

Device Modeling Report

COMPONENTS:DIODE/ SCHOTTKY RECTIFIER
PART NUMBER: 1N5820
MANUFACTURER: ON SEMICONDUCTOR

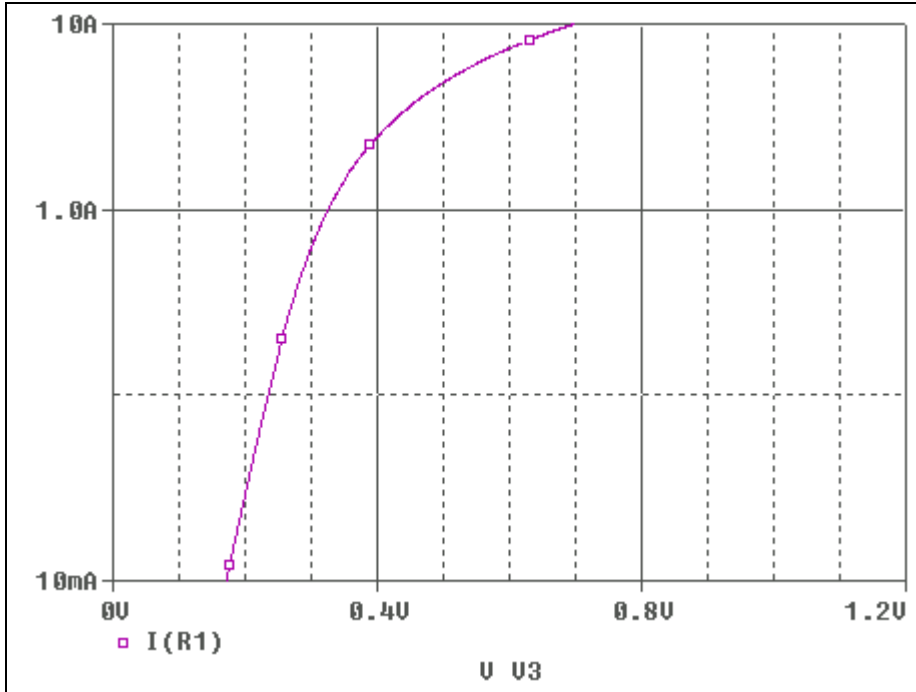


Bee Technologies Inc.

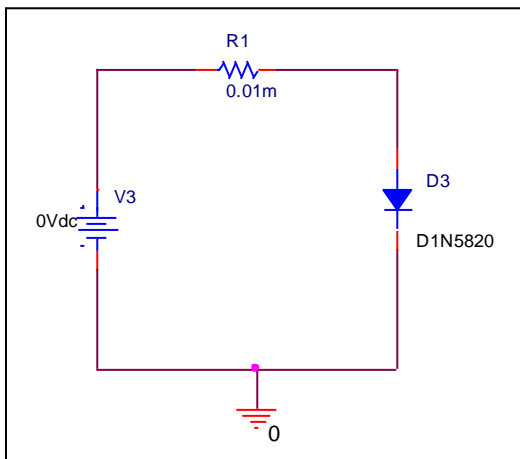
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

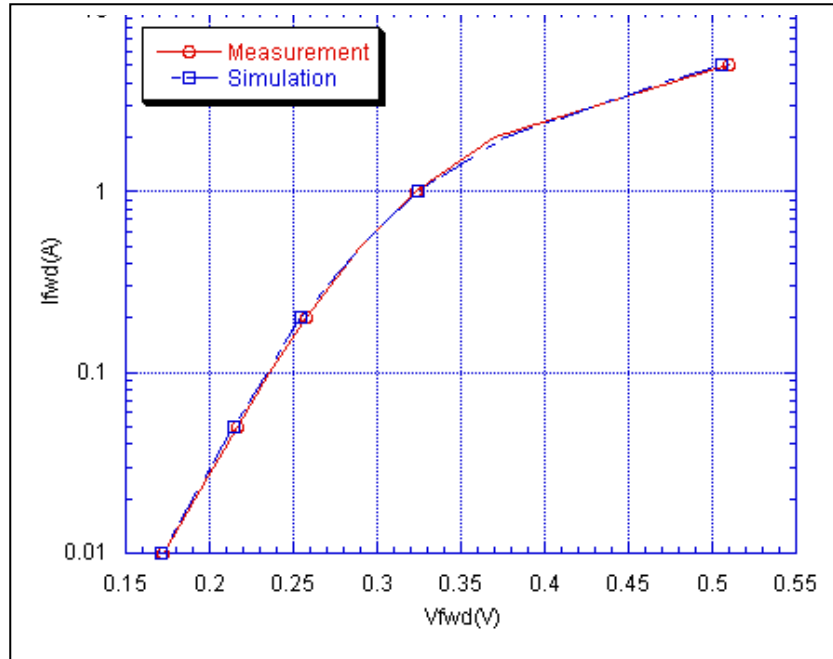


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

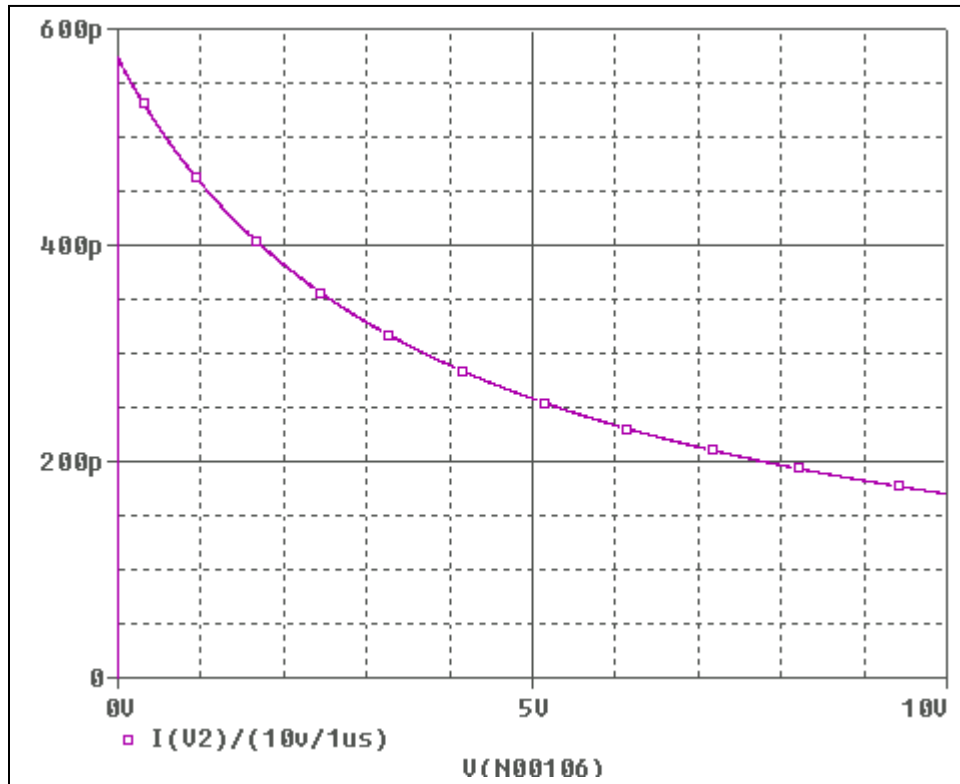


Simulation Result

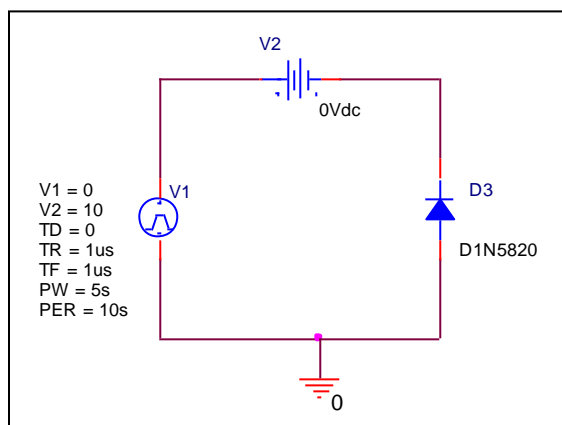
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.01	0.17	0.17	-0.58
0.02	0.19	0.19	-0.52
0.05	0.22	0.22	-0.92
0.1	0.24	0.23	-0.85
0.2	0.26	0.26	-1.16
0.5	0.29	0.29	-0.69
1	0.32	0.33	0.62
2	0.37	0.38	1.89
5	0.51	0.51	-0.78

Junction Capacitance Characteristic

Circuit Simulation Result

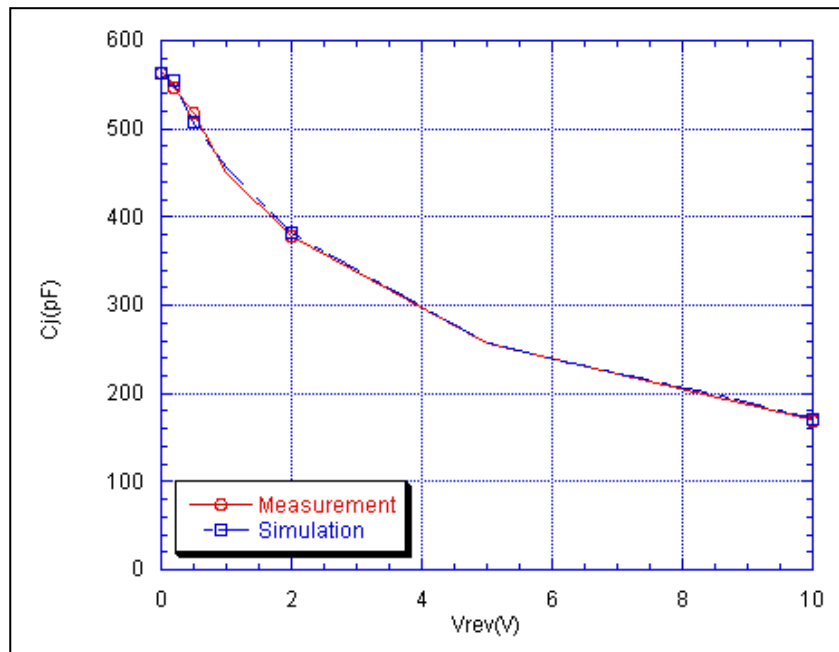


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0	562.57	562.57	0.00
0.1	558.81	558.36	-0.08
0.2	546.19	554.61	1.54
0.5	518.24	508.49	-1.88
1	450.78	456.93	1.36
2	378.62	382.22	0.95
5	255.94	257.12	0.46
10	168.84	169.79	0.56