

Device Modeling Report

COMPONENTS:

DIODE/ SCHOTTKY RECTIFIER / STANDARD

PART NUMBER: U30FWJ2C53M

MANUFACTURER: TOSHIBA

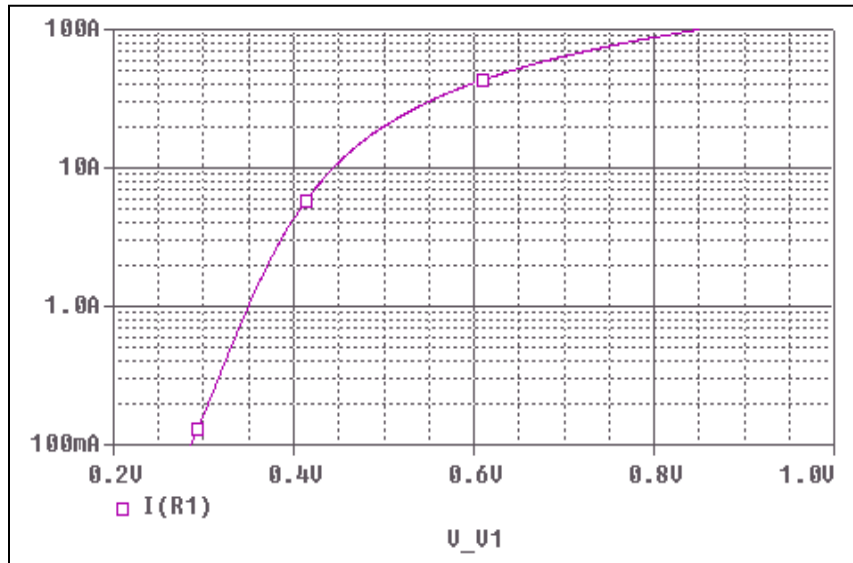


Bee Technologies Inc.

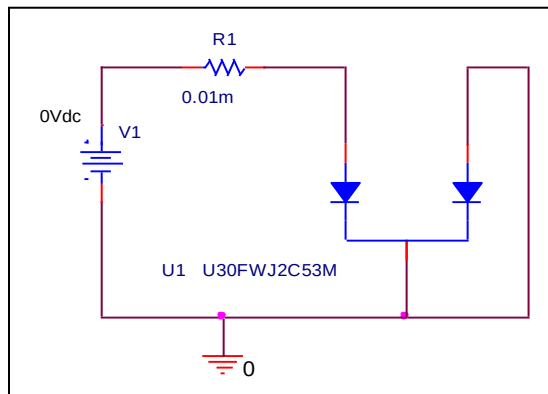
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

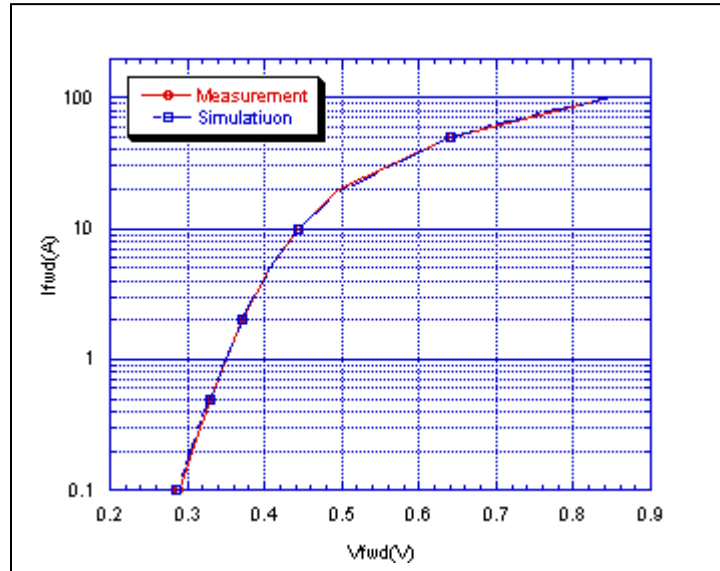


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

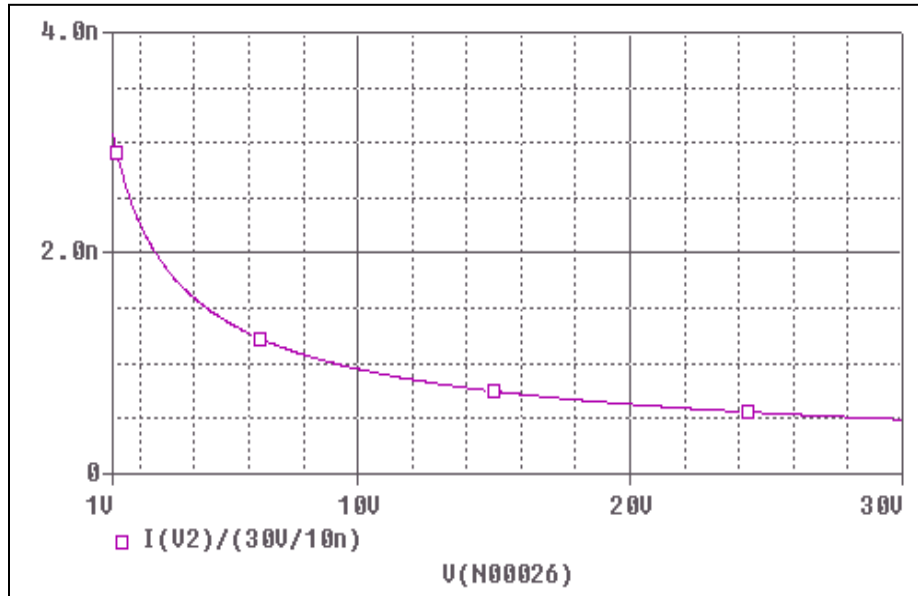


Simulation Result

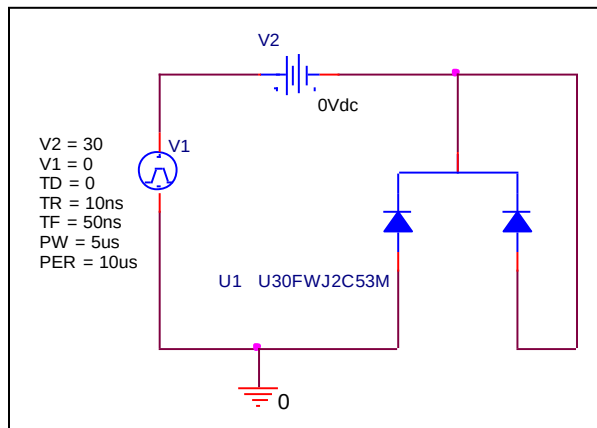
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.288	0.287	-0.52
0.2	0.305	0.305	-0.07
0.5	0.330	0.330	-0.12
1	0.351	0.350	-0.28
2	0.370	0.372	0.41
5	0.408	0.407	-0.17
10	0.445	0.444	-0.27
20	0.495	0.500	1.07
50	0.640	0.640	-0.05
100	0.850	0.851	0.15

Junction Capacitance Characteristic

Circuit Simulation Result

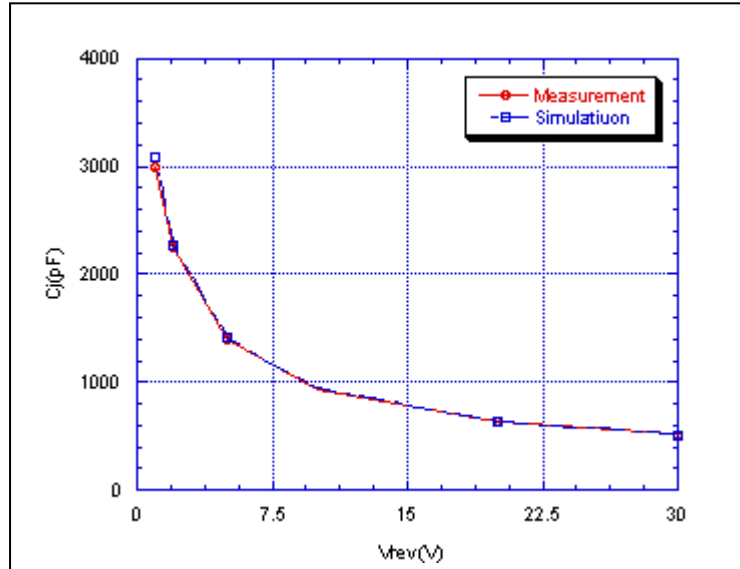


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
1	3000.00	3086.90	2.90
2	2250.00	2269.00	0.84
5	1400.00	1408.20	0.59
10	940.00	950.60	1.13
20	630.00	630.90	0.14
30	505.00	497.10	-1.56