

Device Modeling Report

COMPONENTS:

DIODE/ SCHOOTTKY RECTIFIER / STANDARD

PART NUMBER: DF40PC3

MANUFACTURER: SHINDENGEN

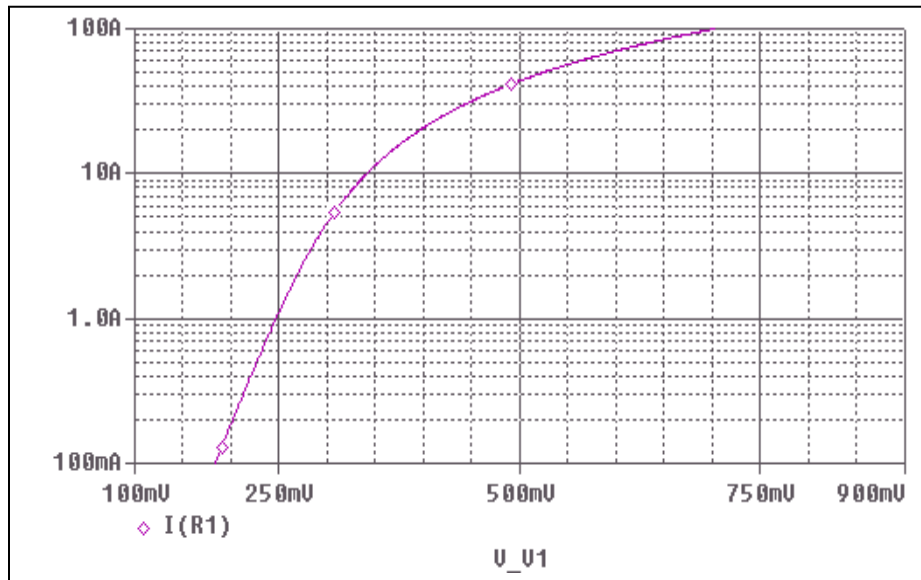


Bee Technologies Inc.

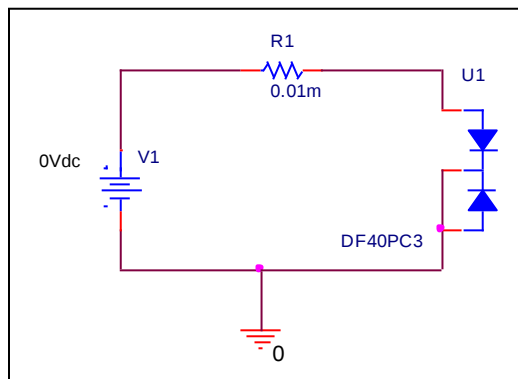
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

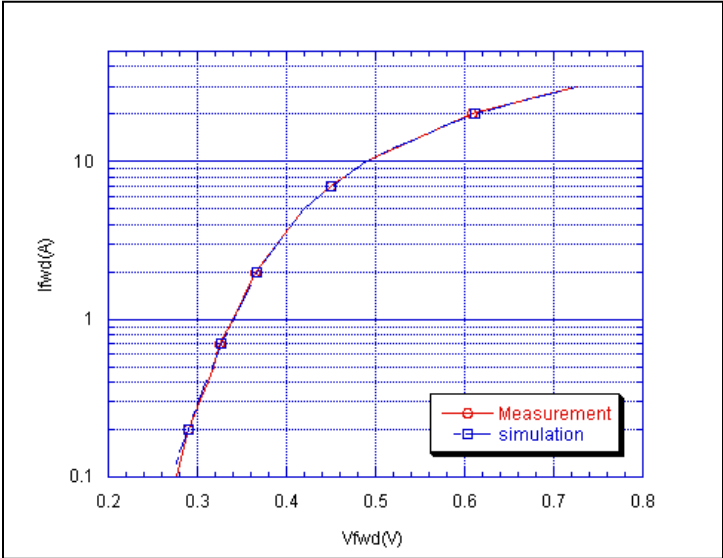


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

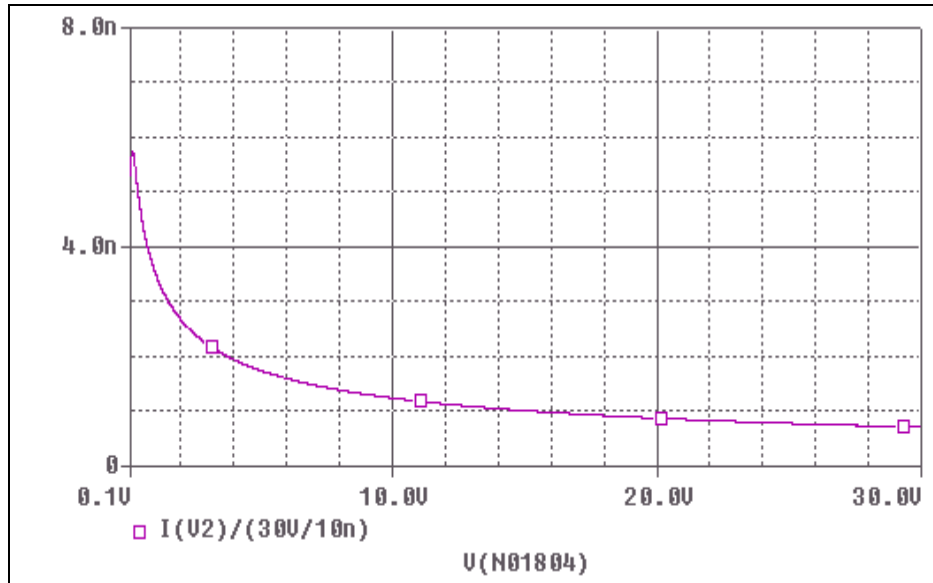


Simulation Result

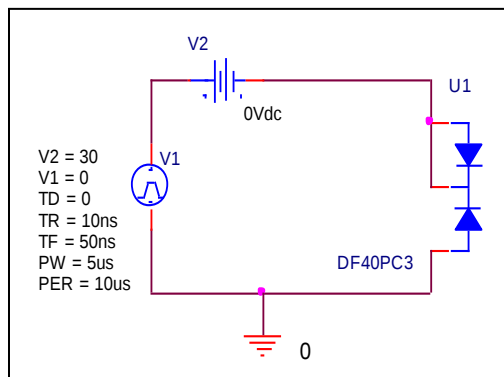
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.275	0.271	-1.64
0.2	0.290	0.290	-0.07
0.5	0.318	0.316	-0.50
1	0.340	0.339	-0.18
2	0.365	0.367	0.66
5	0.420	0.421	0.19
10	0.491	0.490	-0.20
20	0.608	0.611	0.49
30	0.725	0.723	-0.28

Junction Capacitance Characteristic

Circuit Simulation Result

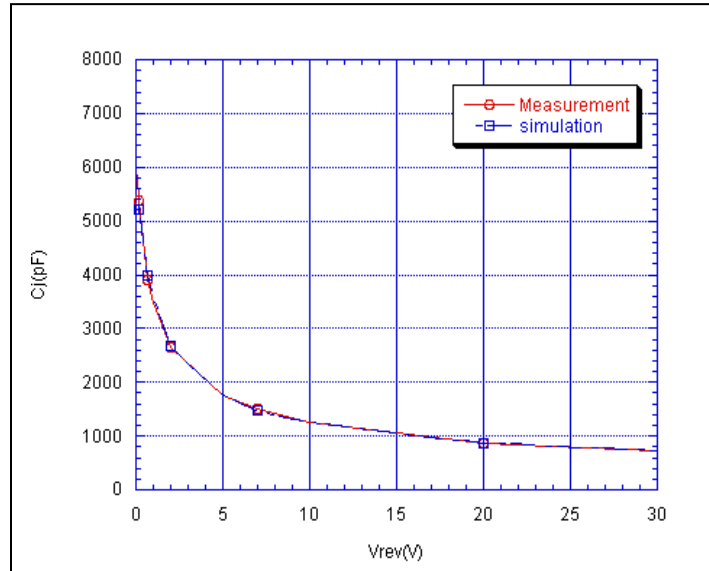


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0.1	5780.00	5500.00	-4.84
0.2	5380.00	5200.00	-3.35
0.5	4400.00	4500.00	2.27
1	3490.00	3570.00	2.29
2	2650.00	2674.00	0.91
5	1750.00	1751.00	0.06
10	1250.00	1245.00	-0.40
20	870.00	878.50	0.98
30	700.00	712.00	1.71