

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTKY RECTIFIER / STANDARD
PART NUMBER: D5S4M
MANUFACTURER: SHINDENGEN

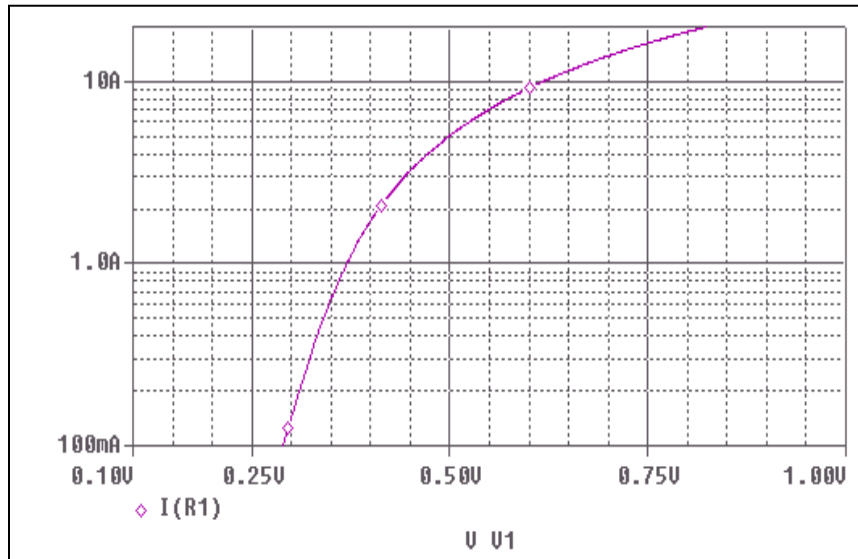


Bee Technologies Inc.

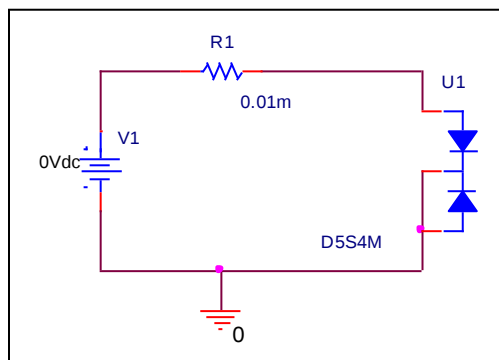
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

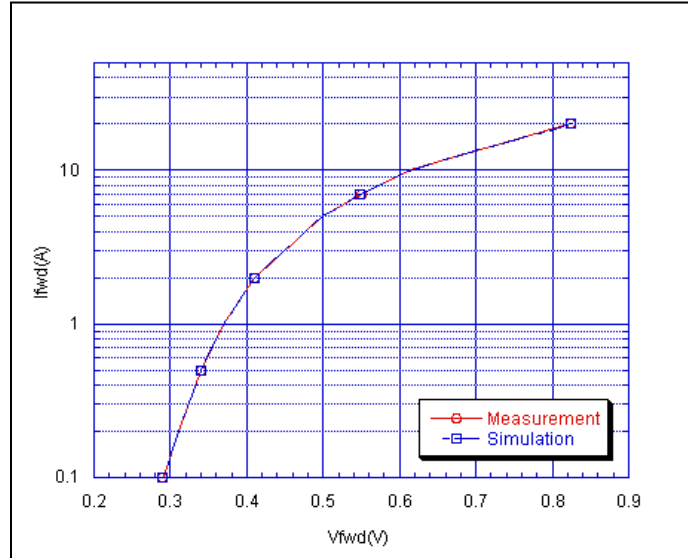


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

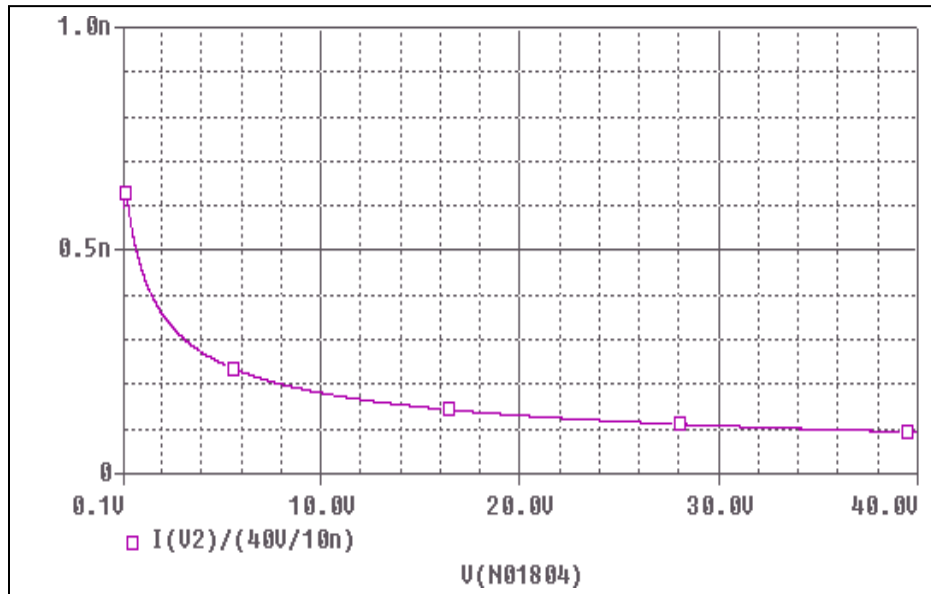


Simulation Result

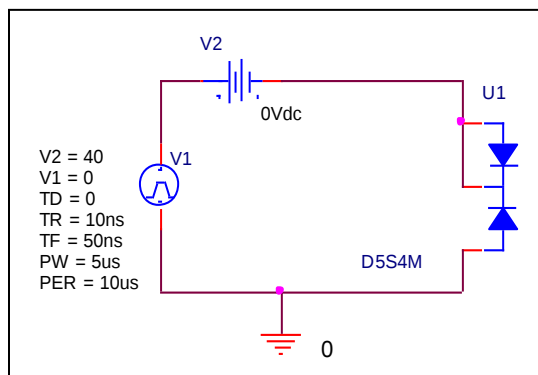
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.1	0.290	0.290	-0.07
0.2	0.308	0.310	0.65
0.5	0.338	0.340	0.59
1	0.369	0.370	0.27
2	0.410	0.410	0.10
5	0.500	0.499	-0.22
10	0.615	0.618	0.44
20	0.821	0.825	0.49

Junction Capacitance Characteristic

Circuit Simulation Result

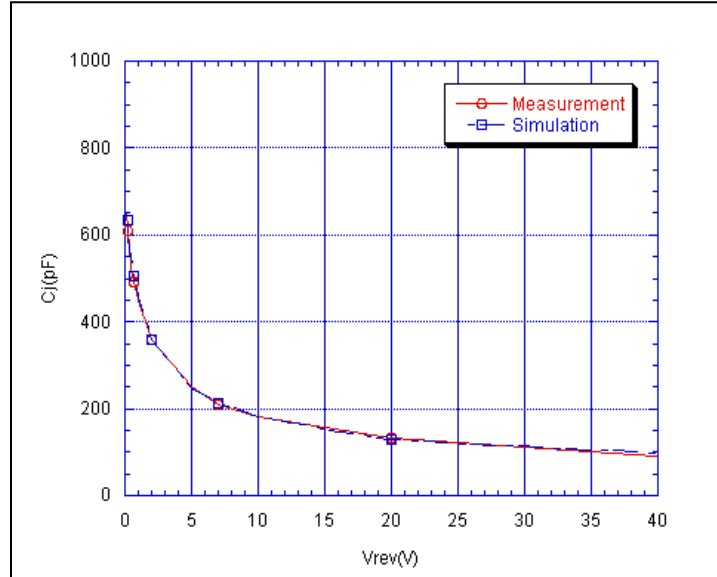


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0.1	650.00	620.00	-4.62
0.2	610.00	633.40	3.84
0.5	531.00	548.20	3.24
1	450.00	455.90	1.31
2	360.00	359.60	-0.11
5	250.00	247.70	-0.92
10	182.00	180.90	-0.60
20	132.00	130.50	-1.14
40	89.00	93.00	4.49