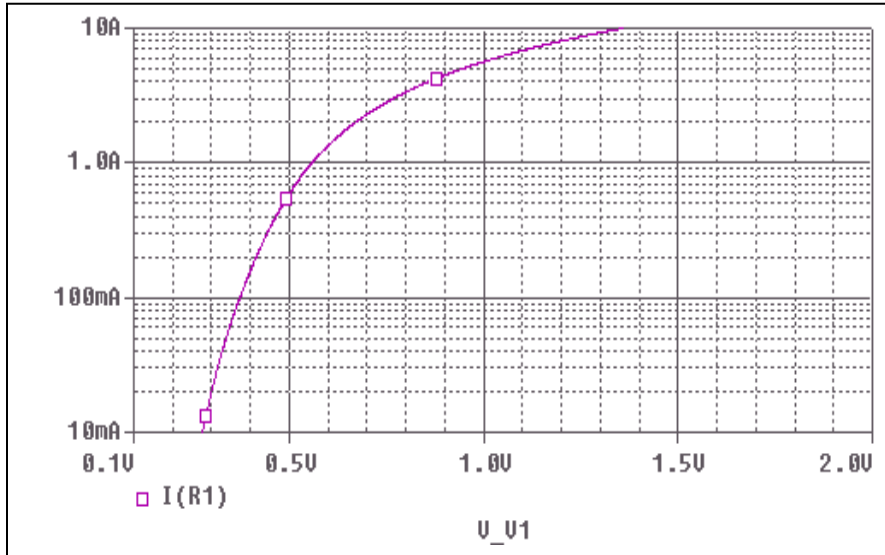


Bee Technologies Inc.

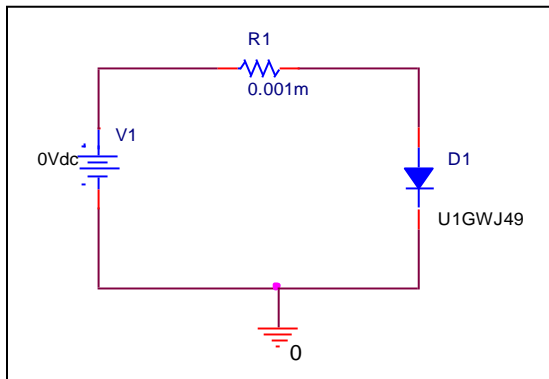
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

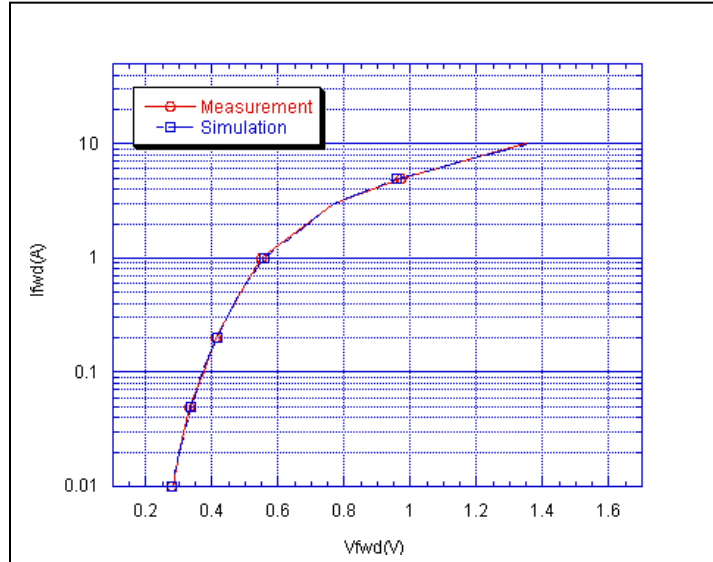


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

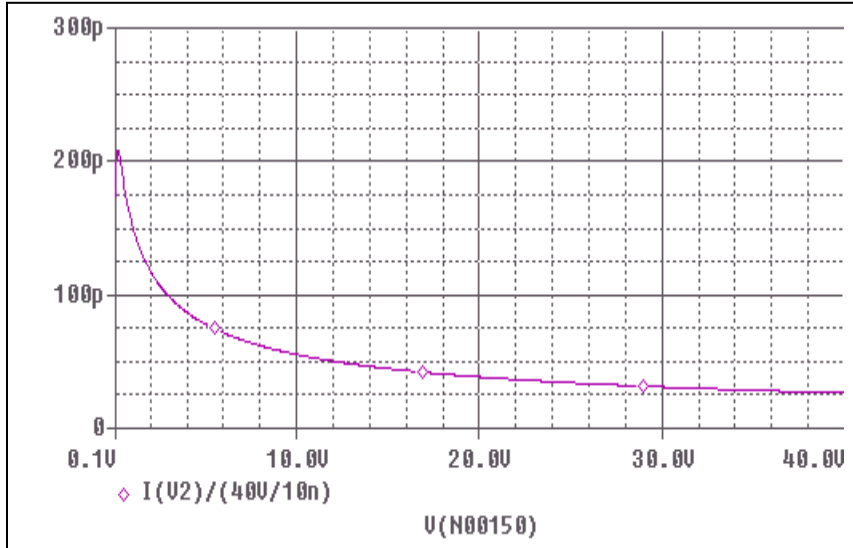


Simulation Result

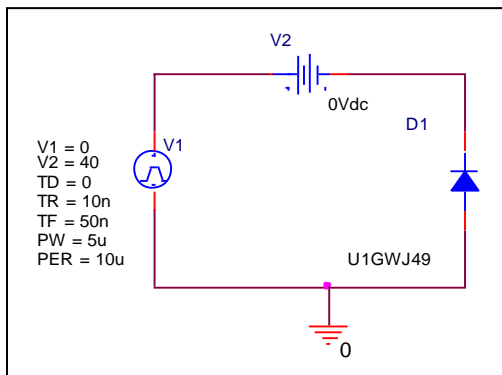
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.01	0.280	0.277	-0.96
0.02	0.300	0.300	0.00
0.05	0.330	0.335	1.61
0.1	0.375	0.373	-0.56
0.2	0.410	0.415	1.20
0.5	0.489	0.485	-0.88
1	0.550	0.558	1.53
3	0.765	0.767	0.27
5	0.970	0.956	-1.46
10	1.350	1.362	0.91

Junction Capacitance Characteristic

Circuit Simulation Result

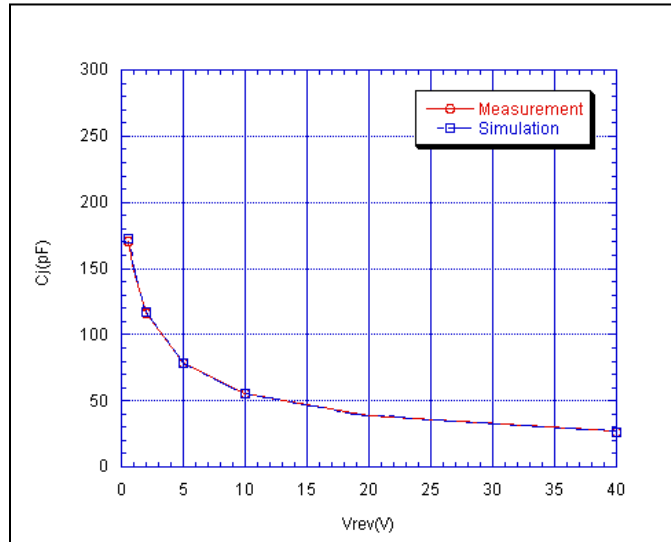


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
1	148.00	150.50	1.69
2	116.00	117.18	1.01
5	78.00	78.18	0.23
10	55.00	55.25	0.46
20	39.00	38.48	-1.34
40	26.00	26.58	2.25