

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER/ STANDARD
PART NUMBER: 30WQ06FN
MANUFACTURER: INTERNATIONAL RECTIFIER

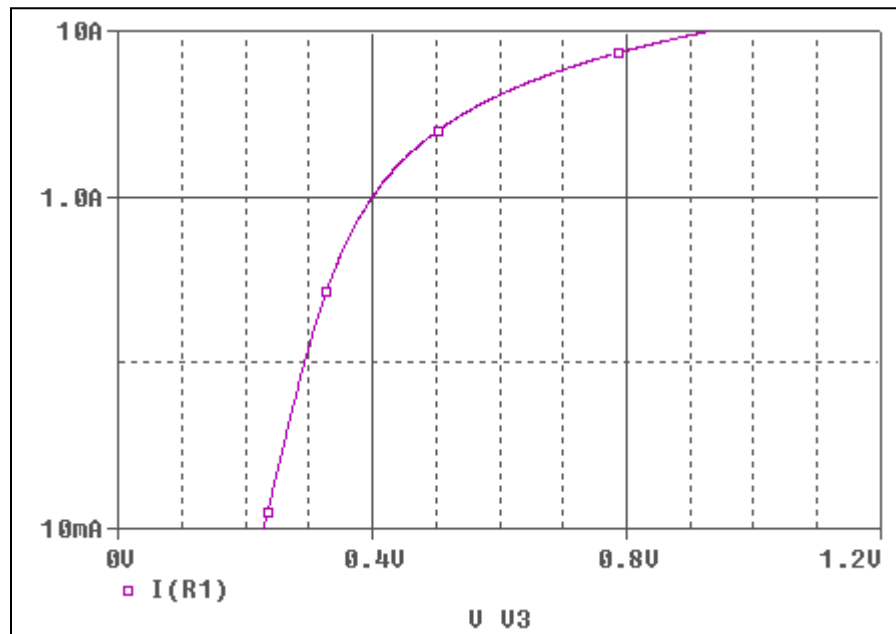


Bee Technologies Inc.

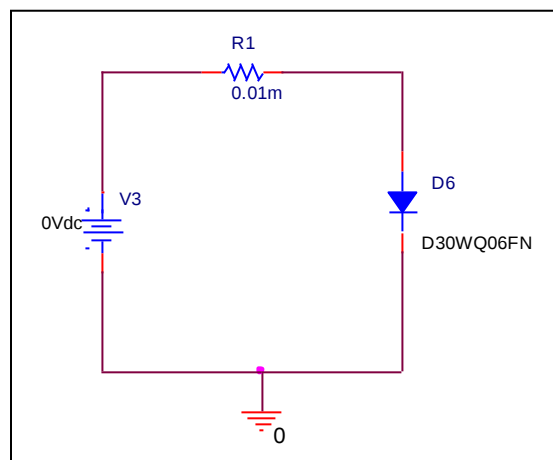
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

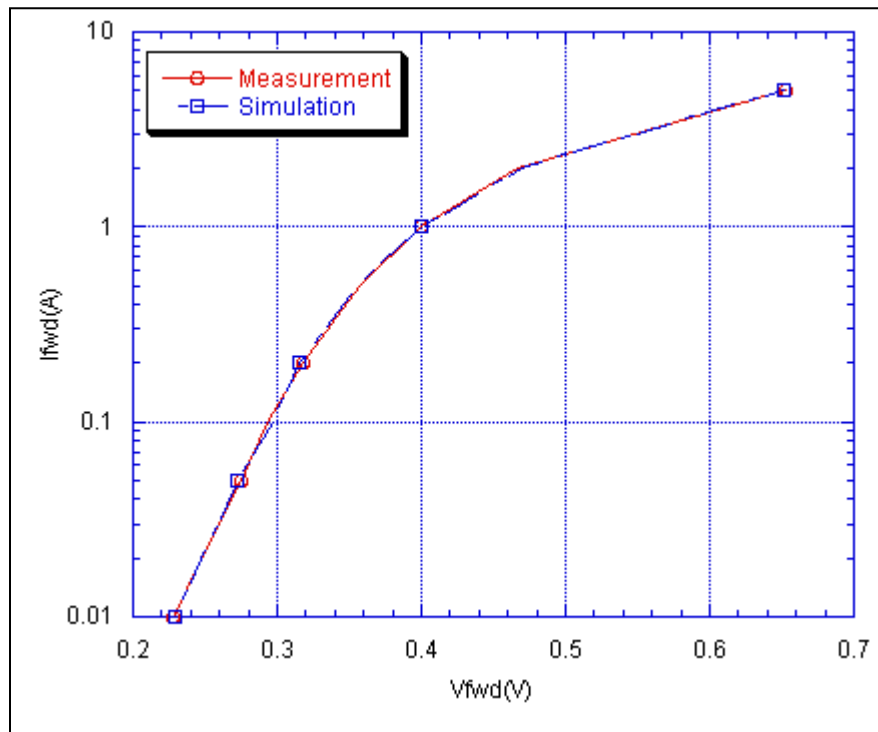


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

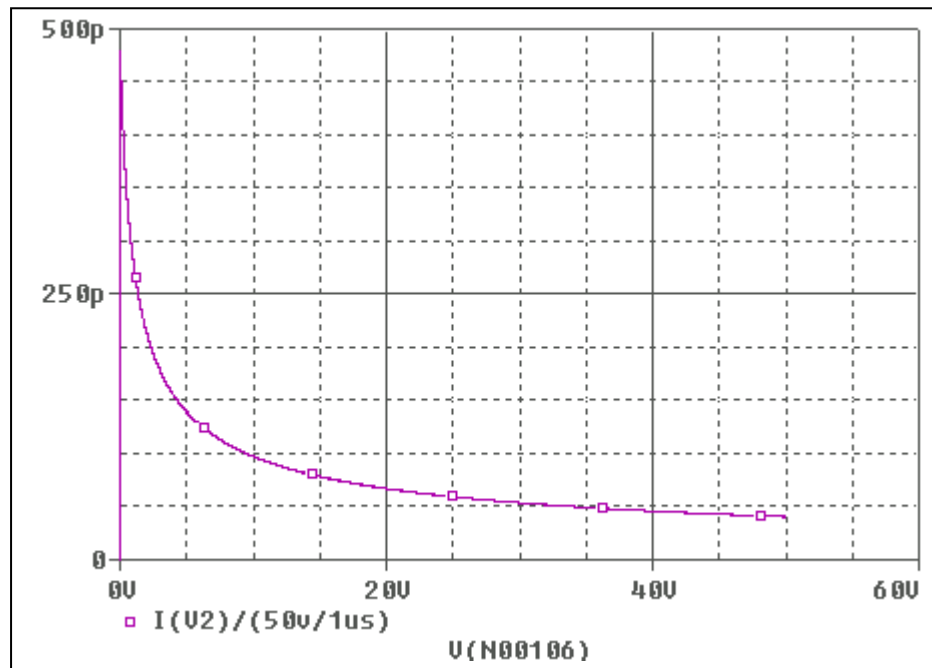


Simulation Result

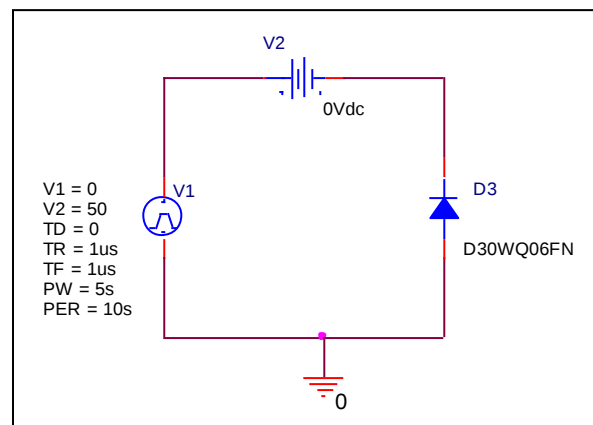
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.01	0.228	0.229	0.44
0.02	0.247	0.246	-0.41
0.05	0.275	0.272	-1.10
0.1	0.293	0.297	1.35
0.2	0.318	0.316	-0.63
0.5	0.357	0.355	-0.56
1	0.400	0.398	-0.50
2	0.467	0.470	0.64
5	0.653	0.652	-0.15

Junction Capacitance Characteristic

Circuit Simulation Result

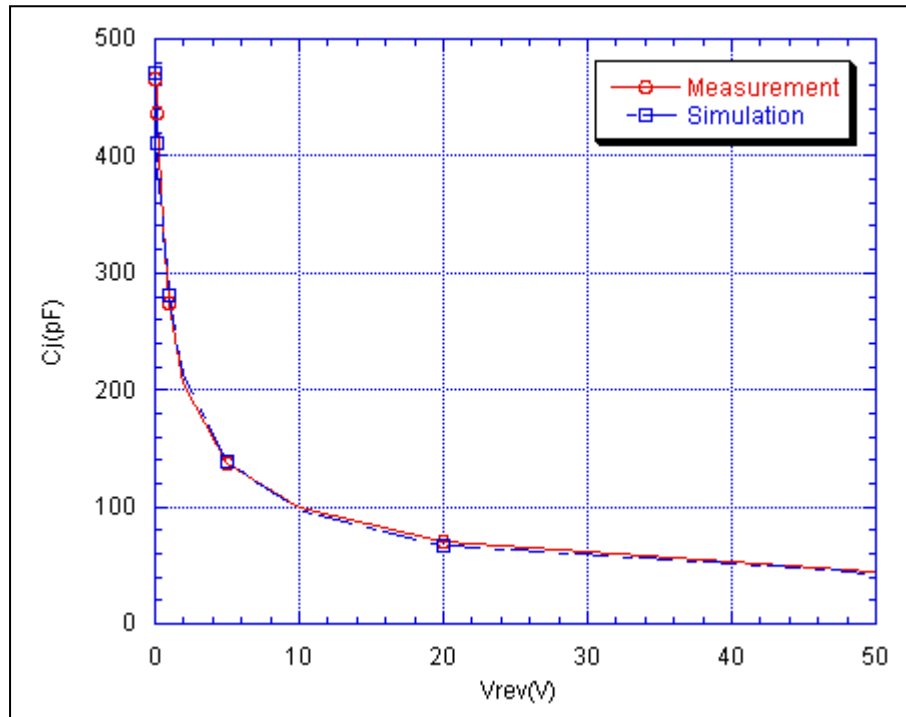


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0	465.441	470.161	1.00
0.1	455.373	442.301	-2.96
0.2	437.028	417.672	-4.63
0.5	340.839	345.072	1.23
1	273.707	280.104	2.28
2	205.246	213.739	3.97
5	136.810	139.173	1.70
10	99.272	97.320	-2.01
20	69.431	67.023	-3.59
50	42.397	40.460	-4.79