

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / STANDARD
PART NUMBER: RB051L-40
MANUFACTURER: ROHM

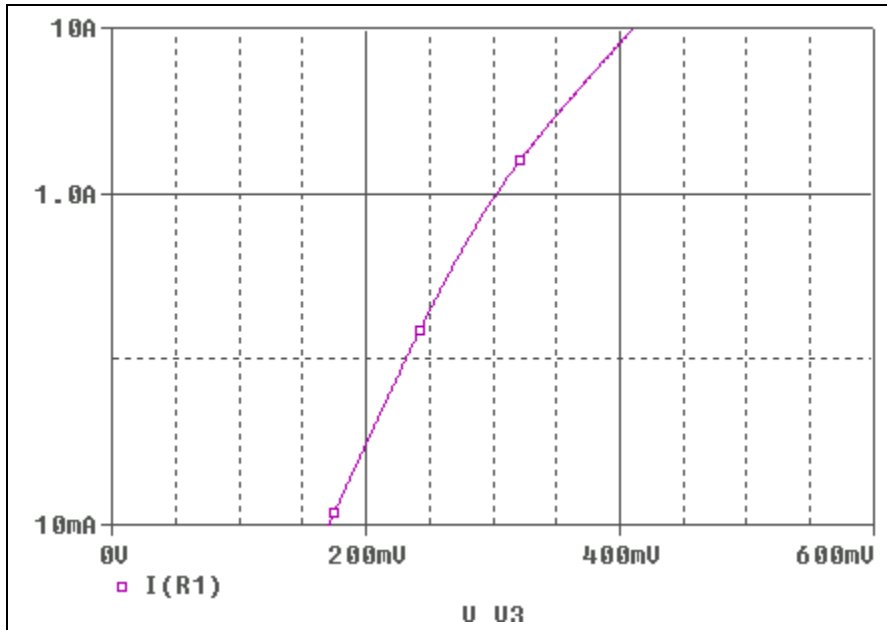


Bee Technologies Inc.

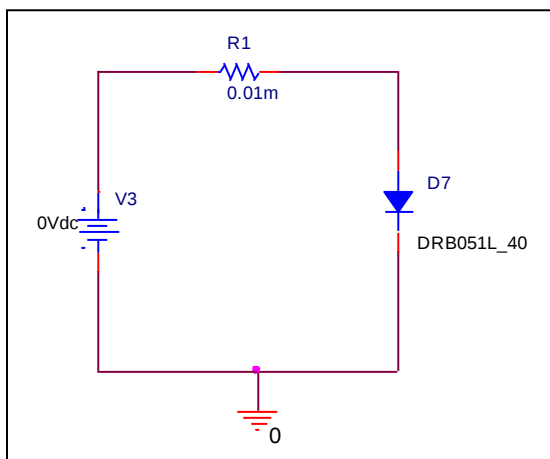
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

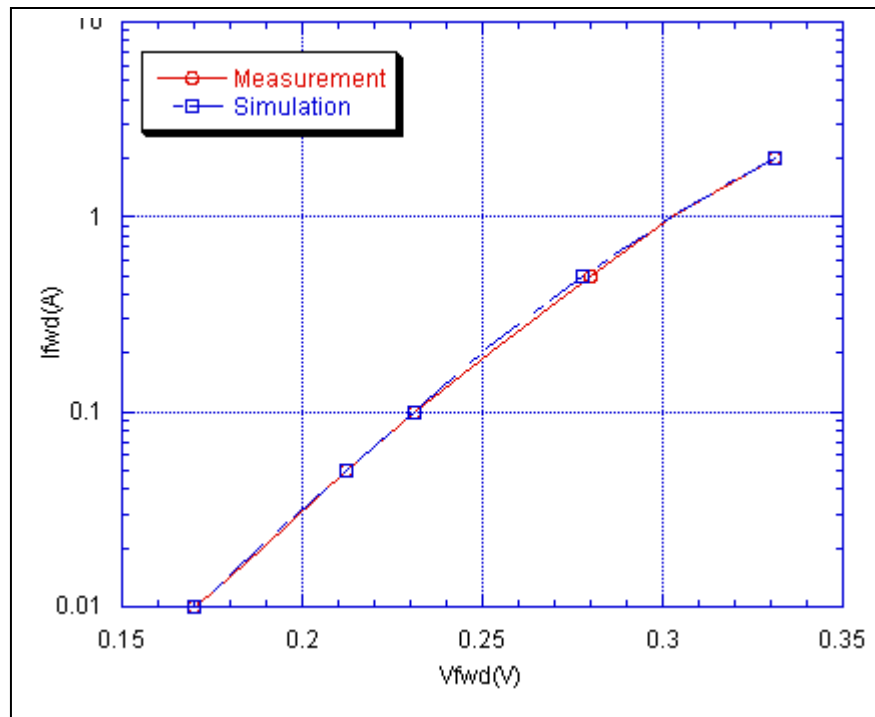


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

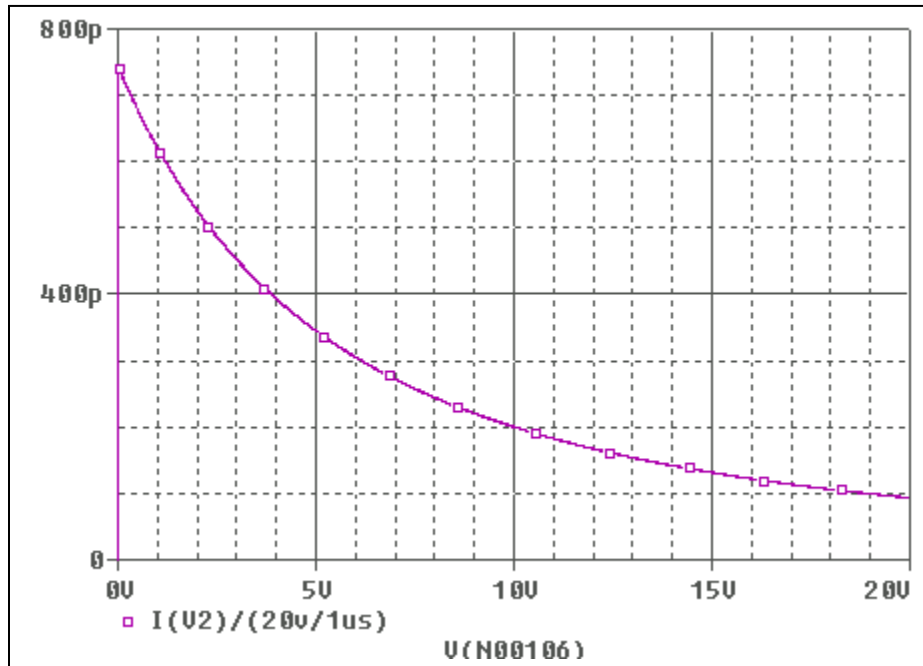


Simulation Result

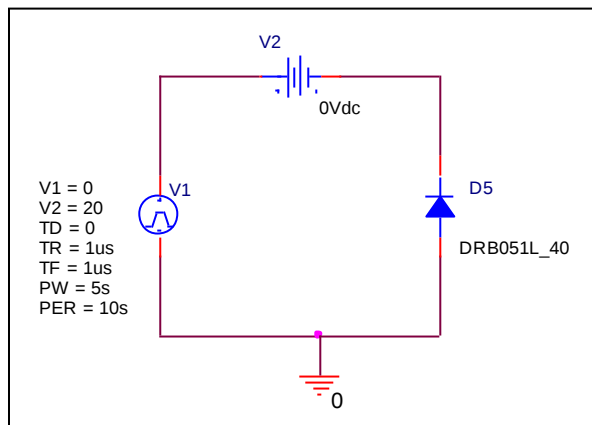
$I_{fwd}(A)$	$V_{fwd}(V)$ Measurement	$V_{fwd}(V)$ Simulation	%Error
0.01	0.170	0.170	-0.12
0.02	0.189	0.188	-0.53
0.05	0.212	0.211	-0.47
0.1	0.231	0.230	-0.43
0.2	0.252	0.250	-0.80
0.5	0.280	0.278	-0.72
1	0.303	0.302	-0.33
2	0.331	0.330	-0.30

Junction Capacitance Characteristic

Circuit Simulation Result

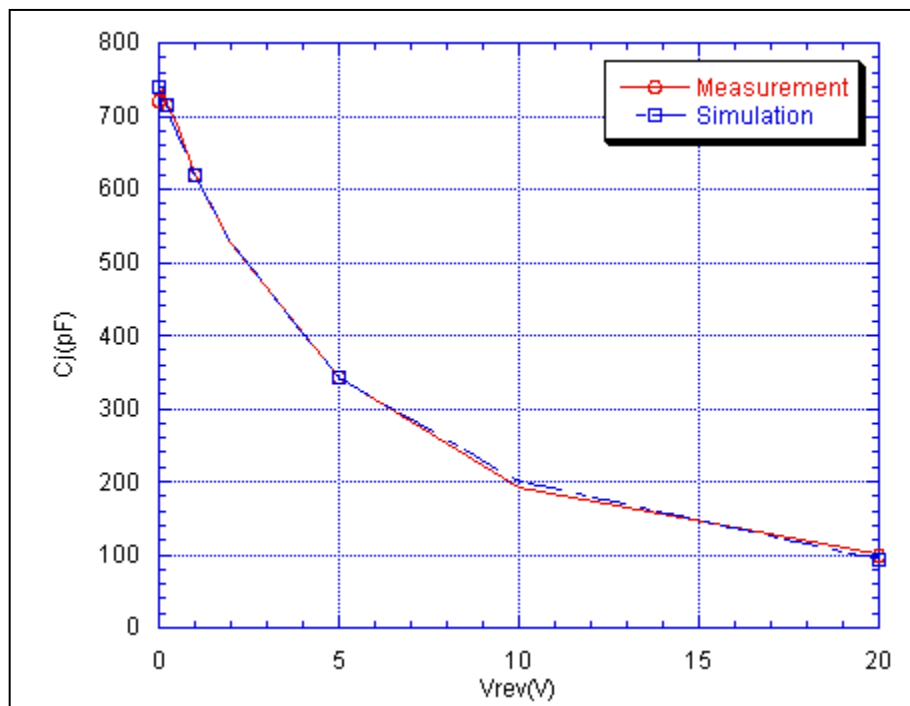


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0	721.108	741.149	2.70
0.1	738.835	729.708	-1.25
0.2	716.329	715.529	-0.11
0.5	690.282	677.923	-1.82
1	618.645	618.878	0.04
2	527.023	526.898	-0.02
5	341.817	343.415	0.47
10	191.916	199.992	4.04
20	97.53	93.06	-4.79