

Device Modeling Report

COMPONENTS:

DIODE/ SCHOOTTKY RECTIFIER / STANDARD

PART NUMBER: SF20SC3L

MANUFACTURER: SHINDENGEN

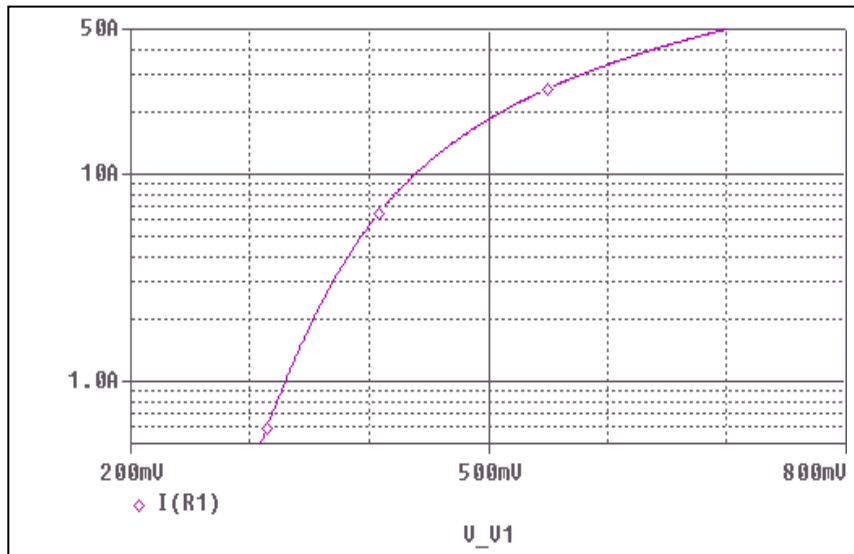


Bee Technologies Inc.

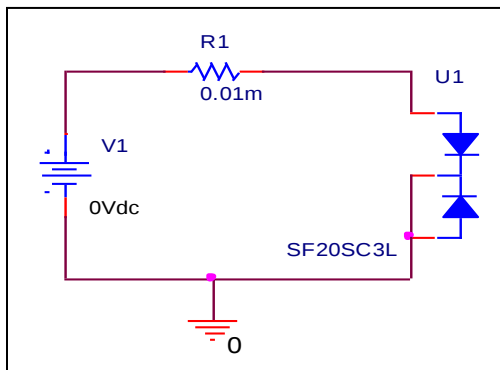
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

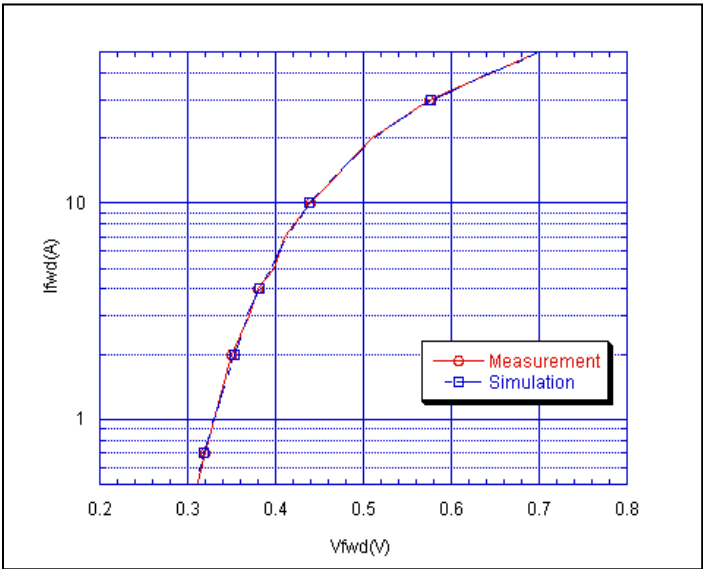


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

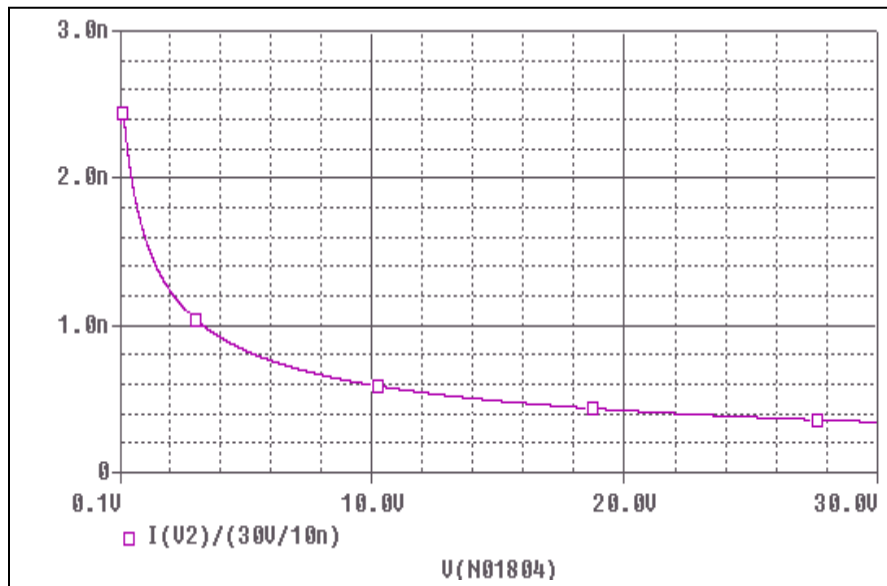


Simulation Result

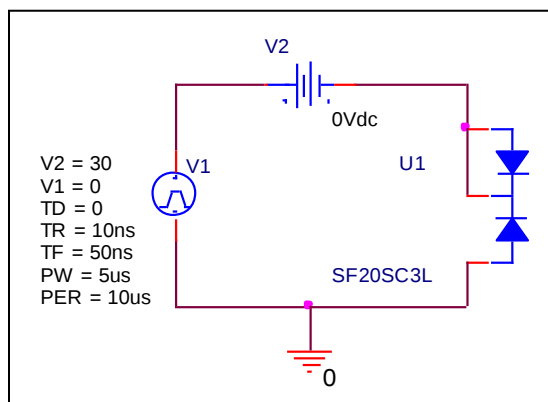
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
1	0.330	0.330	-0.12
2	0.350	0.353	0.94
5	0.398	0.395	-0.68
10	0.440	0.439	-0.32
20	0.510	0.511	0.20
50	0.705	0.700	-0.71

Junction Capacitance Characteristic

Circuit Simulation Result

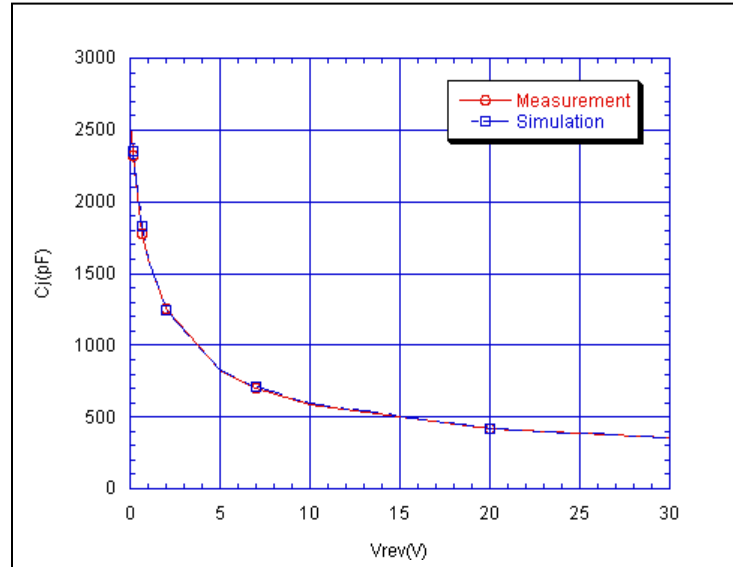


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0.1	2500.00	2400.00	-4.00
0.2	2320.00	2350.00	1.29
0.5	1950.00	2019.00	3.54
1	1600.00	1623.00	1.44
2	1250.00	1246.00	-0.32
5	831.00	830.00	-0.12
10	590.00	595.30	0.90
20	420.00	421.80	0.43
30	350.00	345.00	-1.43