

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTTKY RECTIFIER / STANDARD
PART NUMBER: SF20H1R5
MANUFACTURER: SHINDENGEN

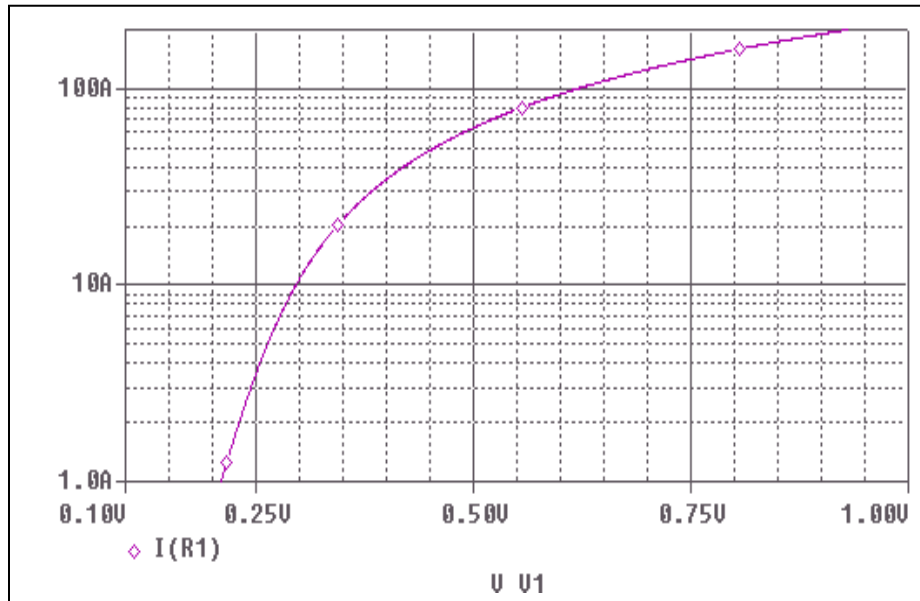


Bee Technologies Inc.

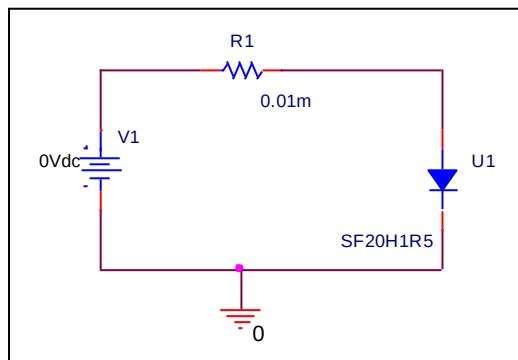
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

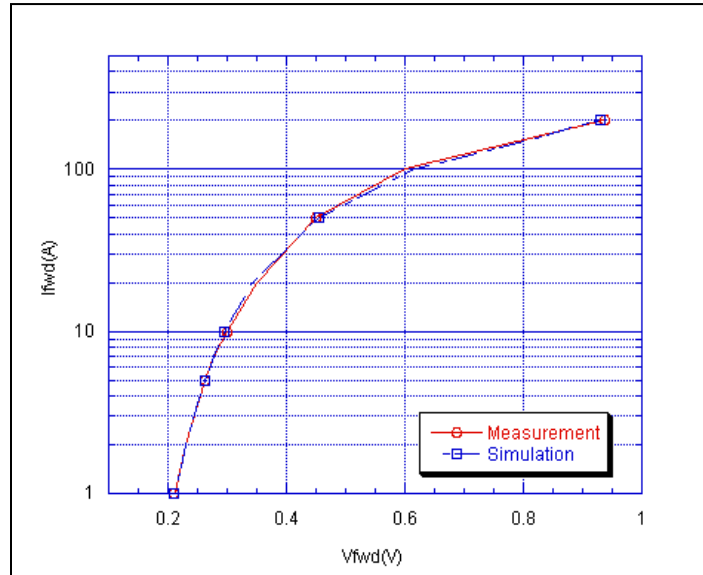


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

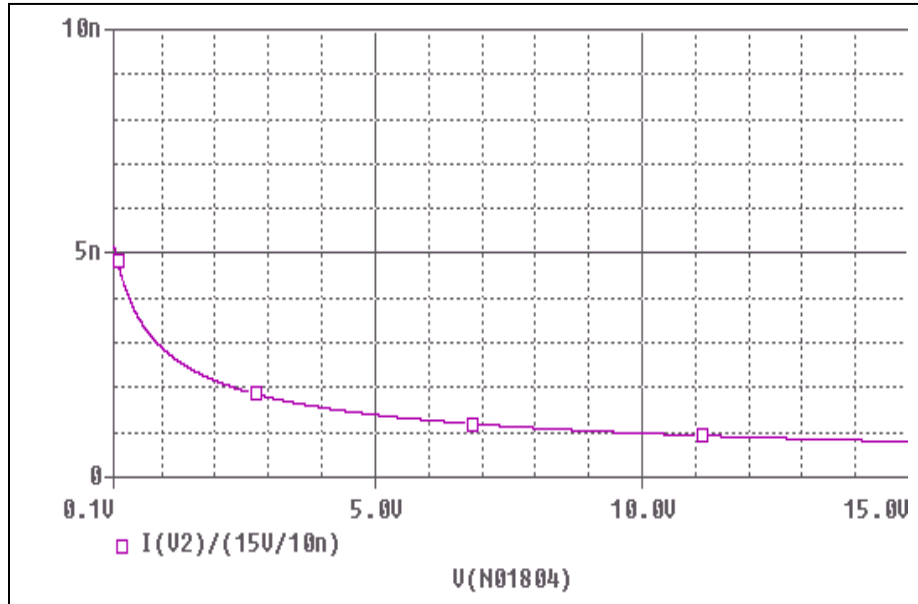


Simulation Result

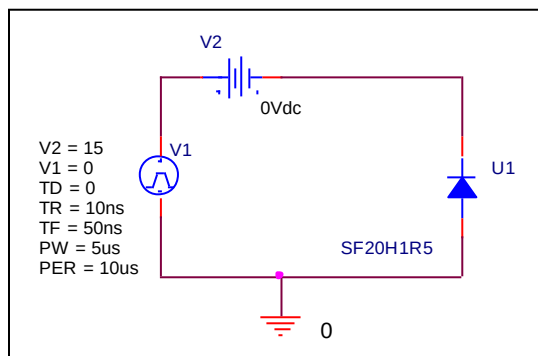
$I_{fwd}(A)$	$V_{fwd}(V)$ Measurement	$V_{fwd}(V)$ Simulation	%Error
1	0.210	0.209	-0.48
2	0.231	0.230	-0.43
5	0.263	0.262	-0.38
10	0.300	0.296	-1.33
20	0.350	0.342	-2.29
50	0.450	0.454	0.89
100	0.600	0.618	3.00
200	0.937	0.930	-0.75

Junction Capacitance Characteristic

Circuit Simulation Result

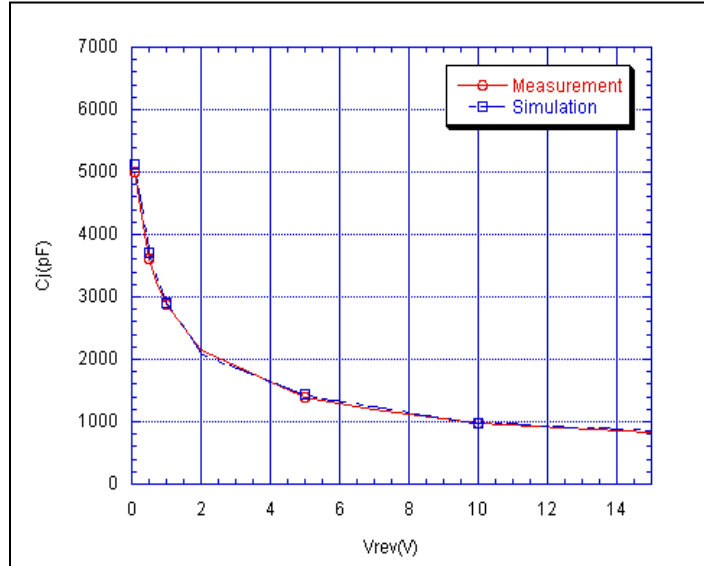


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0.1	5000.00	5124.00	2.48
0.2	4550.00	4706.00	3.43
0.5	3600.00	3706.00	2.94
1	2870.00	2900.00	1.05
2	2150.00	2100.00	-2.33
5	1400.00	1450.00	3.57
10	970.00	978.00	0.82