

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER /STANDARD
PART NUMBER: U5GWJ2C42C
MANUFACTURER: TOSHIBA

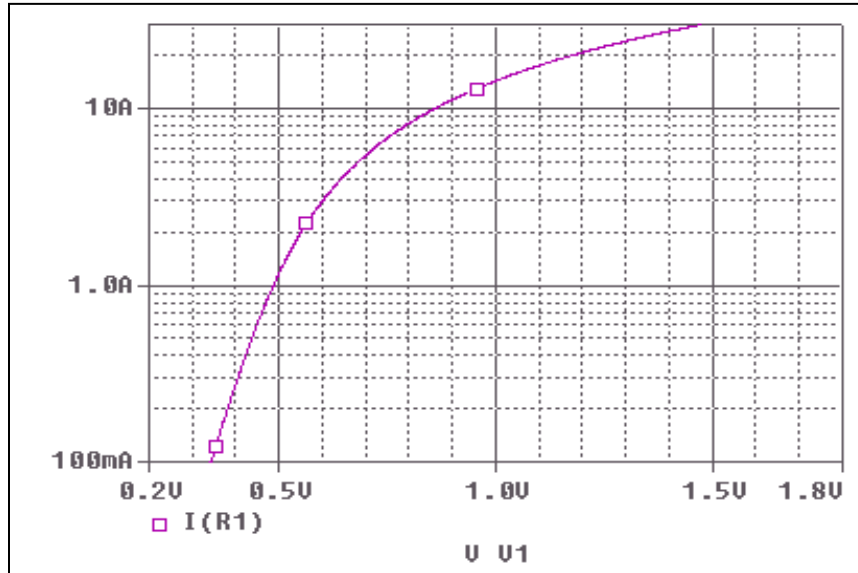


Bee Technologies Inc.

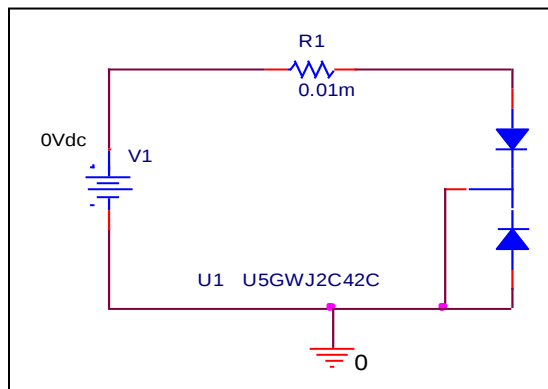
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

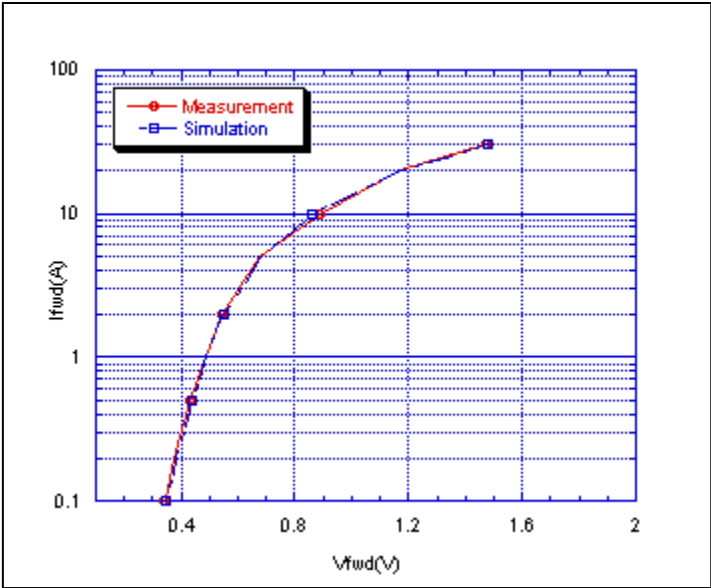


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

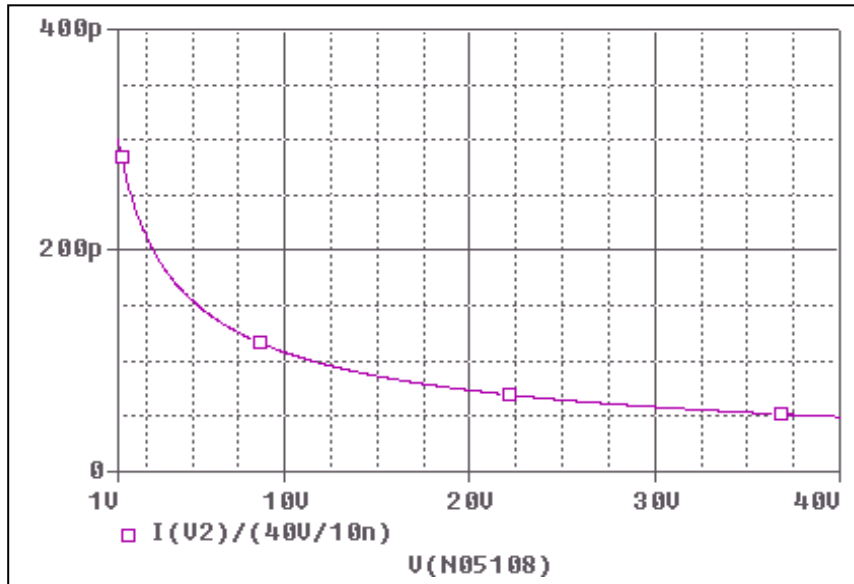


Simulation Result

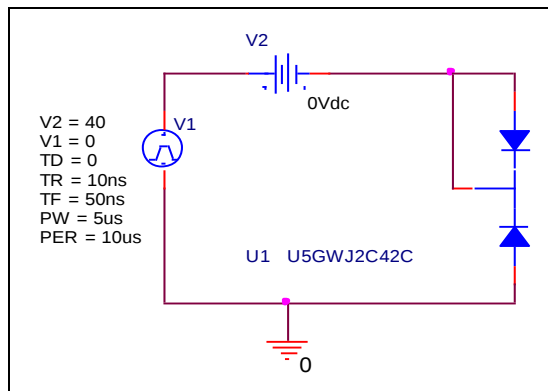
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.1	0.340	0.343	0.91
0.2	0.378	0.381	0.90
0.5	0.433	0.437	0.95
1	0.485	0.487	0.41
2	0.545	0.551	1.08
5	0.680	0.683	0.37
10	0.885	0.859	-2.94
20	1.170	1.175	0.44
30	1.470	1.478	0.56

Junction Capacitance Characteristic

Circuit Simulation Result

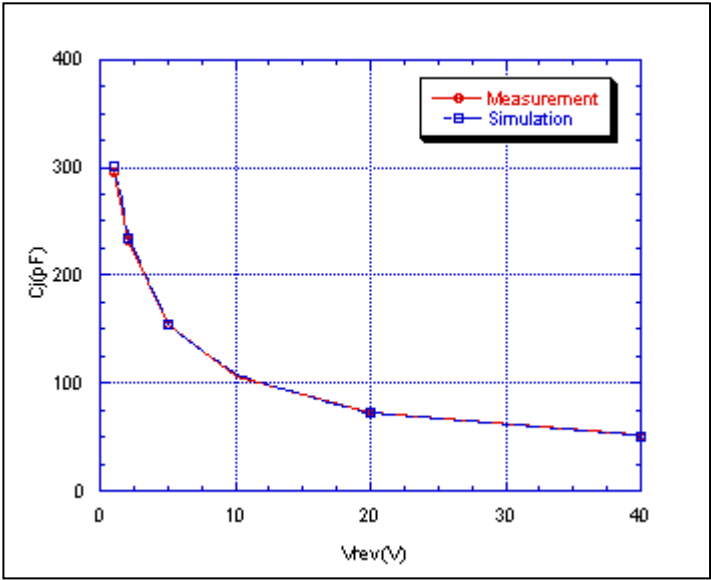


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF)		%Error
	Measurement	Simulation	
1	295.00	301.00	2.03
2	232.00	234.60	1.12
5	155.00	154.90	-0.06
10	107.00	108.00	0.93
20	73.50	73.60	0.14
40	50.00	50.10	0.20