Device Modeling Report

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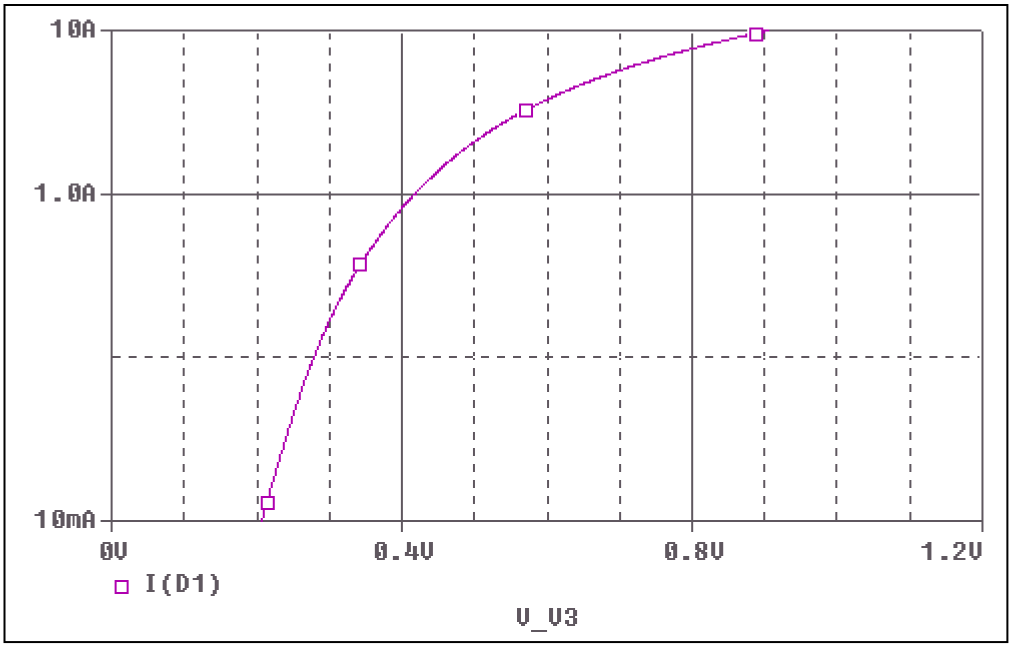
PART NUMBER: 1N5818
MANUFACTURER: ON SEMICONDUCTOR

Bee Technologies Inc.

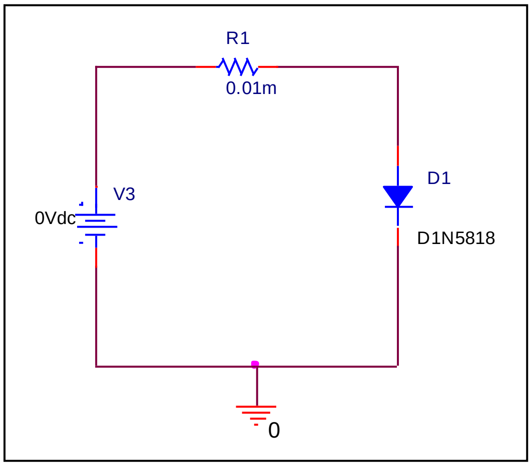
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

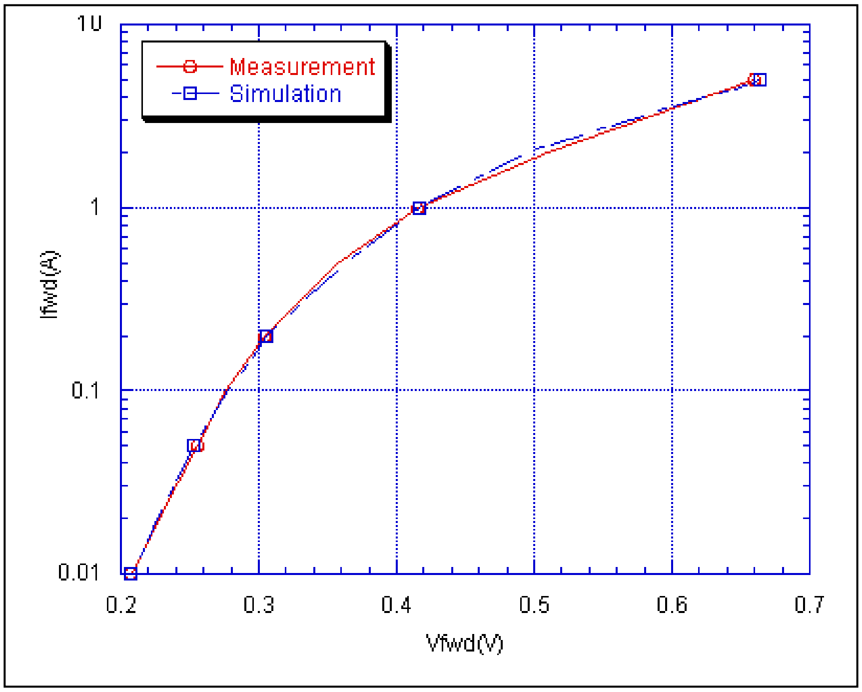


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

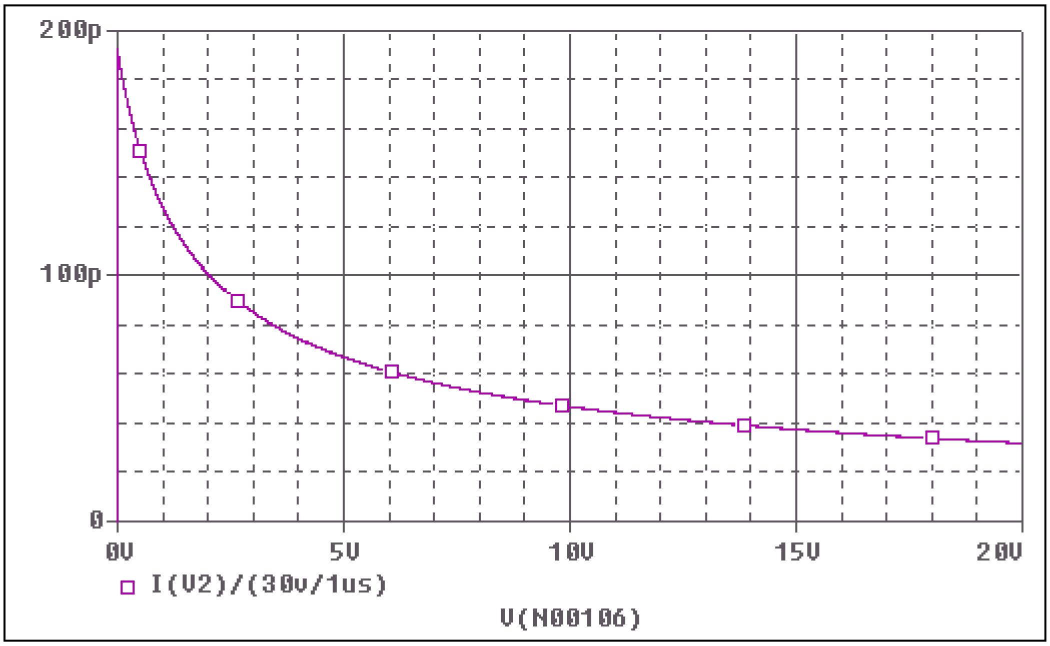


Simulation Result

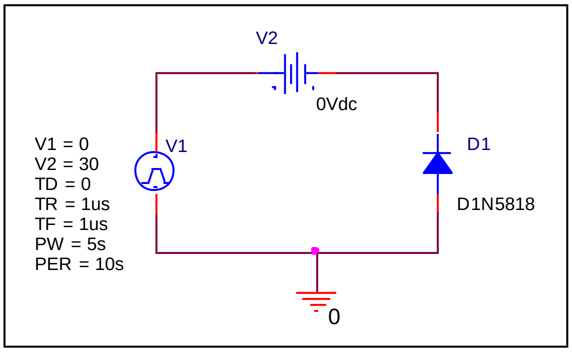
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.01	0.21	0.21	0.00
0.02	0.23	0.23	-0.88
0.05	0.26	0.25	-1.19
0.1	0.28	0.28	0.36
0.2	0.30	0.31	0.65
0.5	0.36	0.36	1.38
1	0.42	0.42	0.48
2	0.51	0.50	-3.03
5	0.66	0.66	0.60

Junction Capacitance Characteristic

Circuit Simulation Result

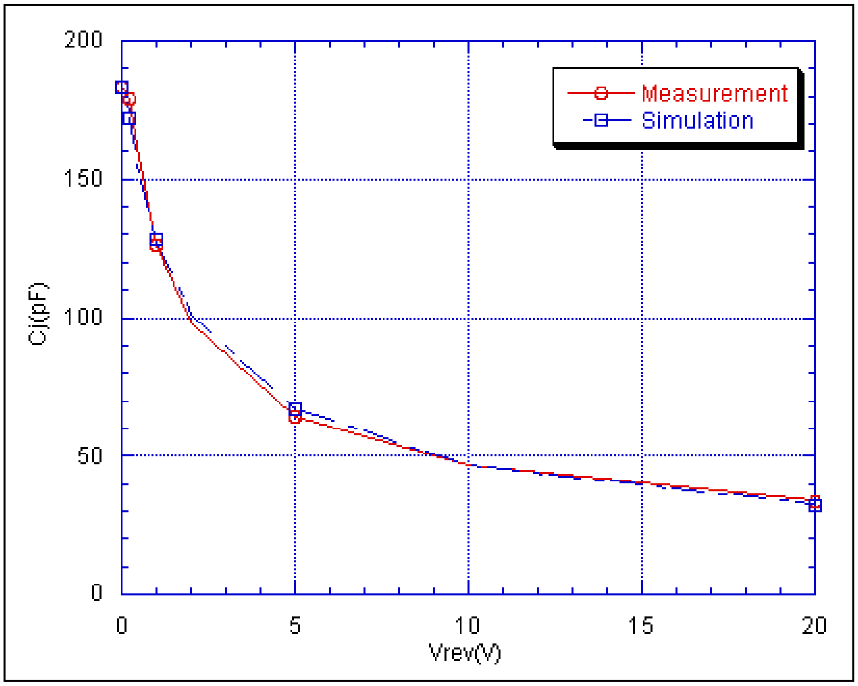


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0	183.51	183.51	0.00
0.1	181.78	181.32	-0.26
0.2	179.31	172.37	-4.02
0.5	157.97	151.26	-4.44
1	126.08	128.14	1.60
2	98.43	100.97	2.52
5	64.20	67.05	4.24
10	46.66	46.84	0.39
20	33.55	32.11	-4.49