

Device Modeling Report

COMPONENTS:

DIODE/ SCHOTTKY RECTIFIER/ PROFESSIONAL

PART NUMBER: 6CWQ06FN

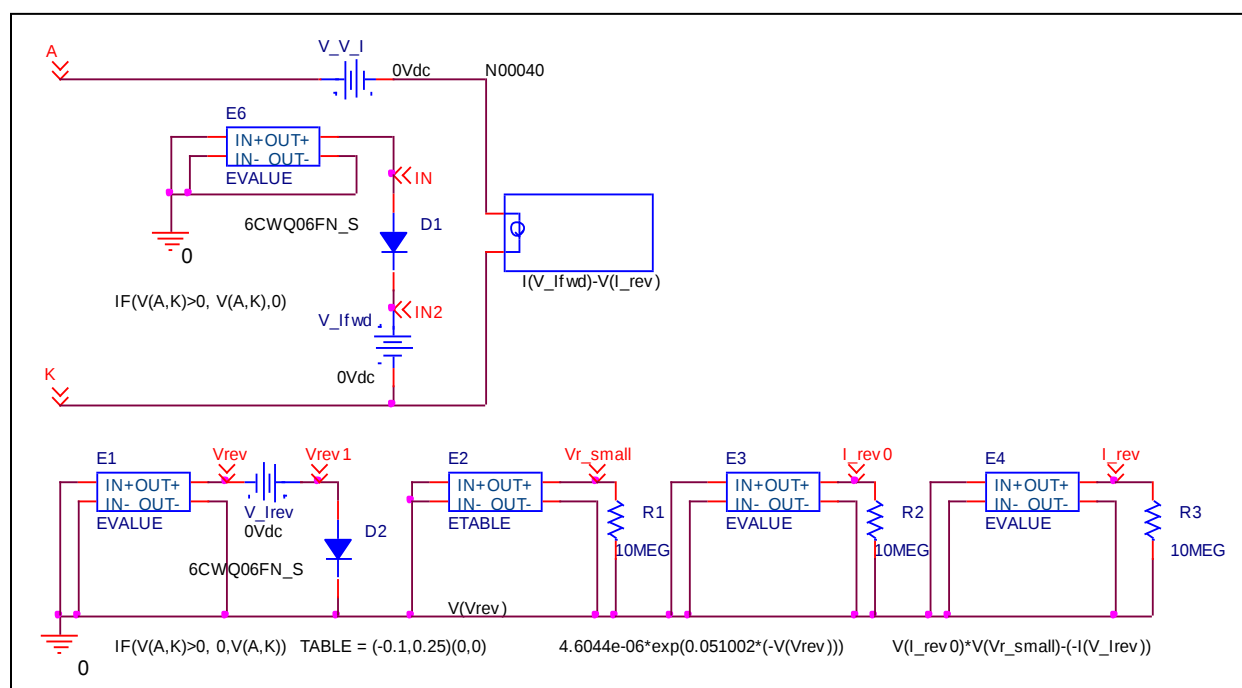
MANUFACTURER: INTERNATIONAL RECTIFIER



Bee Technologies Inc.

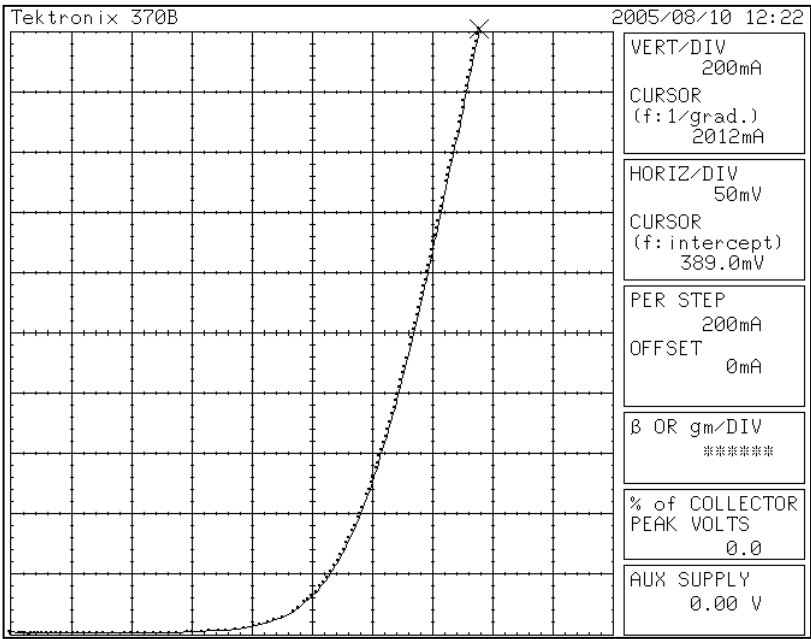
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

EQUIVALENT CIRCUIT



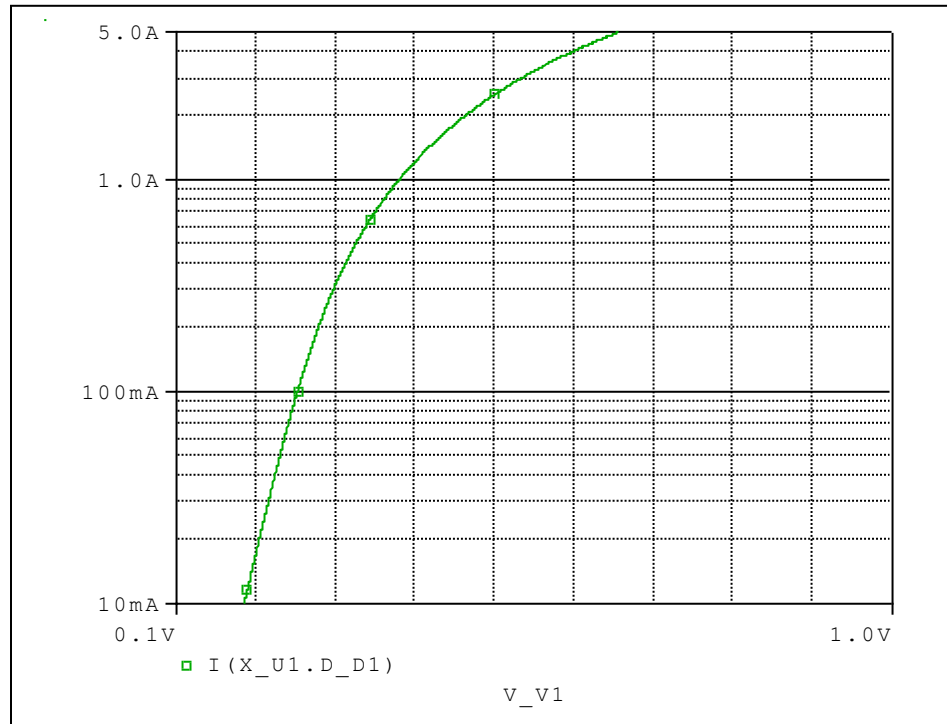
Forward Current Characteristic

Reference

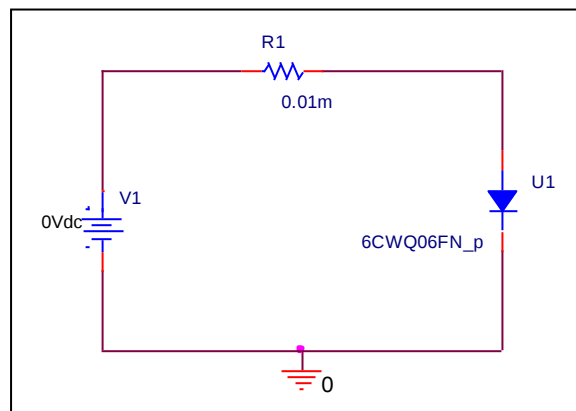


Forward Current Characteristic

Circuit Simulation Result

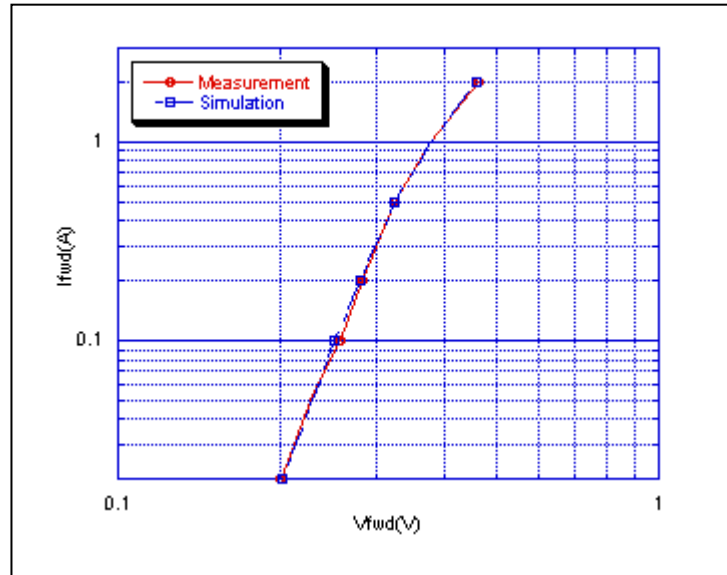


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

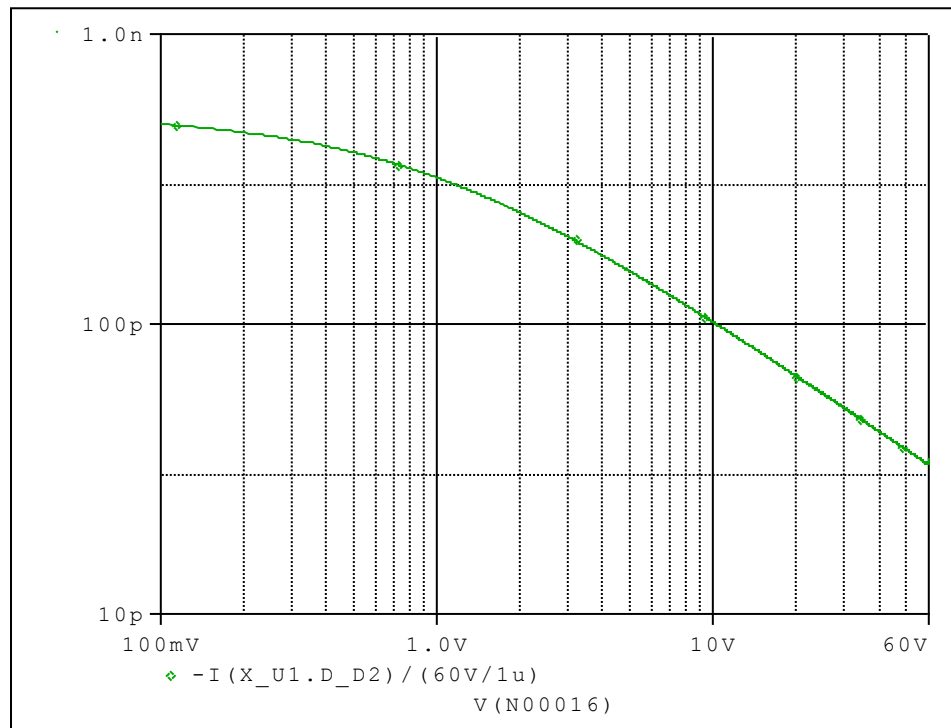


Simulation Result

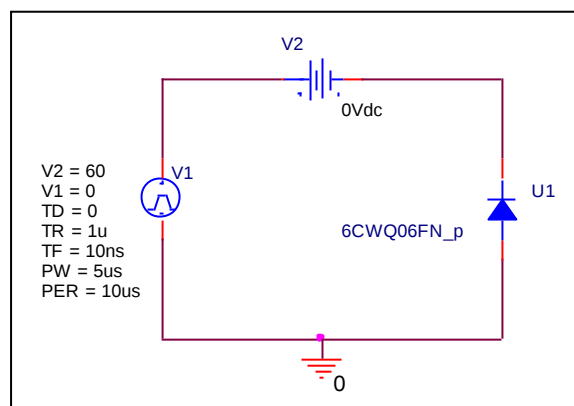
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.02	0.200	0.202	0.99
0.05	0.226	0.228	0.88
0.1	0.257	0.252	-1.98
0.2	0.283	0.280	-1.07
0.5	0.325	0.324	-0.31
1	0.377	0.379	0.53
2	0.463	0.462	-0.22

Junction Capacitance Characteristic

Circuit Simulation Result

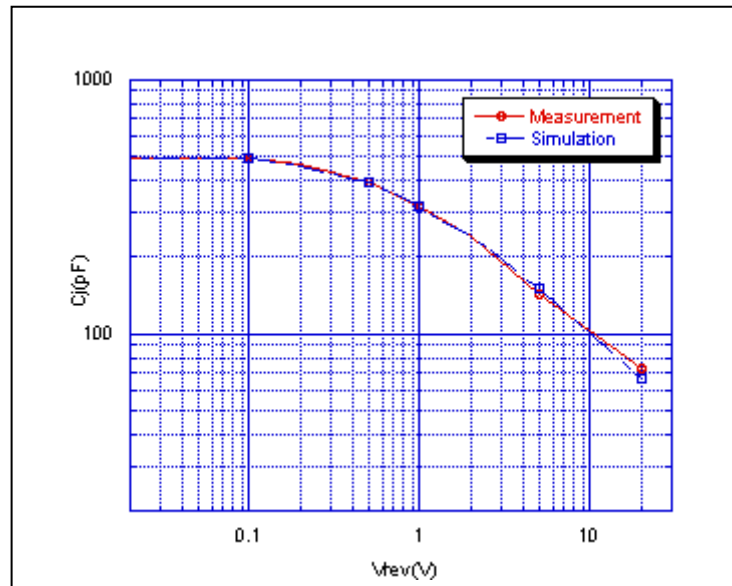


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

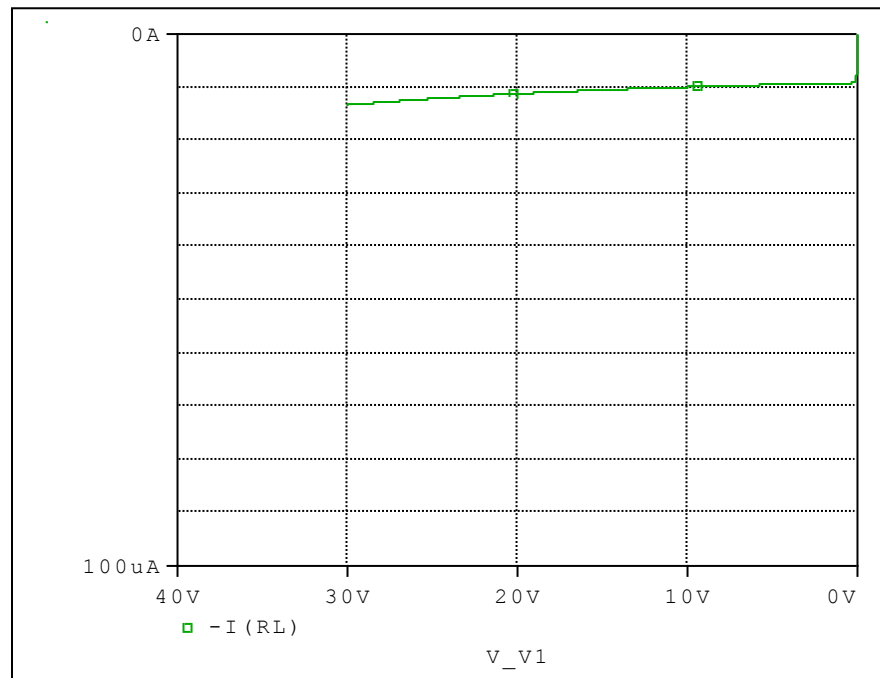


Simulation Result

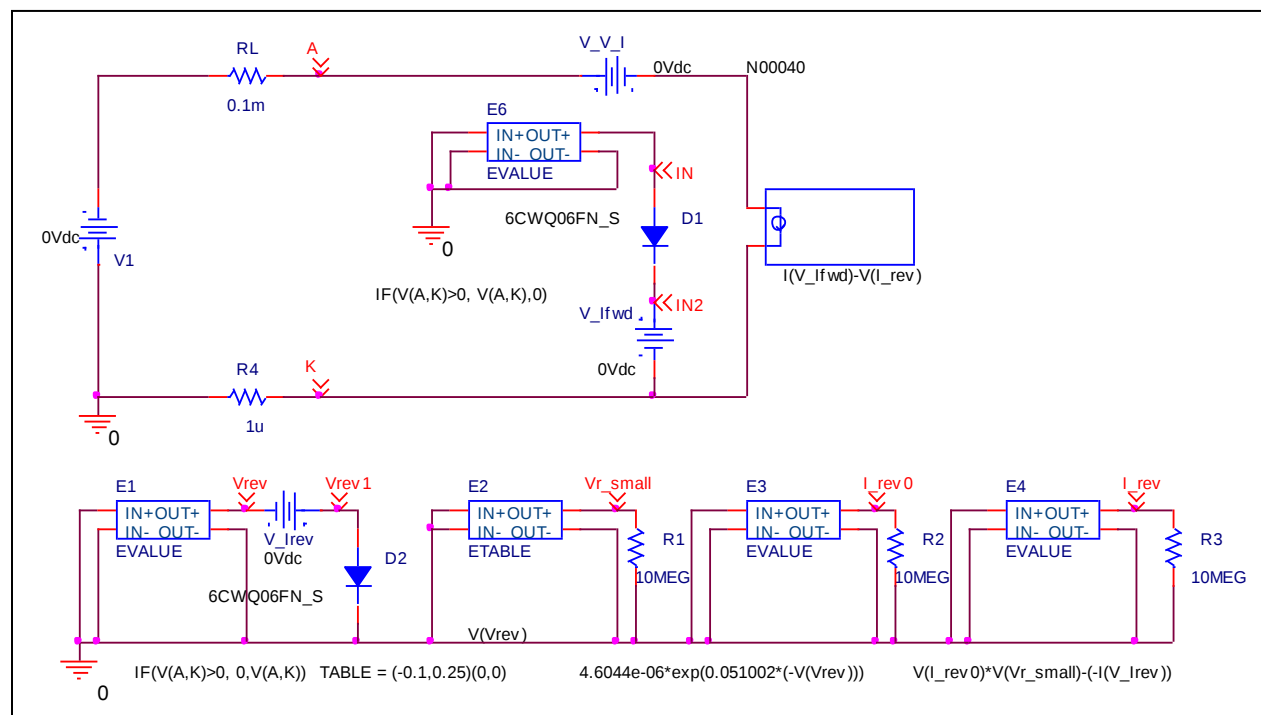
V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0	496.555	496.555	0.00
0.1	490.500	488.033	-0.51
0.2	460.900	459.226	-0.36
0.5	390.820	391.110	0.07
1	315.600	319.186	1.12
2	241.777	241.667	-0.05
5	143.300	145.600	1.58
10	102.304	100.637	-1.66

Reverse Characteristic

Circuit Simulation Result

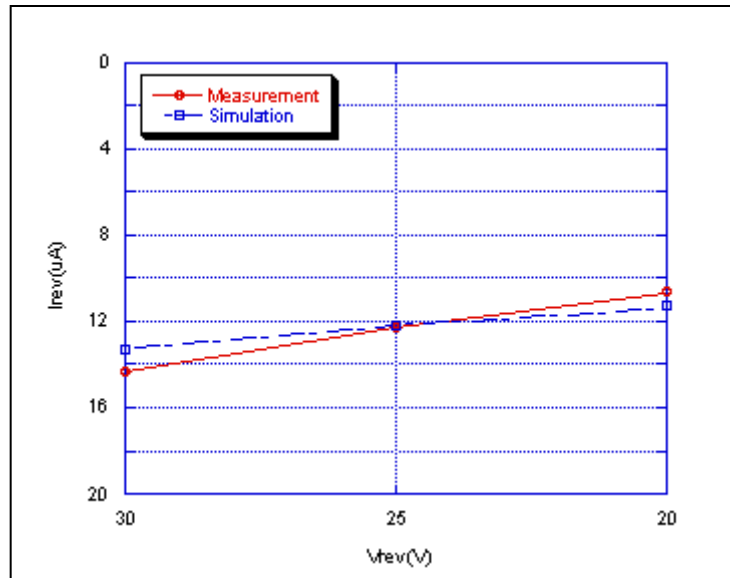


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

$V_{rev}(V)$	$I_{rev}(\mu A)$ Measurement	$I_{rev}(\mu A)$ Simulation	%Error
20	10.600	11.230	5.61
25	12.300	12.170	-1.07
30	14.300	13.350	-7.12

Reverse Characteristic

Reference

