

Device Modeling Report

COMPONENTS: DIODE/ SCHOTTKY RECTIFIER
PART NUMBER: PBYR10100
MANUFACTURER: PHILIPS

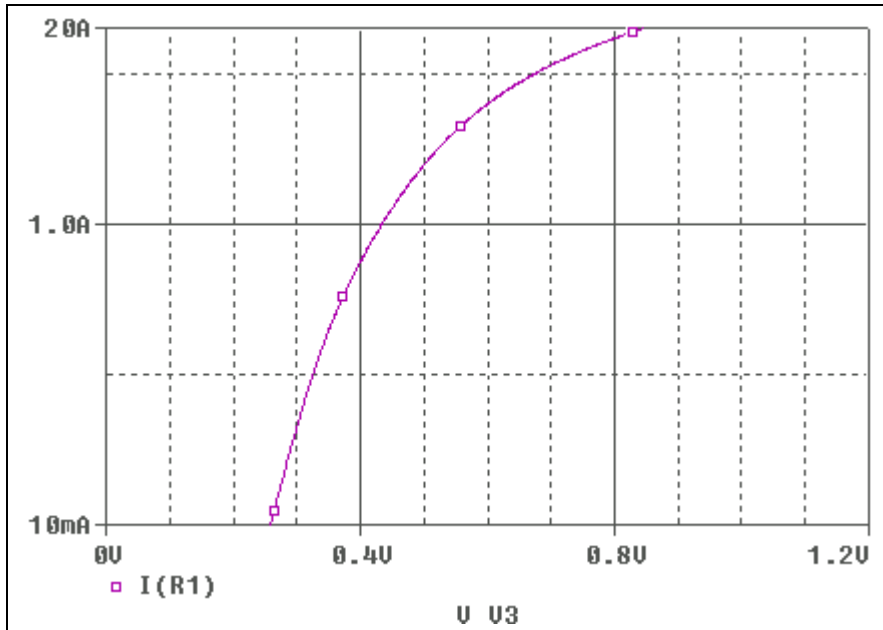


Bee Technologies Inc.

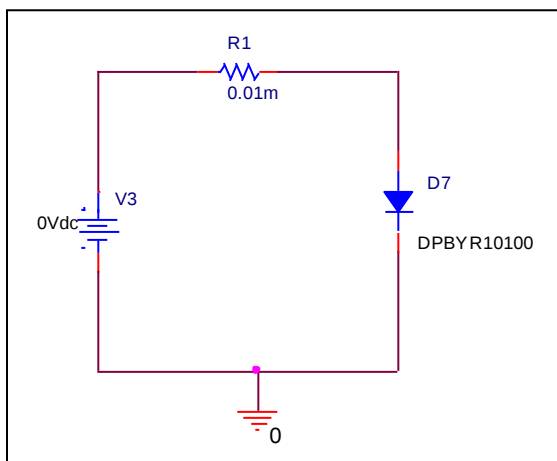
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

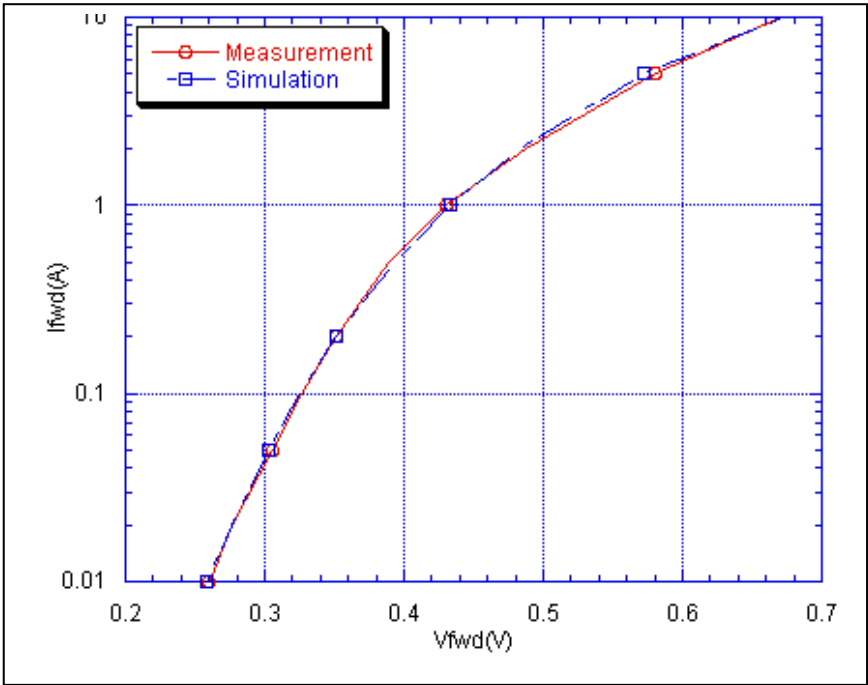


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

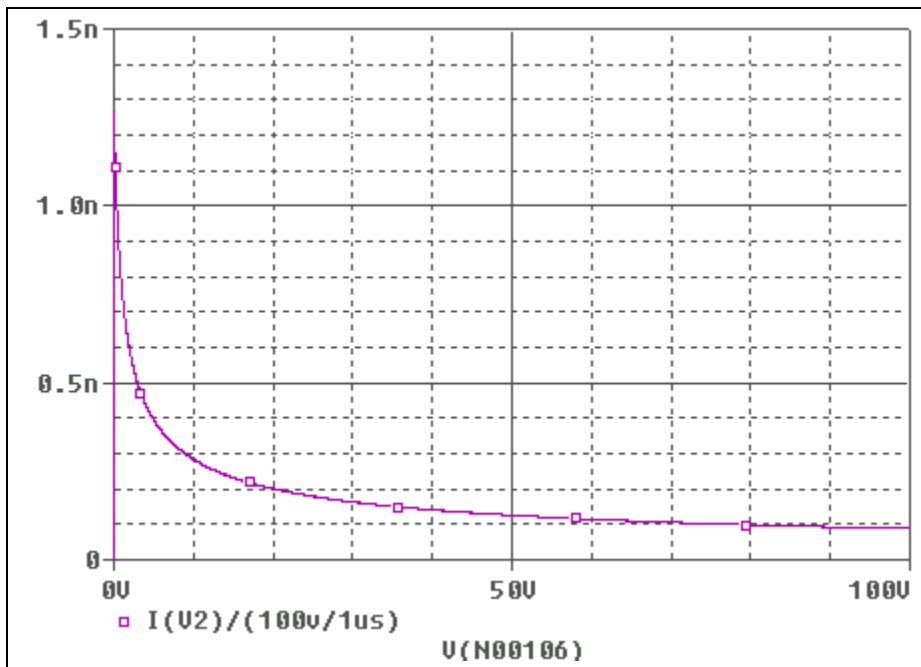


Simulation Result

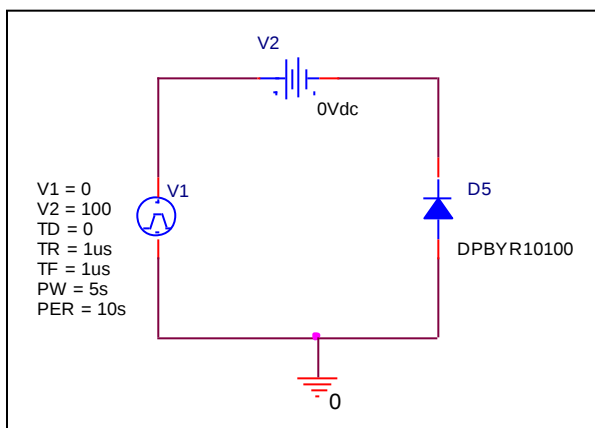
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.01	0.260	0.259	-0.39
0.02	0.276	0.277	0.36
0.05	0.305	0.303	-0.66
0.1	0.326	0.325	-0.31
0.2	0.351	0.351	0.00
0.5	0.389	0.393	1.02
1	0.430	0.434	0.92
2	0.487	0.483	-0.83
5	0.580	0.572	-1.40
10	0.671	0.675	0.59

Junction Capacitance Characteristic

Circuit Simulation Result

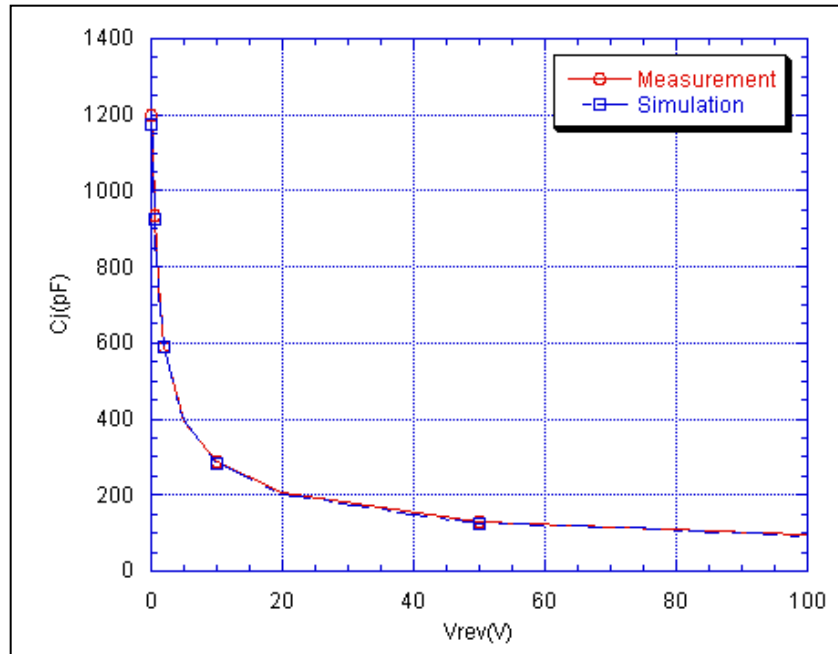


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0	1270.00	1266.00	-0.32
0.1	1200.00	1177.00	-1.95
0.2	1120.00	1098.00	-2.00
0.5	936.75	927.86	-0.96
1	761.26	762.07	0.11
2	588.07	589.66	0.27
5	394.63	396.55	0.49
10	286.34	283.62	-0.96
20	205.67	200.85	-2.40
50	131.72	125.71	-4.78
100	90.74	88.06	-3.04