

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER/ STANDARD
PART NUMBER: 6CWQ04FN
MANUFACTURER: INTERNATIONAL RECTIFIER

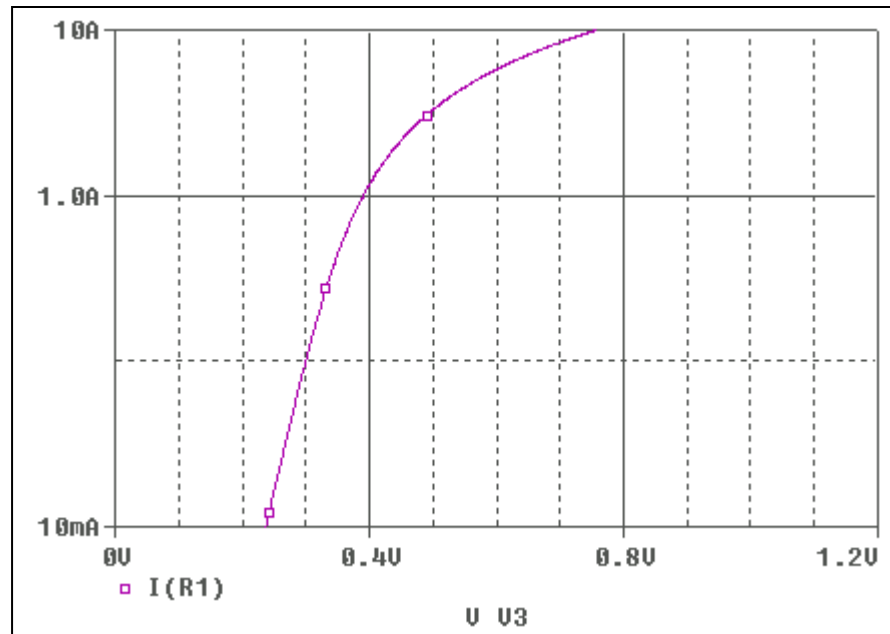


Bee Technologies Inc.

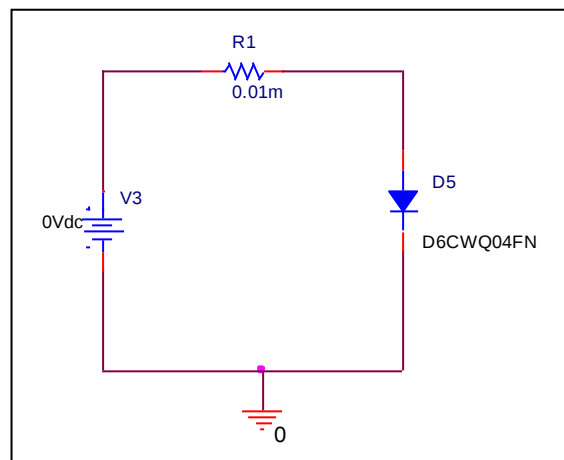
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

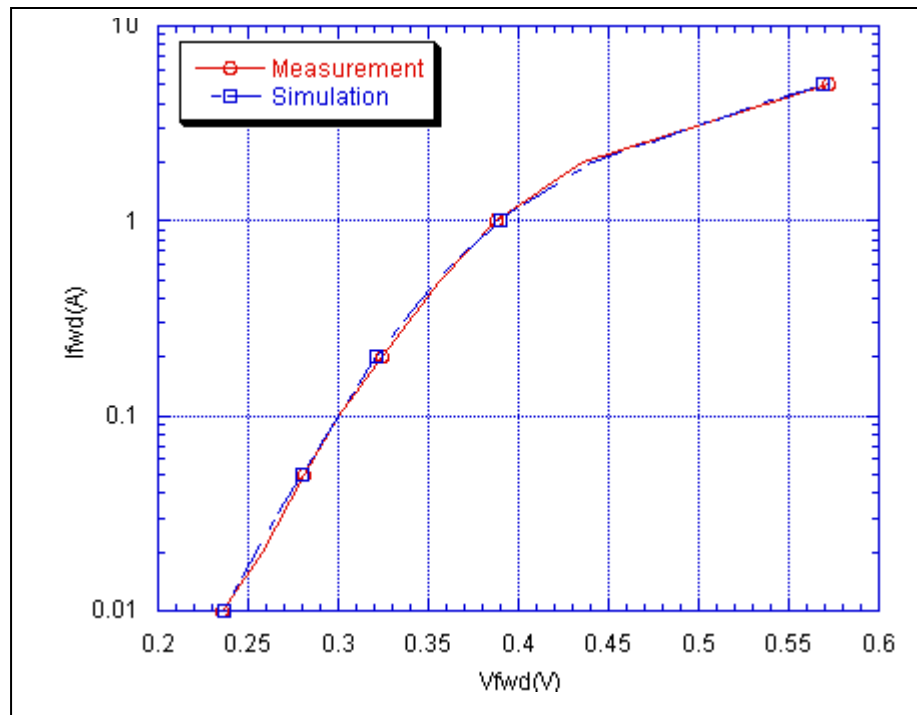


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

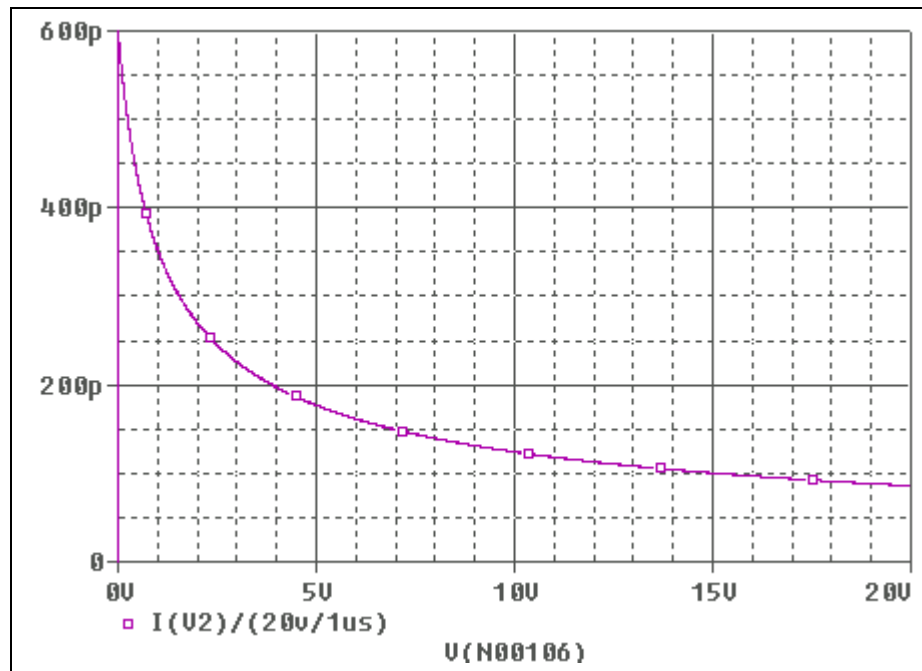


Simulation Result

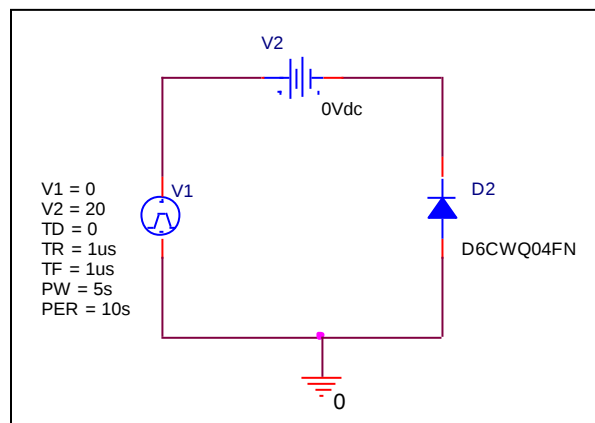
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.01	0.236	0.237	0.42
0.02	0.258	0.255	-1.18
0.05	0.281	0.280	-0.36
0.1	0.300	0.300	0.00
0.2	0.324	0.321	-0.93
0.5	0.357	0.355	-0.56
1	0.388	0.390	0.51
2	0.436	0.441	1.13
5	0.572	0.569	-0.53

Junction Capacitance Characteristic

Circuit Simulation Result

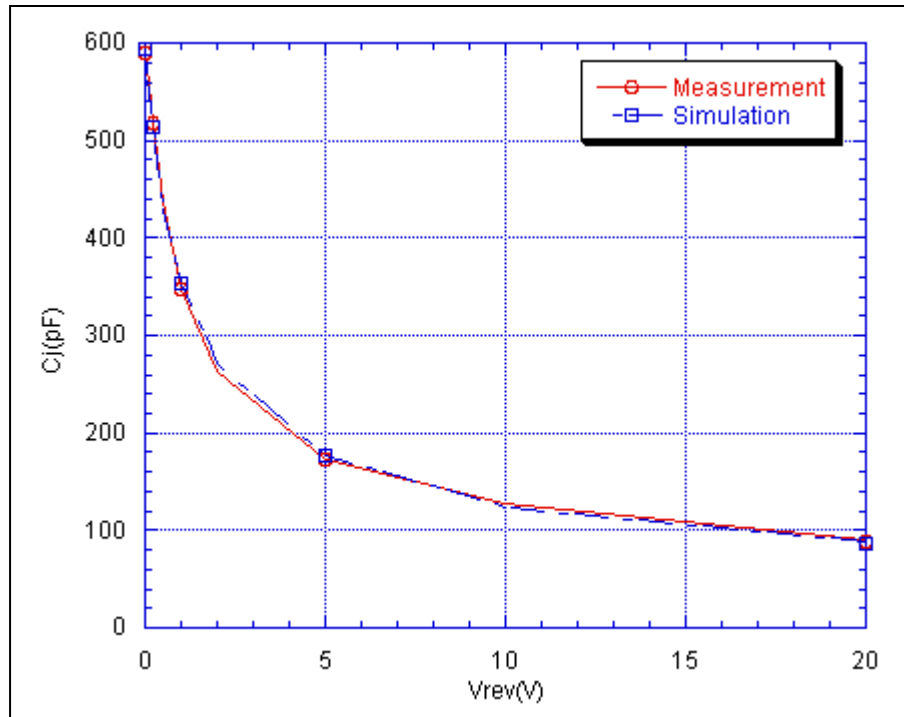


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0	590.504	594.483	0.67
0.1	558.622	551.539	-1.28
0.2	517.184	513.677	-0.68
0.5	437.415	432.424	-1.15
1	347.439	353.797	1.80
2	263.895	270.345	2.39
5	173.372	176.856	1.97
10	127.502	124.278	-2.59
20	88.897	85.672	-3.76