

Device Modeling Report

COMPONENTS:

DIODE/ SCHOOTKY RECTIFIER / STANDARD

PART NUMBER: U30GWJ2C53C

MANUFACTURER: TOSHIBA

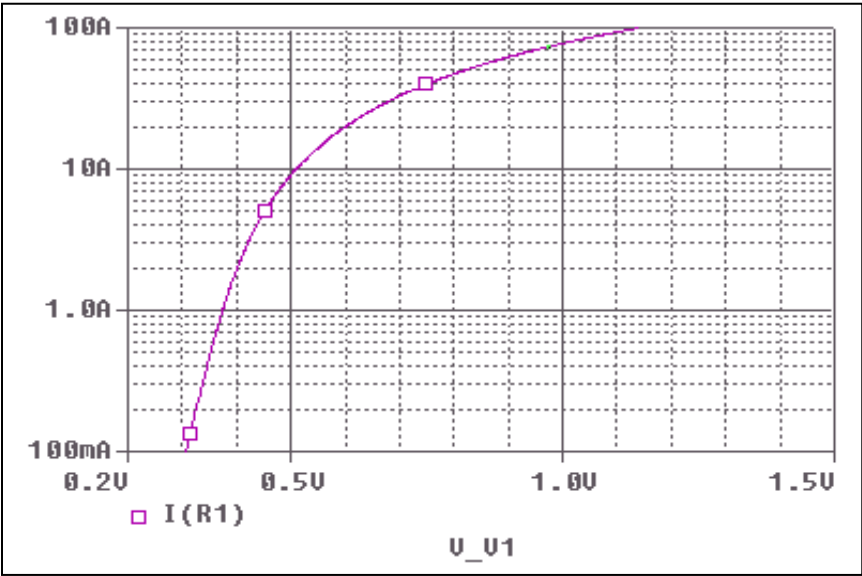


Bee Technologies Inc.

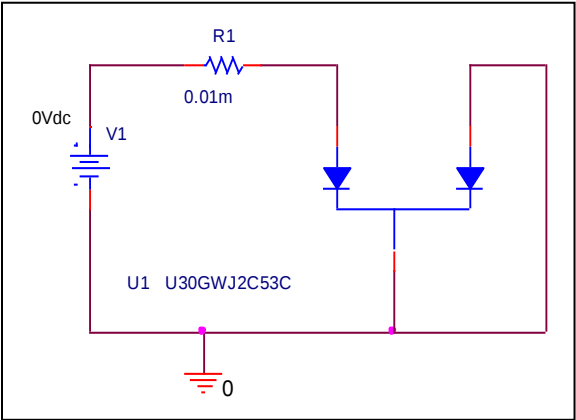
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

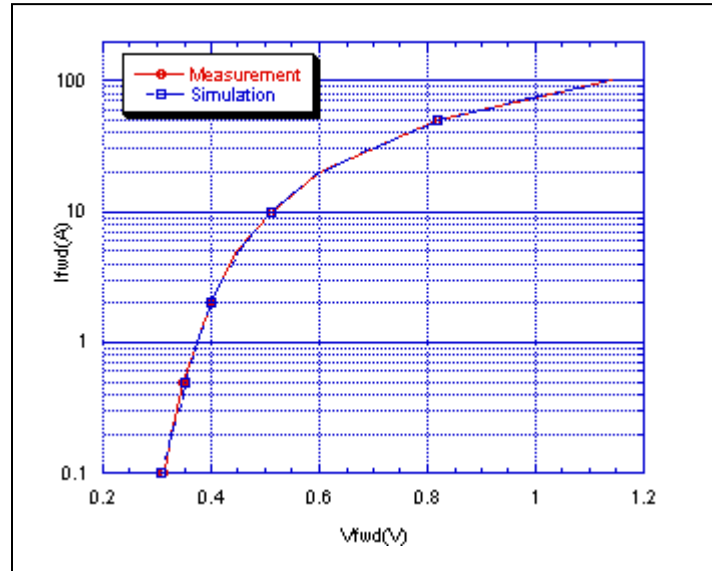


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

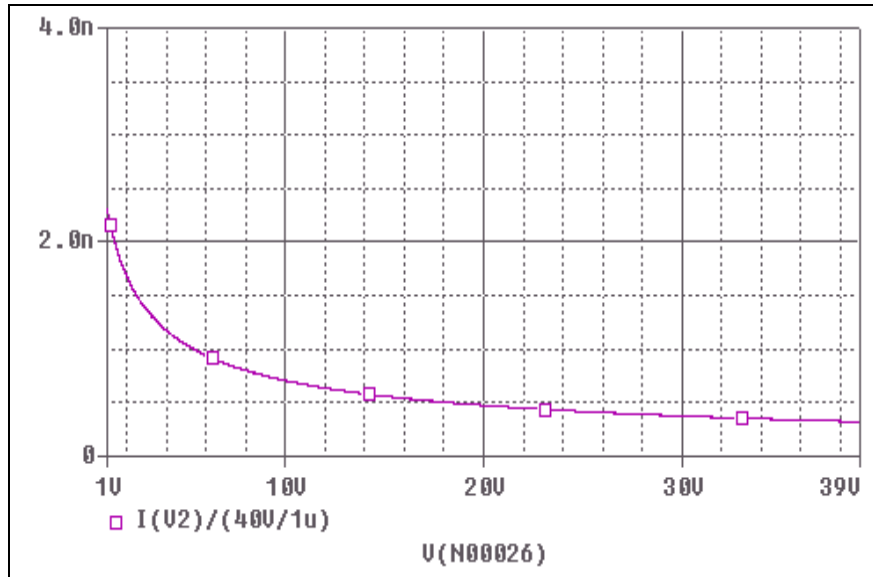


Simulation Result

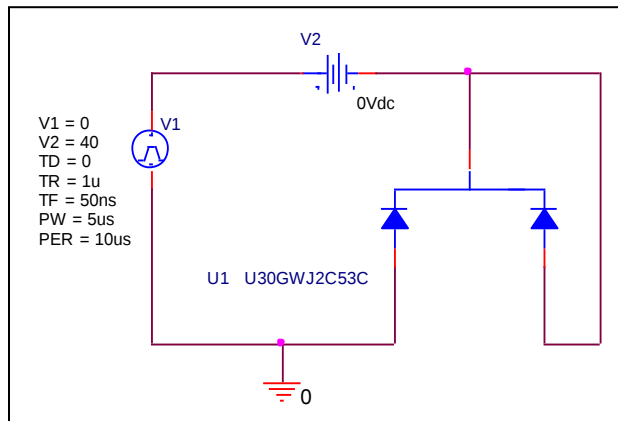
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.1	0.310	0.307	-1.06
0.2	0.325	0.326	0.15
0.5	0.350	0.352	0.54
1	0.375	0.374	-0.19
2	0.400	0.401	0.30
5	0.450	0.452	0.33
10	0.510	0.510	-0.08
20	0.600	0.601	0.17
50	0.820	0.820	-0.06
100	1.140	1.142	0.20

Junction Capacitance Characteristic

Circuit Simulation Result

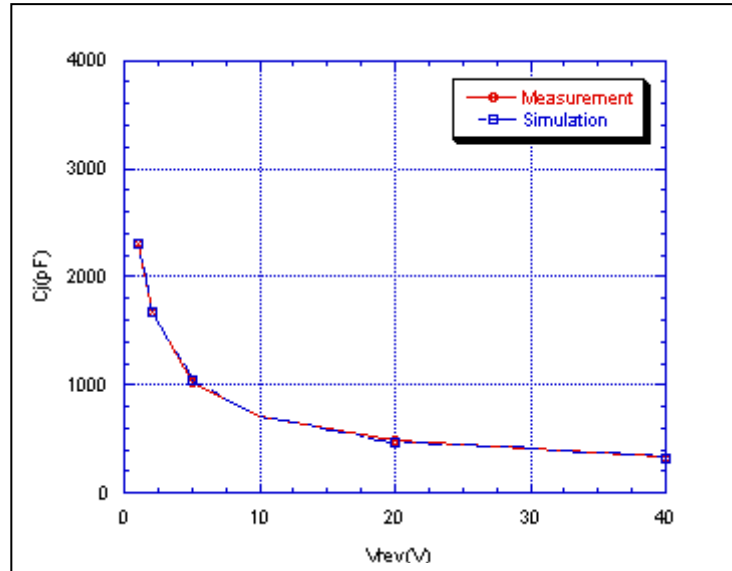


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

$V_{rev}(V)$	$C_j(pF)$ Measurement	$C_j(pF)$ Simulation	%Error
1	2300.00	2301.10	0.05
2	1680.00	1675.50	-0.27
5	1030.00	1038.90	0.86
10	700.00	701.50	0.21
20	485.00	476.70	-1.71
40	325.00	323.20	-0.55