

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTTKY RECTIFIER / STANDARD
PART NUMBER: D5SC4M
MANUFACTURER: SHINDENGEN

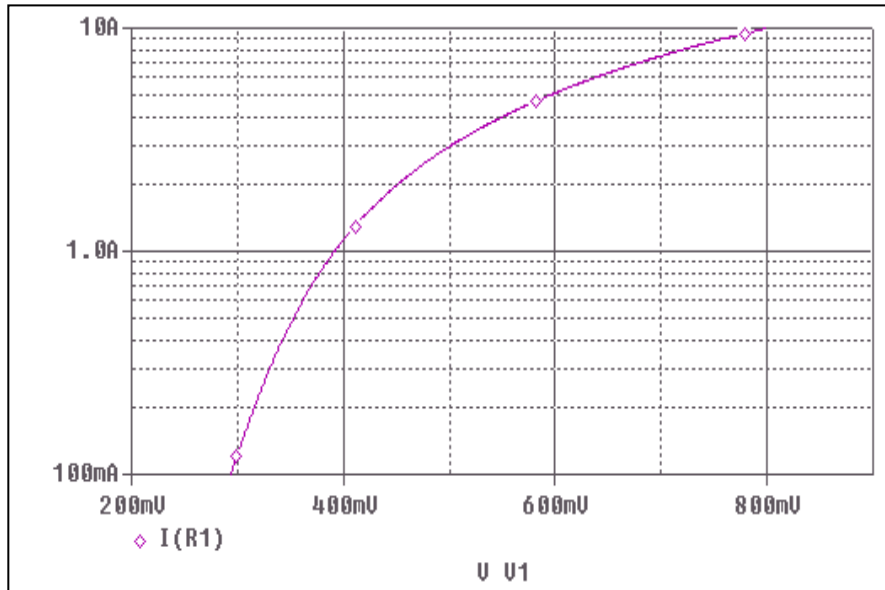


Bee Technologies Inc.

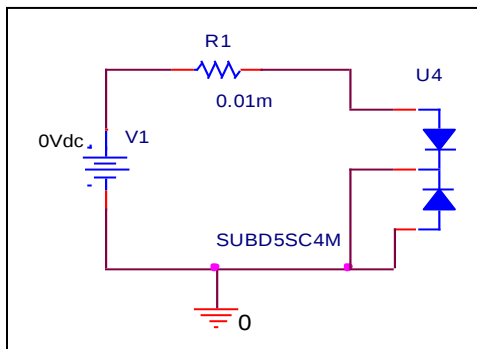
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

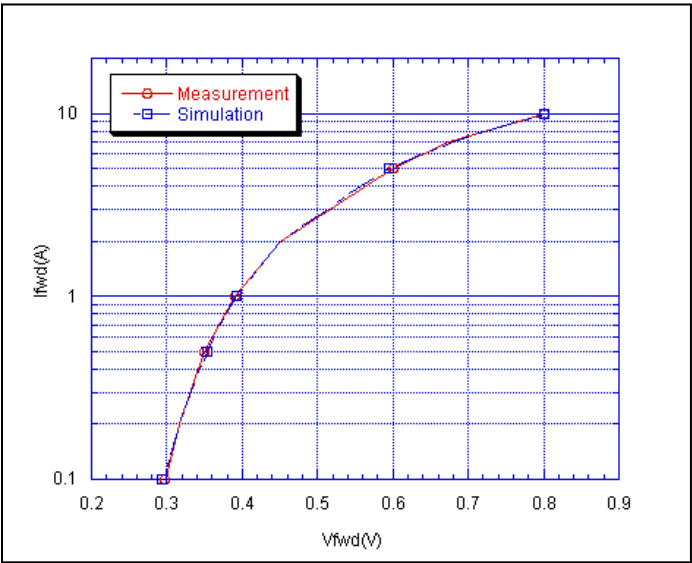


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

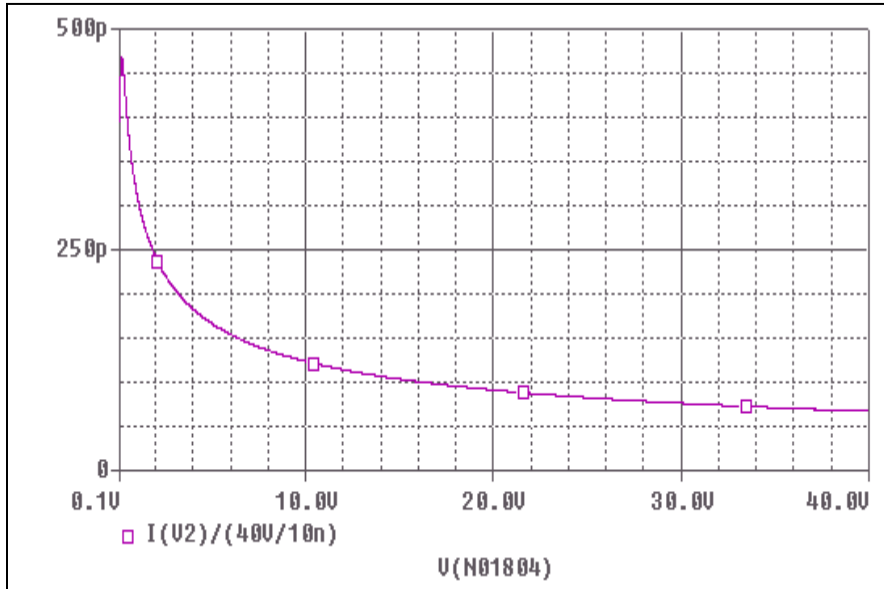


Simulation Result

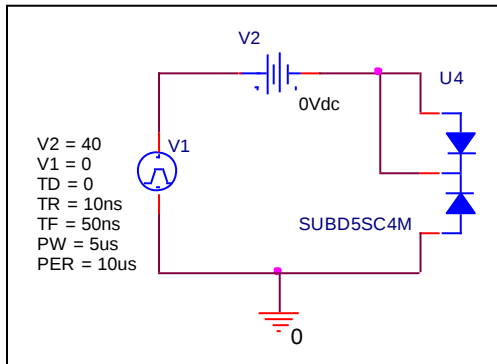
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.1	0.297	0.294	-1.11
0.2	0.313	0.316	0.96
0.5	0.350	0.353	0.91
1	0.390	0.392	0.49
2	0.450	0.452	0.36
5	0.600	0.594	-0.95
10	0.800	0.800	0.00

Junction Capacitance Characteristic

Circuit Simulation Result

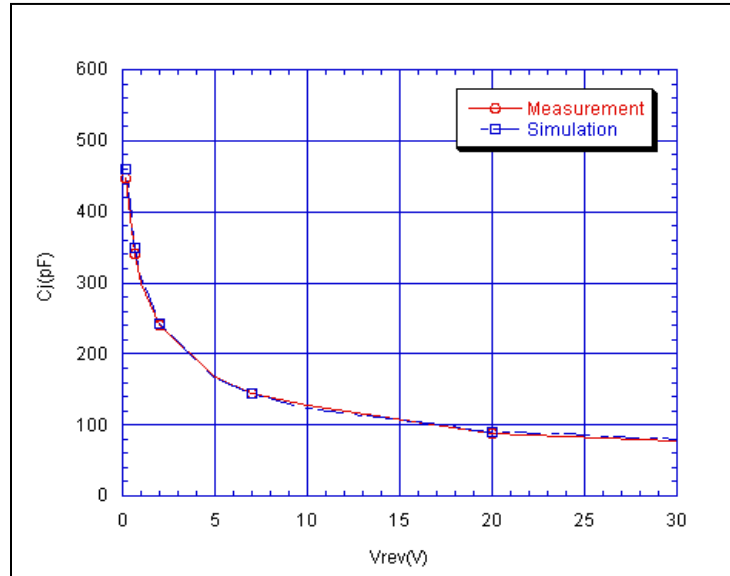


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0.2	447.000	460.000	2.91
0.5	375.000	385.000	2.67
1	300.000	308.000	2.67
2	240.000	242.100	0.87
5	168.000	165.800	-1.31
10	128.000	123.400	-3.59
20	88.000	90.000	2.27
40	65.000	66.500	2.31