

Device Modeling Report

COMPONENTS:

DIODE/ SCHOOTTKY RECTIFIER / STANDARD

PART NUMBER: S40HC3

MANUFACTURER: SHINDENGEN

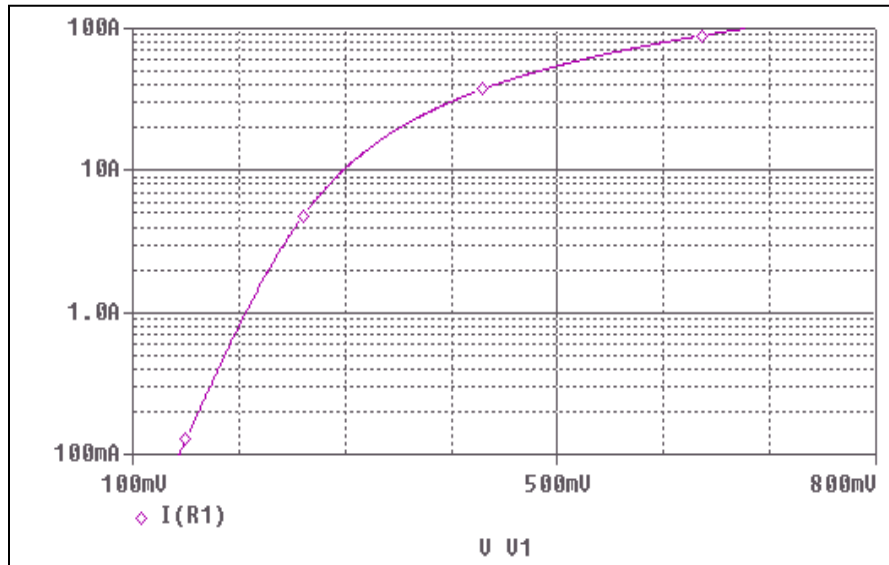


Bee Technologies Inc.

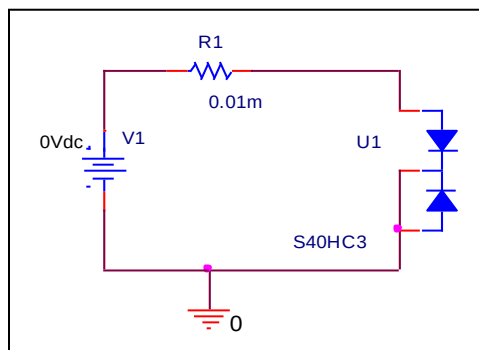
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

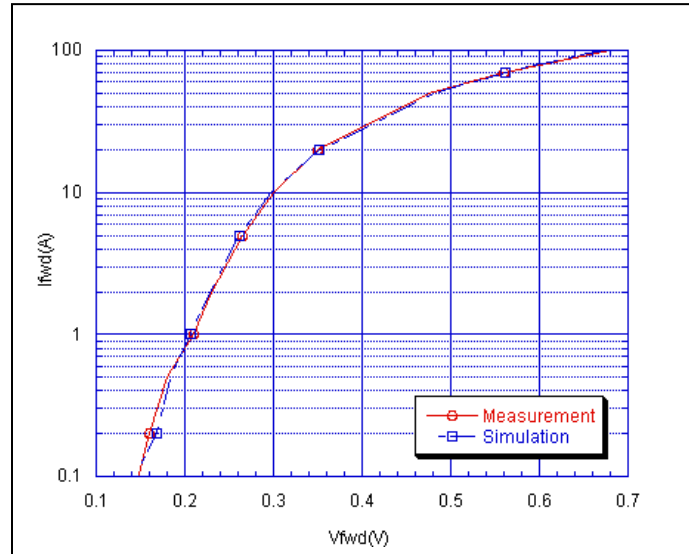


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

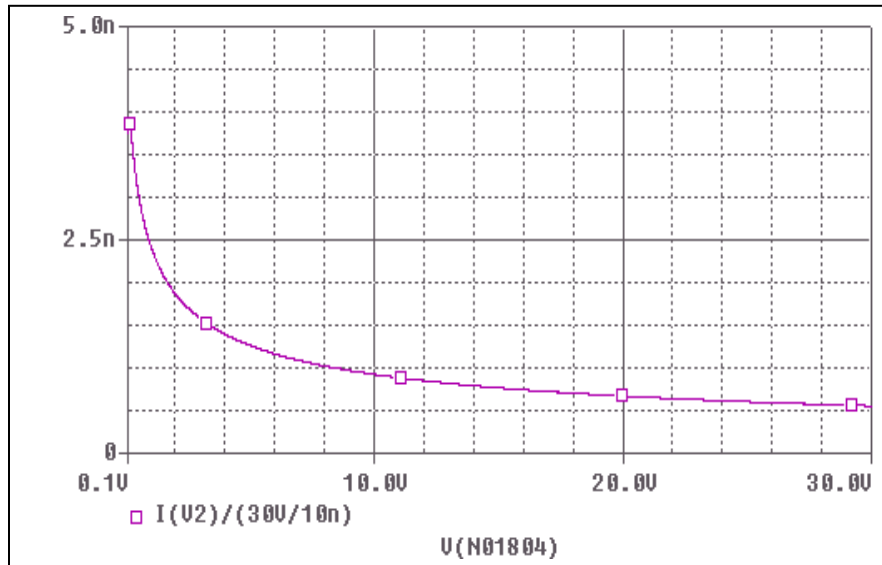


Simulation Result

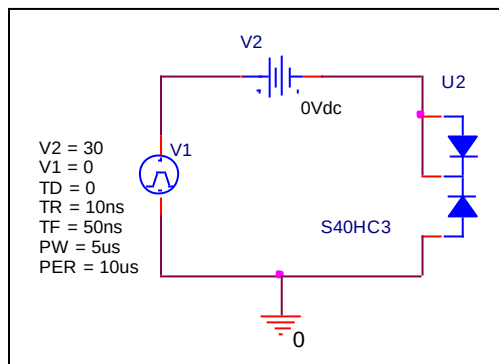
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.147	0.144	-2.18
0.2	0.160	0.169	5.63
0.5	0.180	0.183	1.67
1	0.210	0.207	-1.33
2	0.230	0.228	-0.78
5	0.265	0.262	-0.98
10	0.300	0.298	-0.83
20	0.350	0.352	0.46
50	0.475	0.481	1.35
100	0.680	0.677	-0.40

Junction Capacitance Characteristic

Circuit Simulation Result

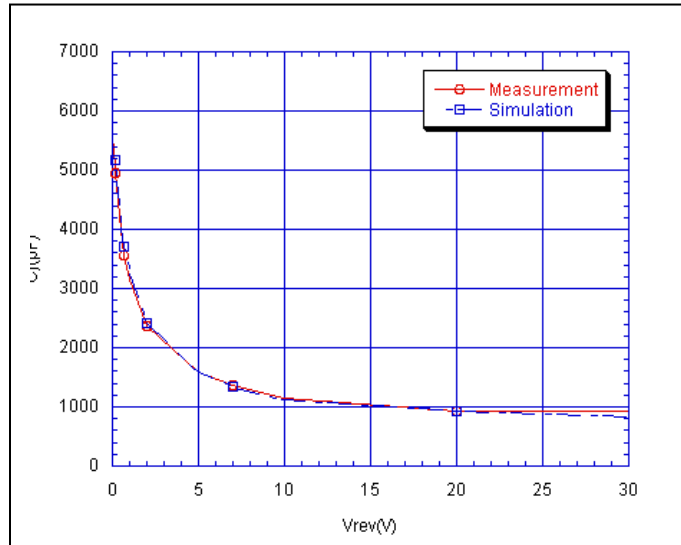


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

$V_{rev}(V)$	$C_j(pF)$ Measurement	$C_j(pF)$ Simulation	%Error
0.1	3950.00	3757.00	-4.89
0.2	3680.00	3834.00	4.18
0.5	2970.00	3079.00	3.67
1	2400.00	2433.00	1.38
2	1850.00	1871.00	1.14
5	1250.00	1264.00	1.12
10	900.00	923.40	2.60
20	700.00	670.10	-4.27