Device Modeling Report

COMPONENTS:
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Bee Technologies Inc.

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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

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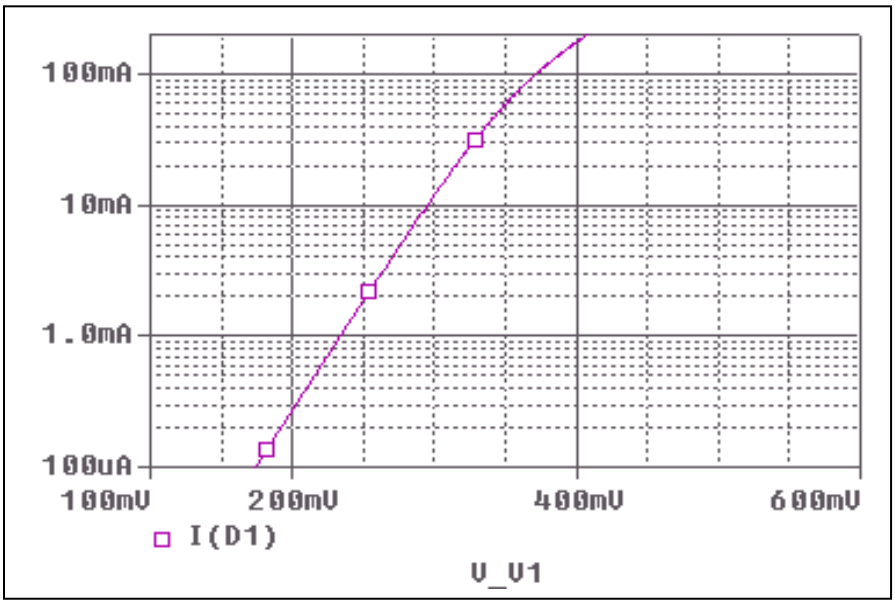
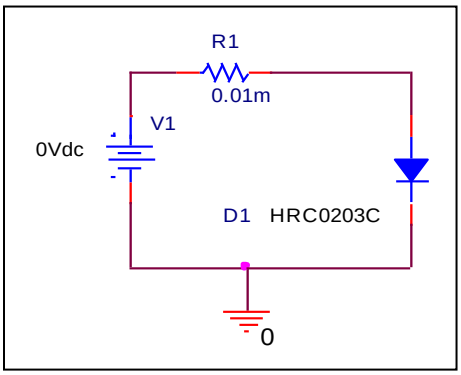
Forward Current Characteristic

Circuit Simulation Result



Evaluation Circuit



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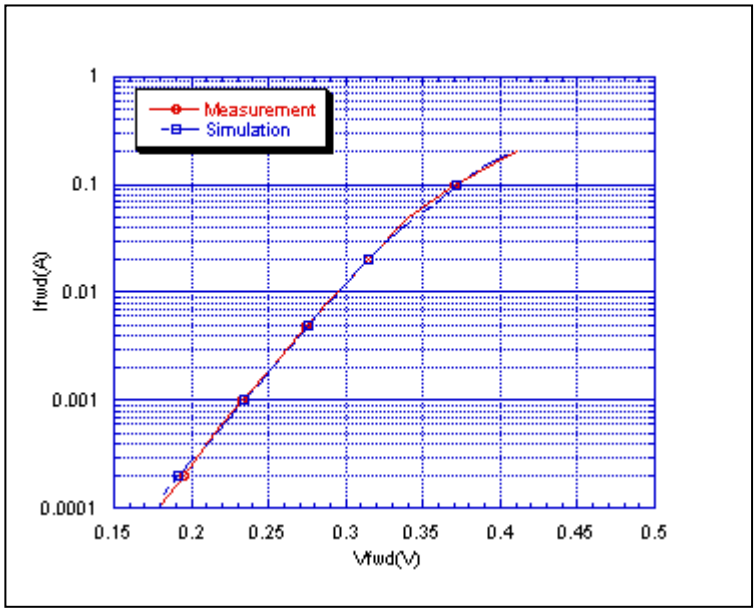
Comparison Graph

Circuit Simulation Result



Simulation Result

Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.0001	0.178	0.175	-1.63
0.001	0.233	0.234	0.34
0.002	0.252	0.252	-0.04
0.005	0.275	0.276	0.44
0.01	0.296	0.295	-0.34
0.02	0.315	0.315	-0.06
0.05	0.340	0.344	1.24
0.1	0.370	0.371	0.38
0.2	0.410	0.408	-0.46

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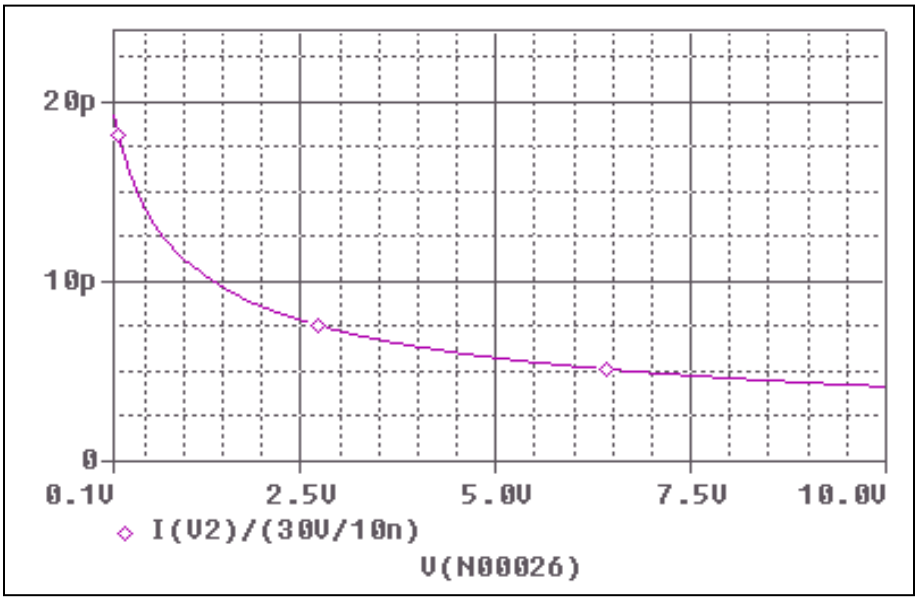
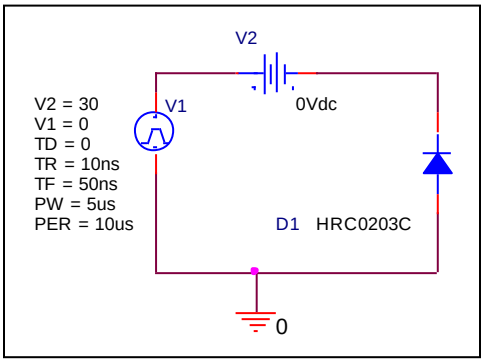
Junction Capacitance Characteristic

Circuit Simulation Result



Evaluation Circuit



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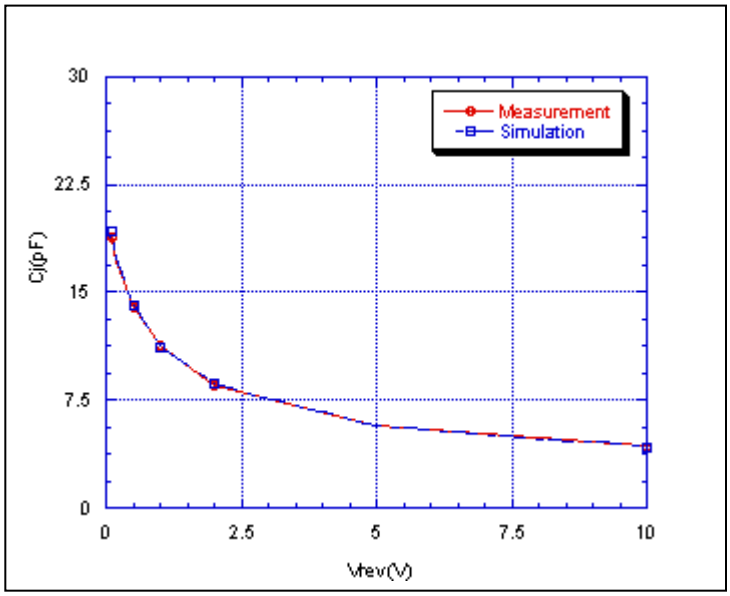
Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0.1	18.850	19.200	1.86
0.2	17.150	17.400	1.46
0.5	14.000	14.100	0.71
1	11.300	11.200	-0.88
2	8.450	8.600	1.78
5	5.800	5.700	-1.72
10	4.200	4.150	-1.19

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