

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTKY RECTIFIER / STANDARD
PART NUMBER: 1SS393
MANUFACTURER: TOSHIBA

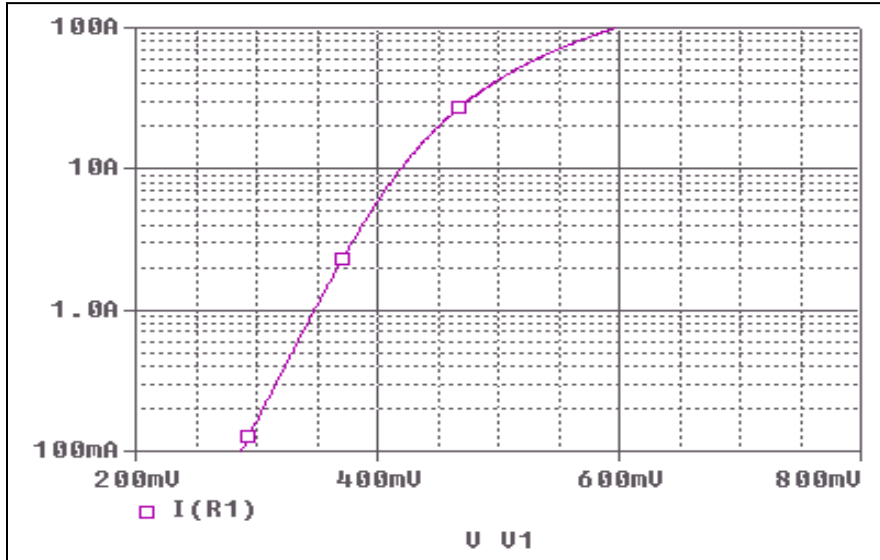


Bee Technologies Inc.

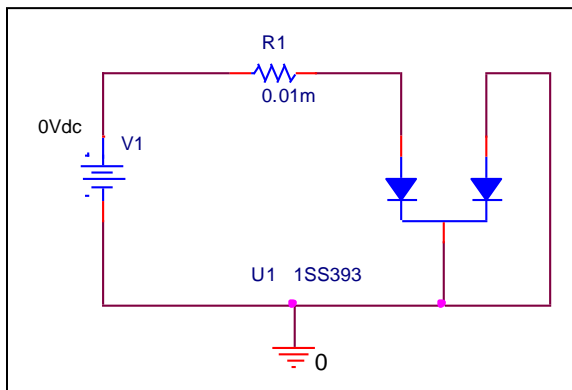
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

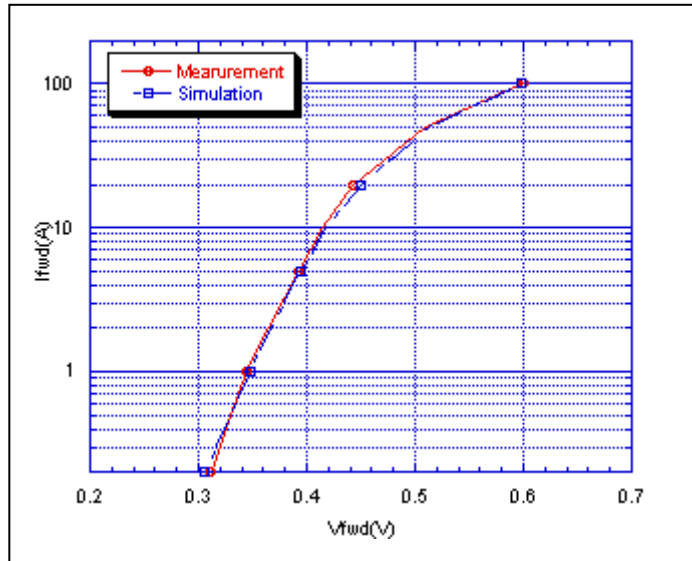


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

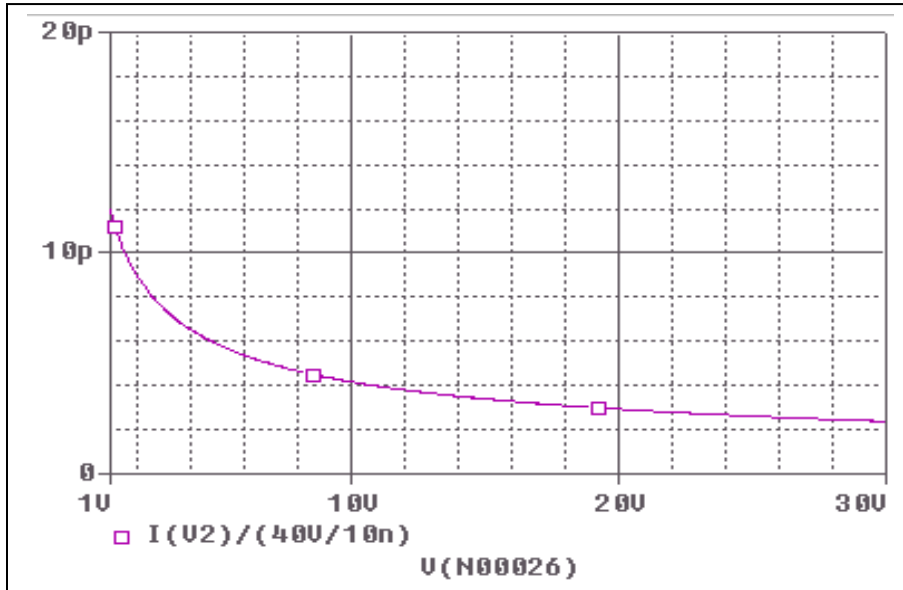


Simulation Result

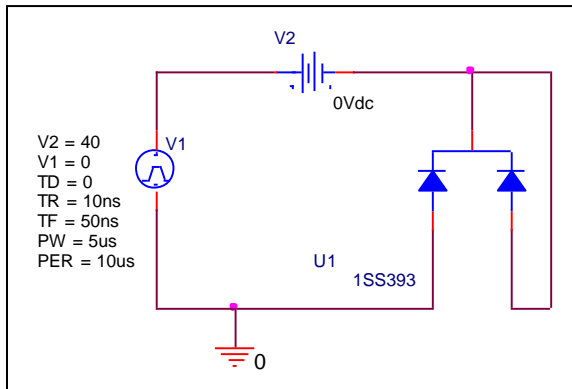
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.2	0.311	0.305	-1.90
0.5	0.330	0.330	-0.15
1	0.345	0.348	0.81
2	0.365	0.367	0.55
5	0.393	0.395	0.41
10	0.415	0.419	1.01
20	0.442	0.450	1.88
50	0.510	0.514	0.71
100	0.600	0.597	-0.43

Junction Capacitance Characteristic

Circuit Simulation Result

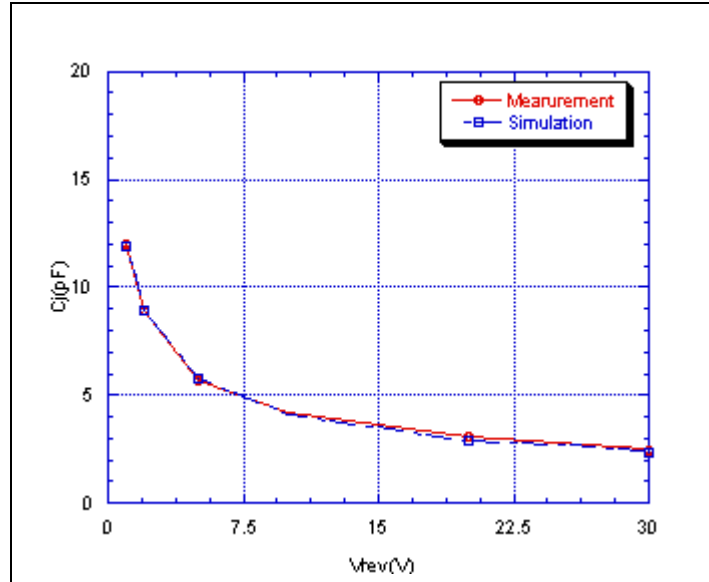


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
1	12.000	11.900	-0.83
2	8.910	8.900	-0.11
5	5.700	5.800	1.75
10	4.200	4.100	-2.38
20	3.050	2.900	-4.92
30	2.400	2.300	-4.17