

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTTKY RECTIFIER / STANDARD
PART NUMBER: DF20JC10
MANUFACTURER: SHINDENGEN

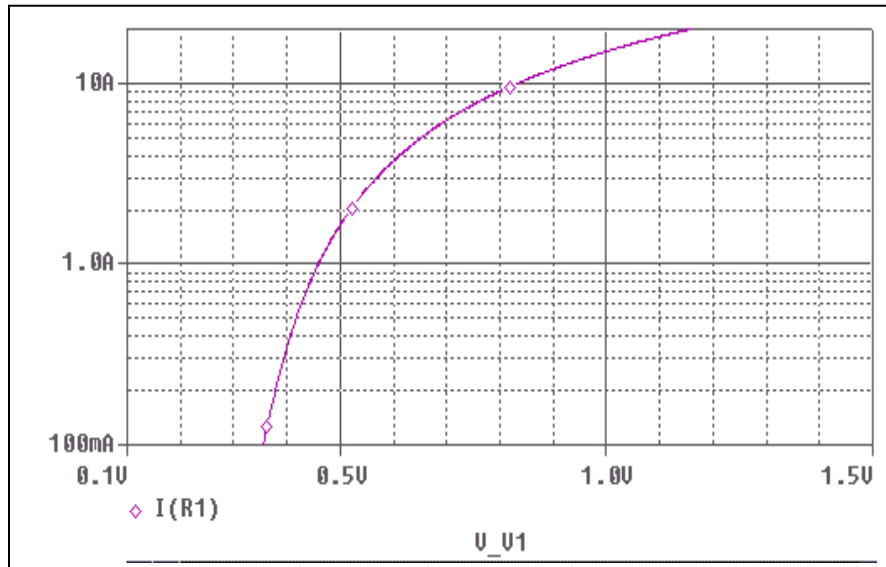


Bee Technologies Inc.

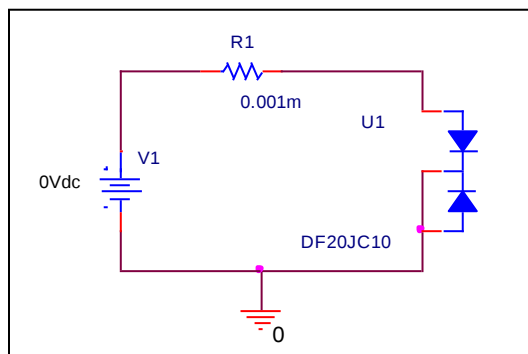
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

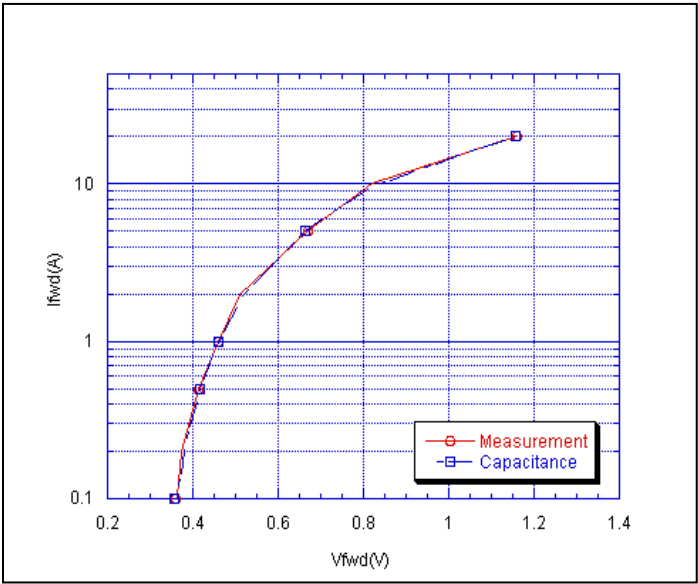


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

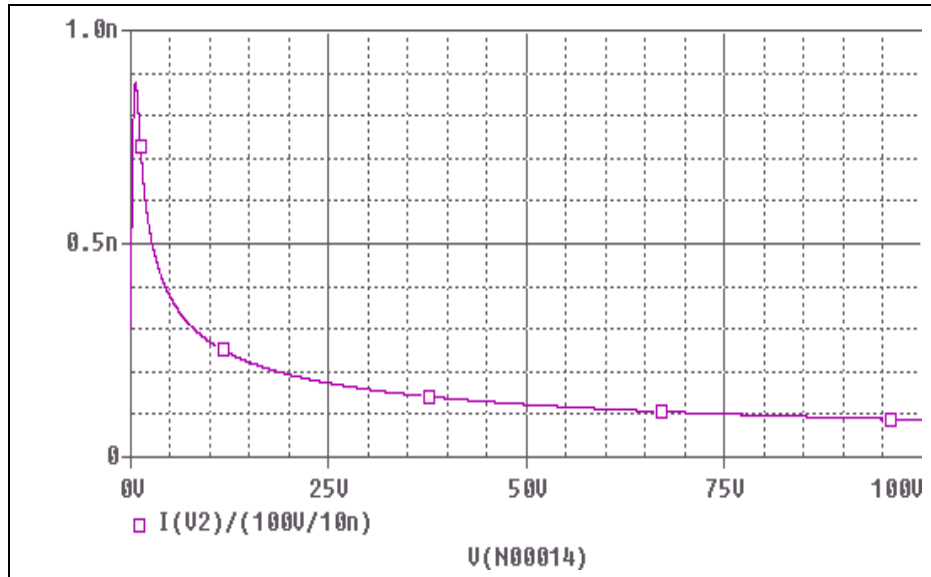


Simulation Result

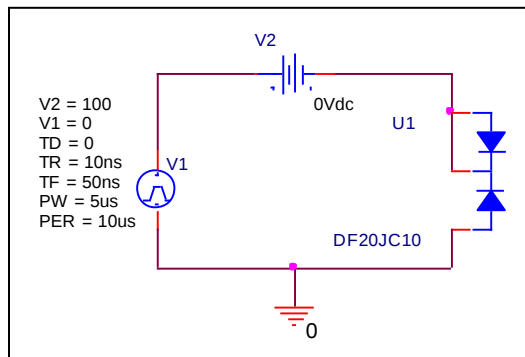
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.360	0.356	-1.11
0.2	0.375	0.379	0.99
0.5	0.415	0.417	0.46
1	0.460	0.460	-0.07
2	0.510	0.519	1.80
5	0.670	0.662	-1.13
10	0.820	0.834	1.67
20	1.160	1.158	-0.22

Junction Capacitance Characteristic

Circuit Simulation Result

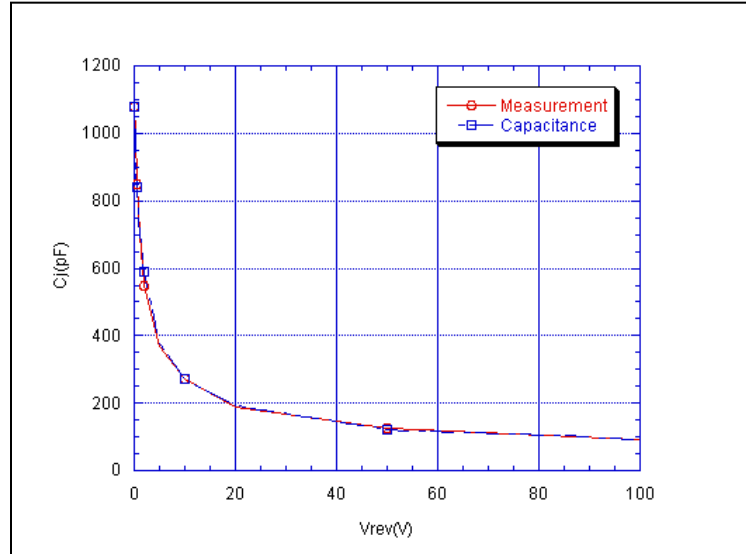


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0.1	1090.000	1080.000	-0.92
0.2	1010.000	1000.000	-0.99
0.5	850.000	841.600	-0.99
1	698.000	700.100	0.30
2	584.000	589.100	0.87
5	370.000	377.800	2.11
10	270.000	271.000	0.37
20	190.000	193.300	1.74
50	125.000	123.300	-1.36
100	87.000	87.500	0.57