

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER /STANDARD
PART NUMBER: U1GWJ2C49
MANUFACTURER: TOSHIBA

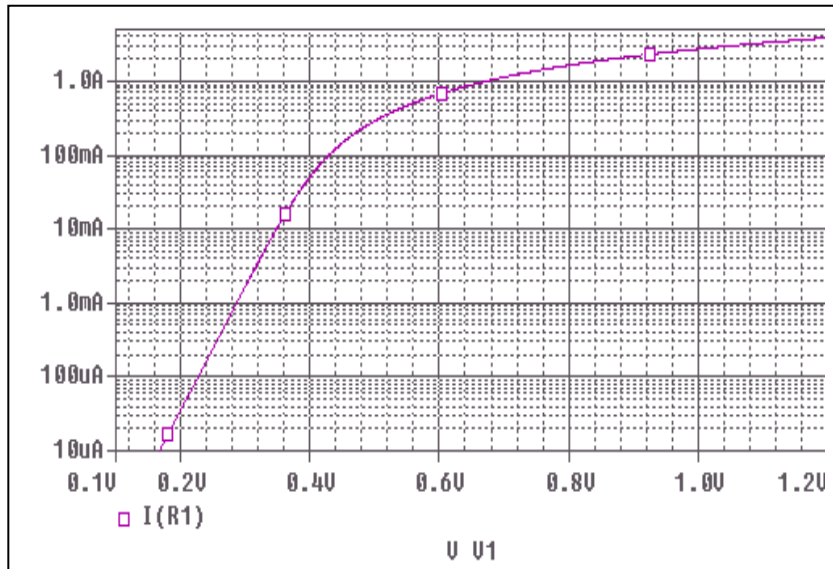


Bee Technologies Inc.

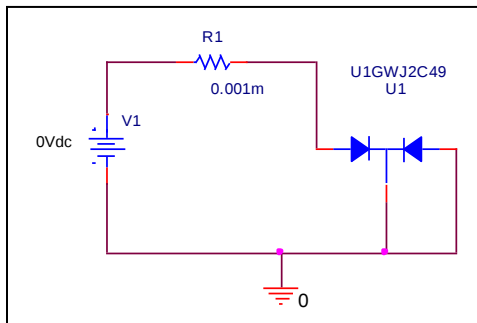
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

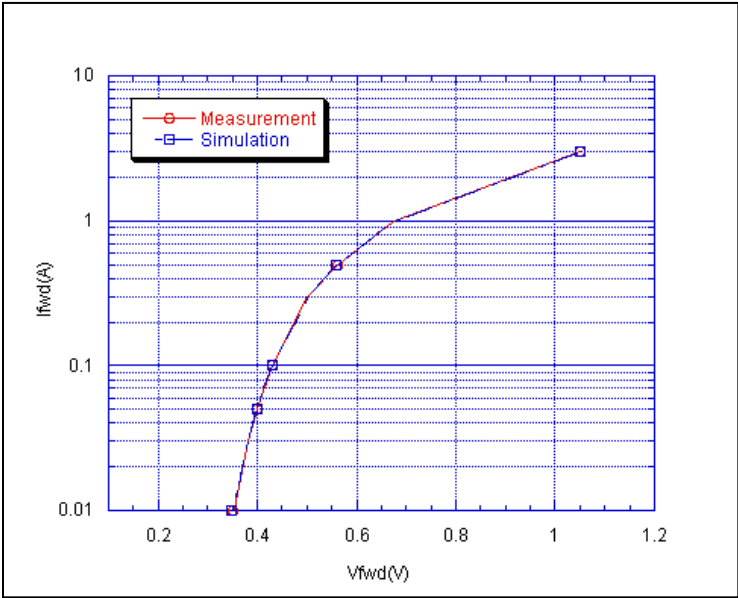


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

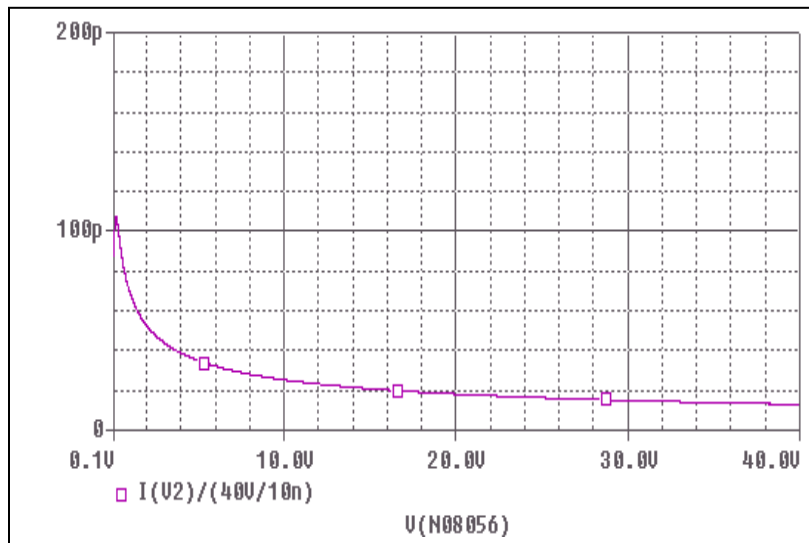


Simulation Result

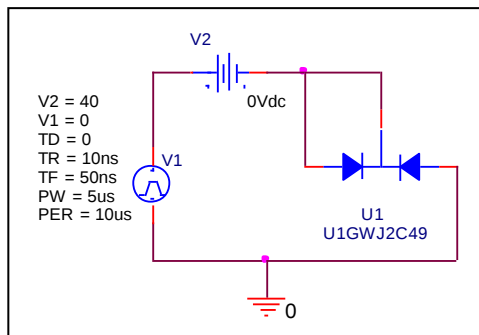
$I_{fwd}(A)$	$V_{fwd}(V)$ Measurement	$V_{fwd}(V)$ Simulation	%Error
0.01	0.350	0.348	-0.66
0.03	0.380	0.381	0.26
0.05	0.400	0.400	-0.10
0.1	0.430	0.429	-0.14
0.3	0.500	0.503	0.68
0.5	0.560	0.559	-0.21
1	0.675	0.673	-0.27
3	1.050	1.051	0.05

Junction Capacitance Characteristic

Circuit Simulation Result

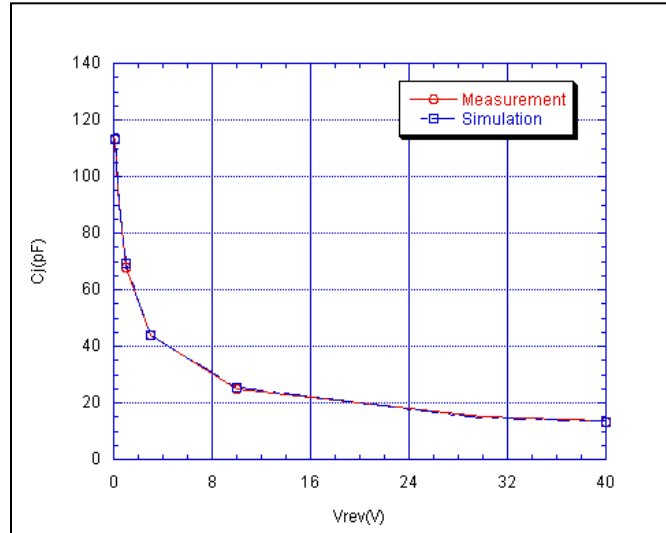


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0.1	115.00	113.00	-1.74
0.3	97.00	98.00	1.03
1	68.00	69.30	1.91
3	44.00	44.10	0.23
10	25.00	25.20	0.80
30	15.00	14.90	-0.67
40	13.00	13.08	0.61