

Device Modeling Report

COMPONENTS:

DIODE/ SCHOTTKY RECTIFIER /STANDARD

PART NUMBER: U1GWJ44

MANUFACTURER: TOSHIBA

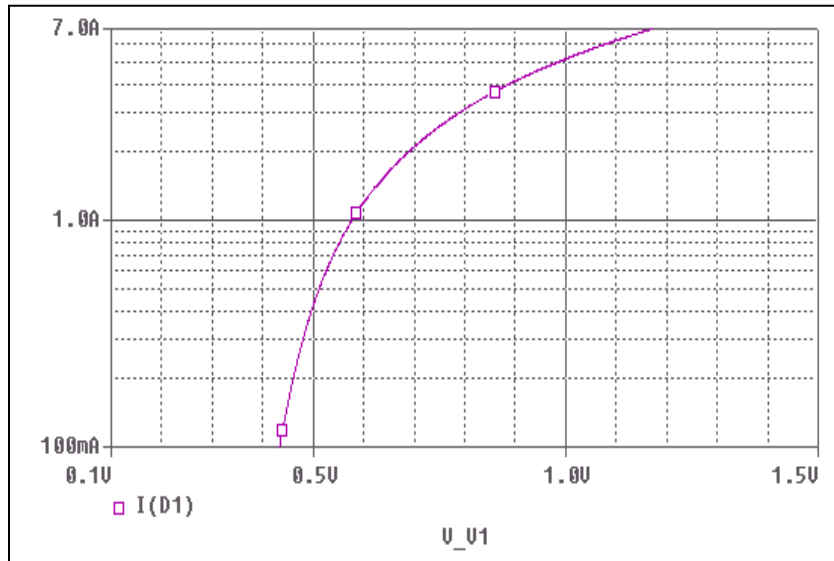


Bee Technologies Inc.

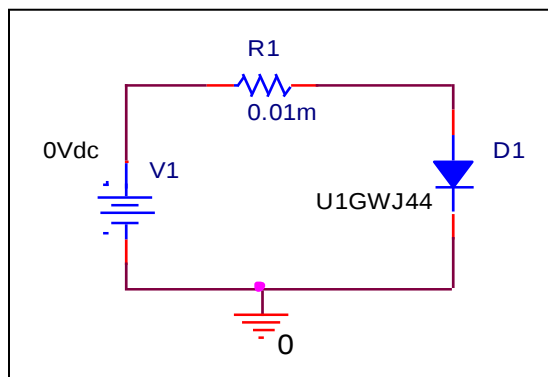
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

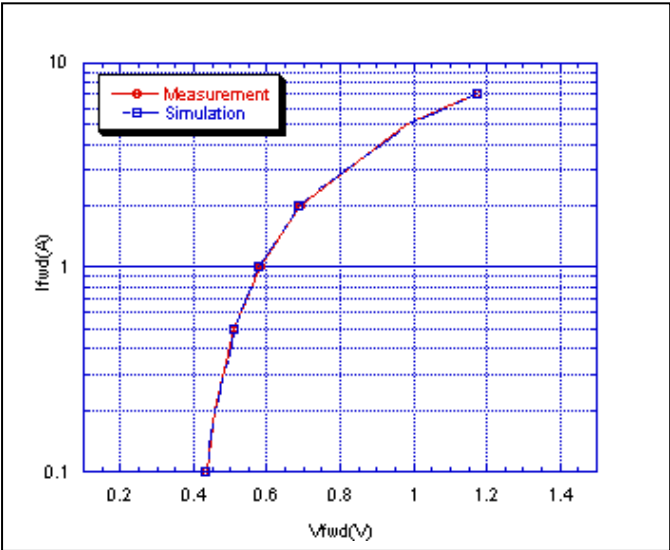


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

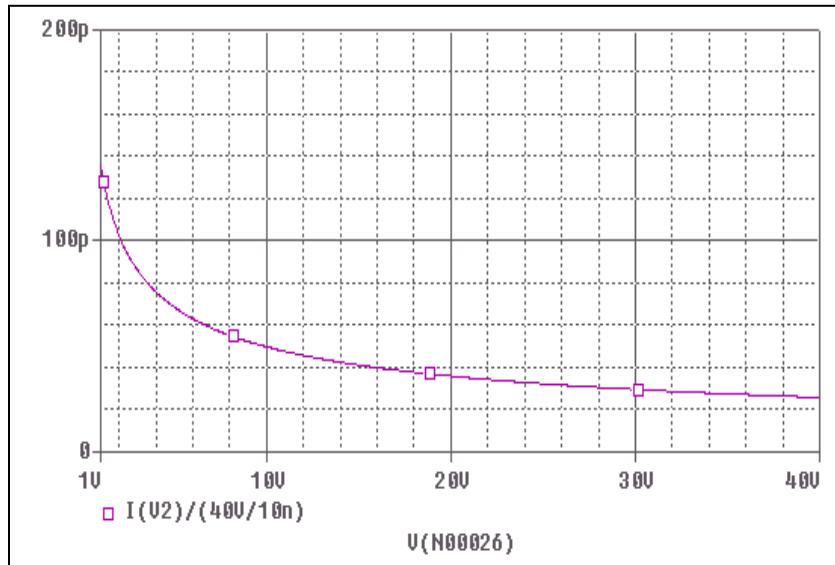


Simulation Result

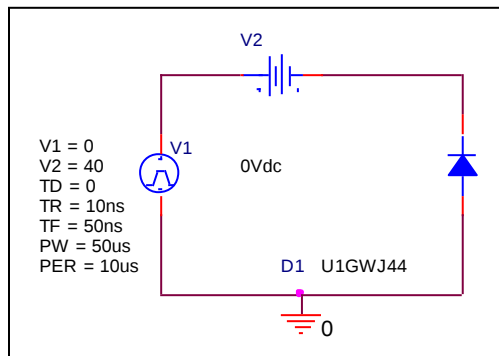
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.1	0.432	0.433	0.16
0.2	0.460	0.460	0.02
0.5	0.510	0.512	0.39
1	0.580	0.577	-0.55
2	0.690	0.688	-0.30
5	0.980	0.985	0.50
7	1.175	1.172	-0.23

Junction Capacitance Characteristic

Circuit Simulation Result

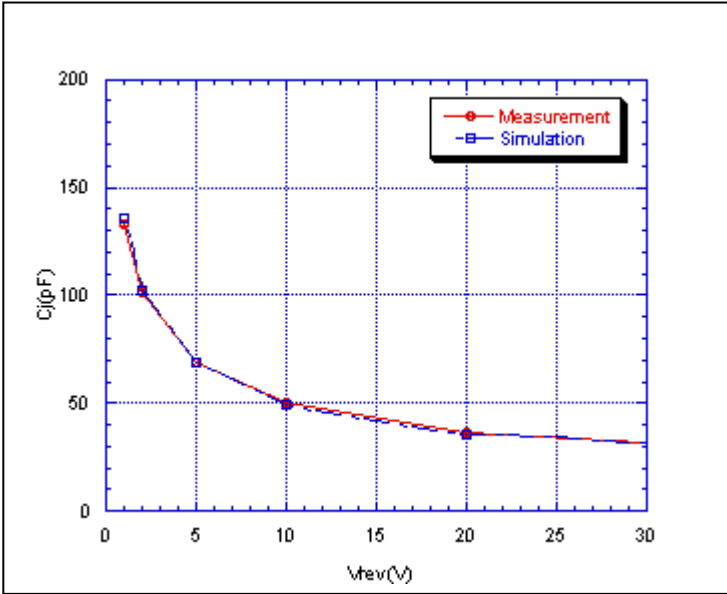


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	132.50	135.80	2.49
2	101.00	102.50	1.49
5	68.50	68.60	0.15
10	50.00	49.80	-0.40
20	36.00	35.90	-0.28
40	26.00	25.90	-0.38