

Device Modeling Report

COMPONENTS:

DIODE/ SCHOTTKY RECTIFIER / STANDARD

PART NUMBER: 30GWJ2C48C

MANUFACTURER: TOSHIBA

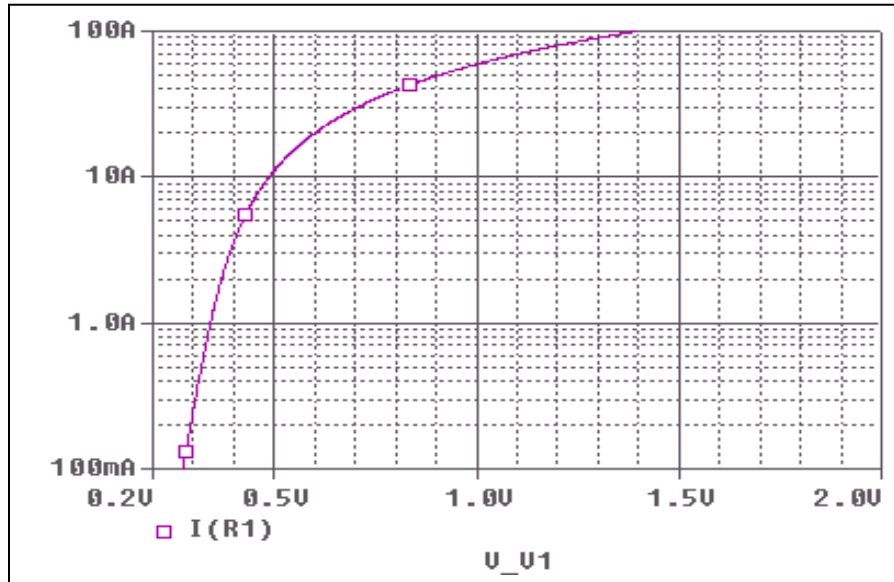


Bee Technologies Inc.

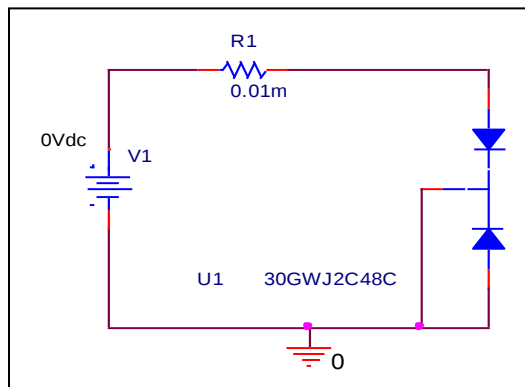
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

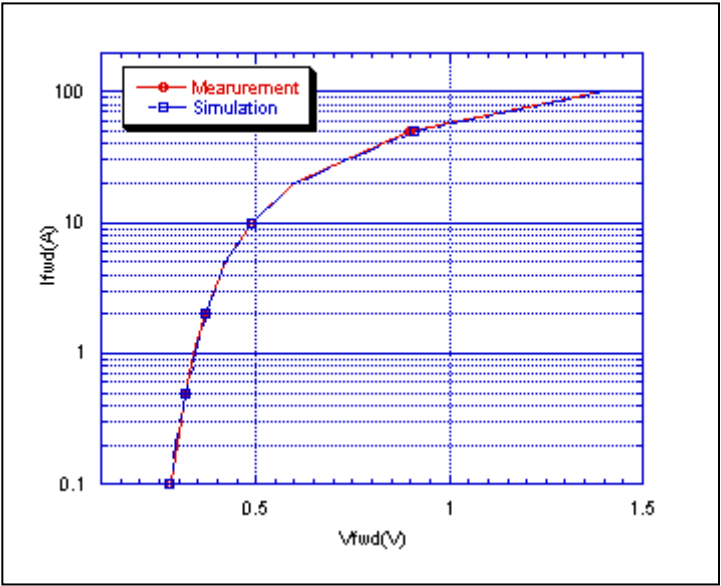


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

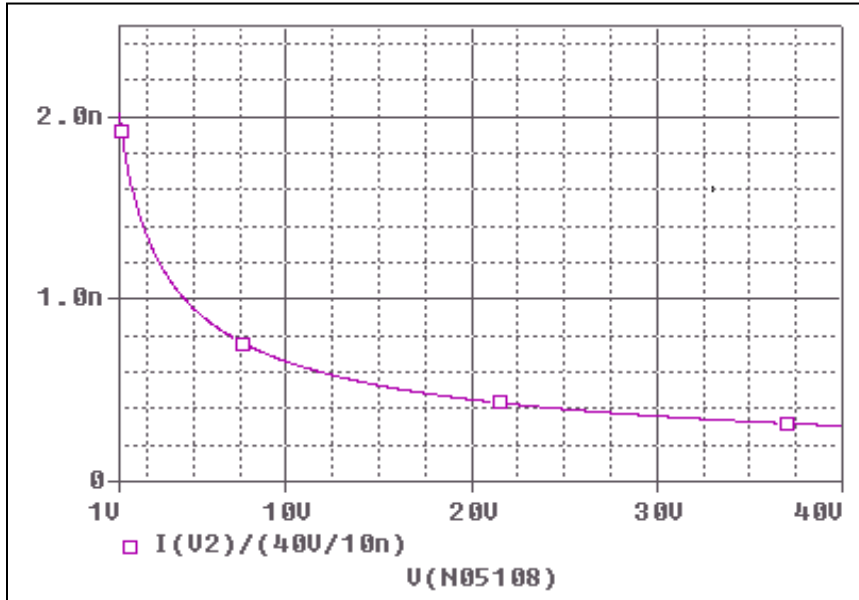


Simulation Result

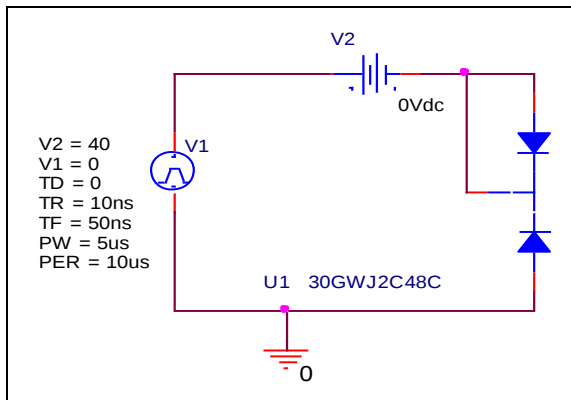
$I_{fwd}(A)$	$V_{fwd}(V)$ Measurement	$V_{fwd}(V)$ Simulation	%Error
0.1	0.275	0.275	-0.04
0.2	0.295	0.293	-0.68
0.5	0.320	0.320	-0.16
1	0.340	0.342	0.65
2	0.372	0.370	-0.54
5	0.420	0.423	0.67
10	0.490	0.487	-0.63
20	0.600	0.599	-0.10
50	0.900	0.907	0.78
100	1.400	1.401	0.04

Junction Capacitance Characteristic

Circuit Simulation Result

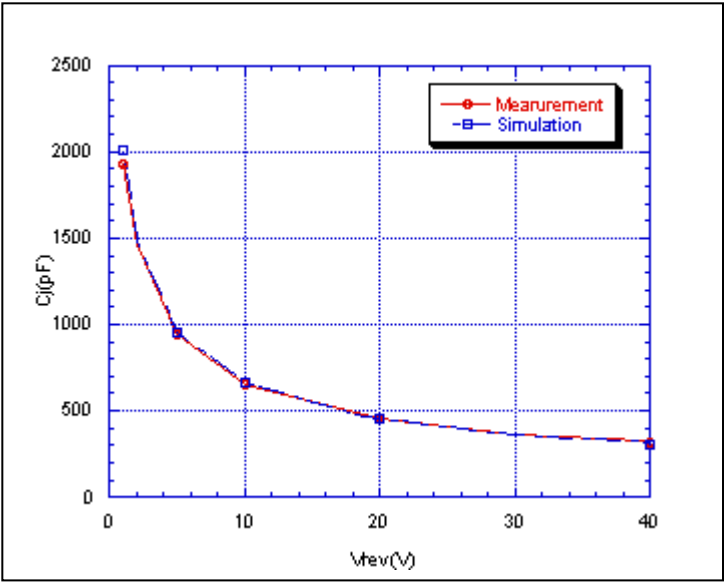


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	1930.00	2014.50	4.38
2	1460.00	1489.90	2.05
5	940.00	949.80	1.04
10	650.00	658.30	1.28
20	450.00	449.80	-0.04
30	360.00	358.50	-0.42
40	310.00	306.20	-1.23