

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTTKY RECTIFIER / STANDARD
PART NUMBER: S15SCA4M
MANUFACTURER: SHINDENGEN

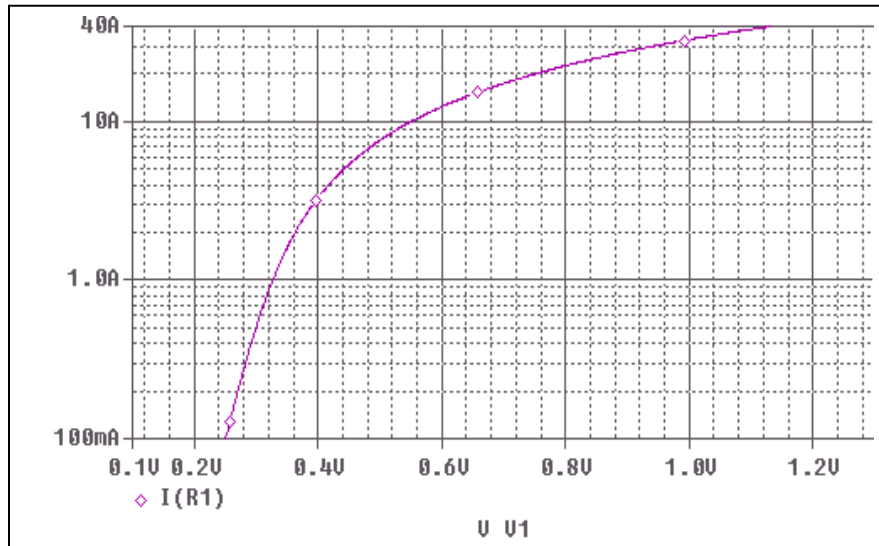


Bee Technologies Inc.

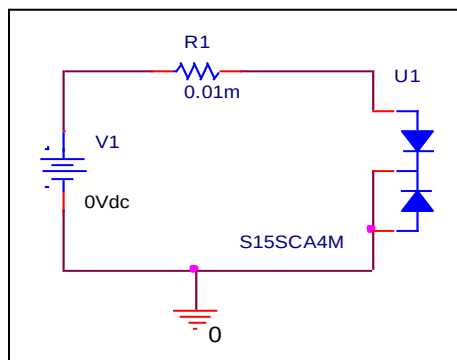
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

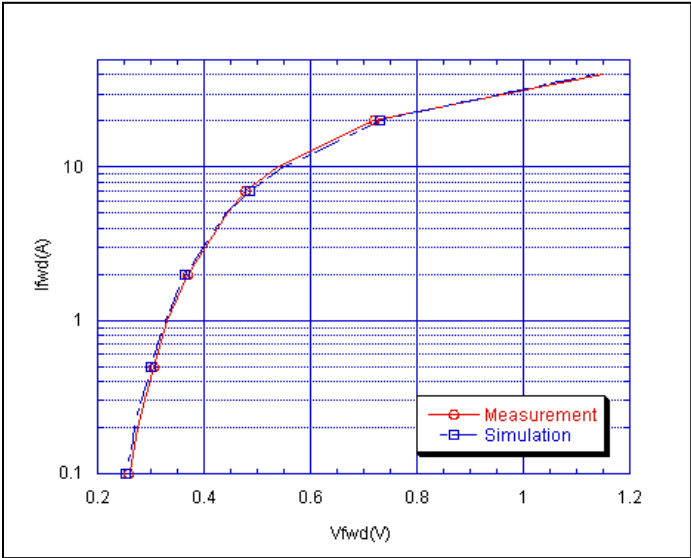


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

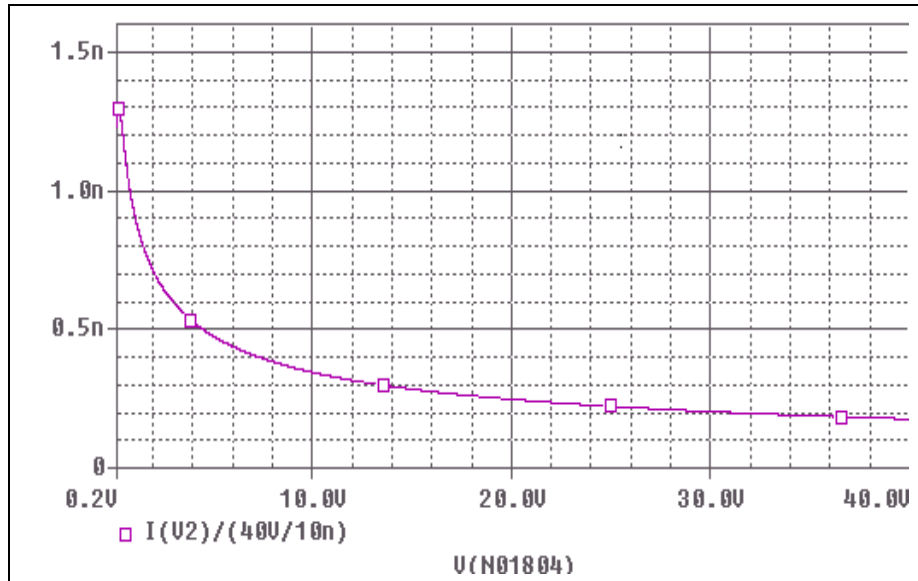


Simulation Result

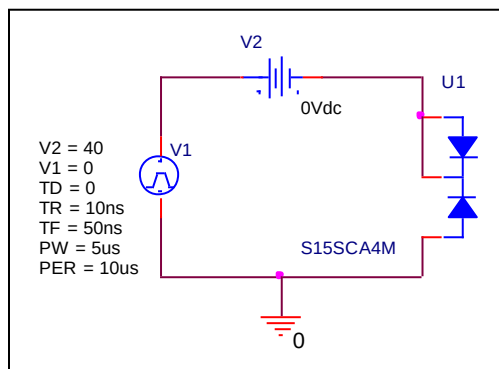
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.258	0.253	-1.94
0.2	0.274	0.270	-1.35
0.5	0.305	0.300	-1.64
1	0.330	0.327	-1.00
2	0.370	0.363	-1.86
5	0.445	0.441	-0.88
10	0.540	0.550	1.85
20	0.720	0.730	1.39
40	1.150	1.132	-1.57

Junction Capacitance Characteristic

Circuit Simulation Result

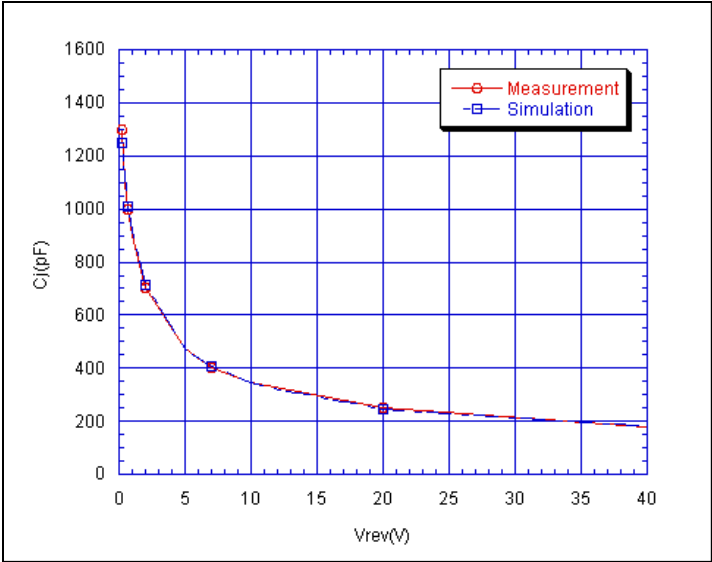


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
1	896.00	920.00	2.68
2	700.00	713.10	1.87
5	475.00	476.60	0.34
10	348.00	345.40	-0.75
20	250.00	247.30	-1.08
40	175.00	177.00	1.14