

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / STANDARD
PART NUMBER: CRS04
MANUFACTURER: TOSHIBA

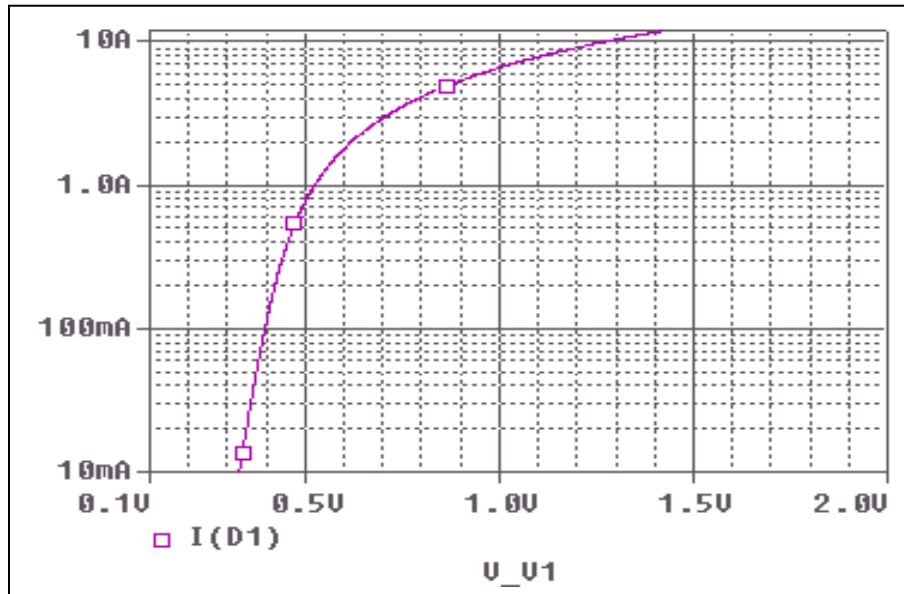


Bee Technologies Inc.

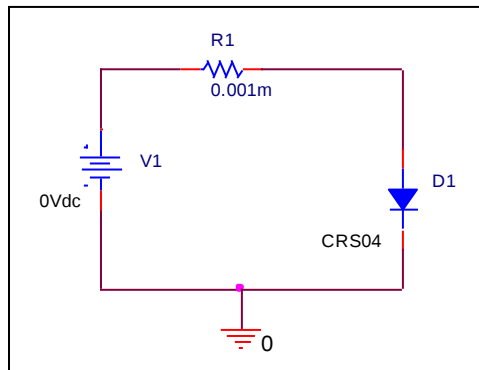
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

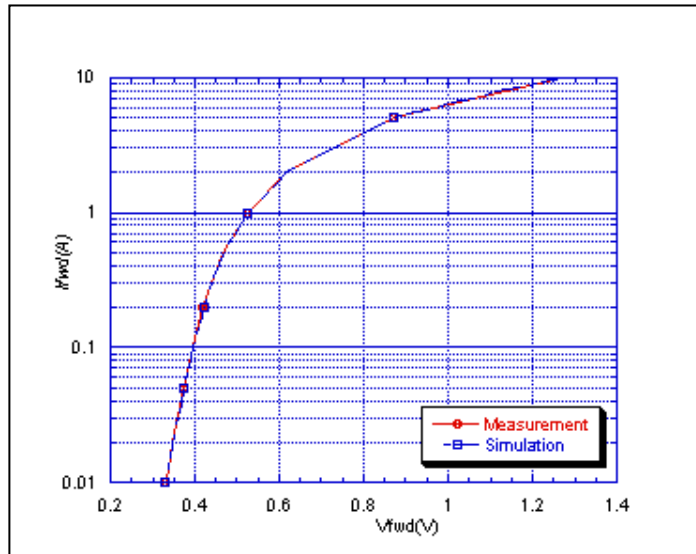


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

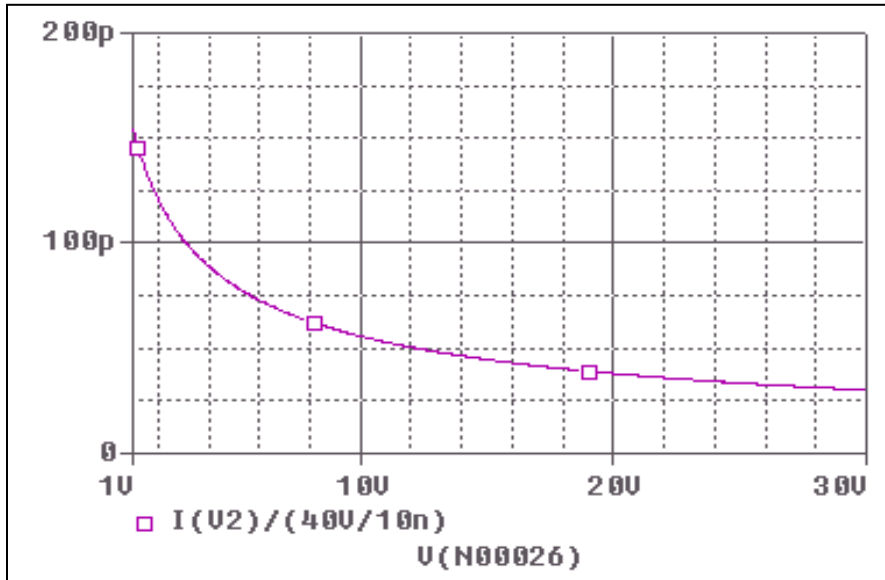


Simulation Result

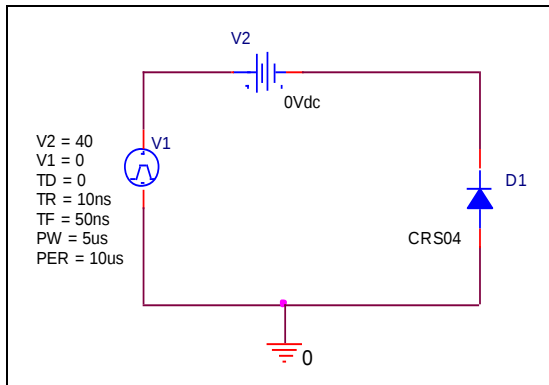
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.01	0.329	0.329	0.12
0.02	0.348	0.349	0.17
0.05	0.375	0.375	-0.11
0.1	0.396	0.396	0.10
0.2	0.420	0.422	0.45
0.5	0.468	0.469	0.11
1	0.524	0.525	0.10
2	0.618	0.619	0.11
5	0.870	0.871	0.13
10	1.270	1.272	0.12

Junction Capacitance Characteristic

Circuit Simulation Result

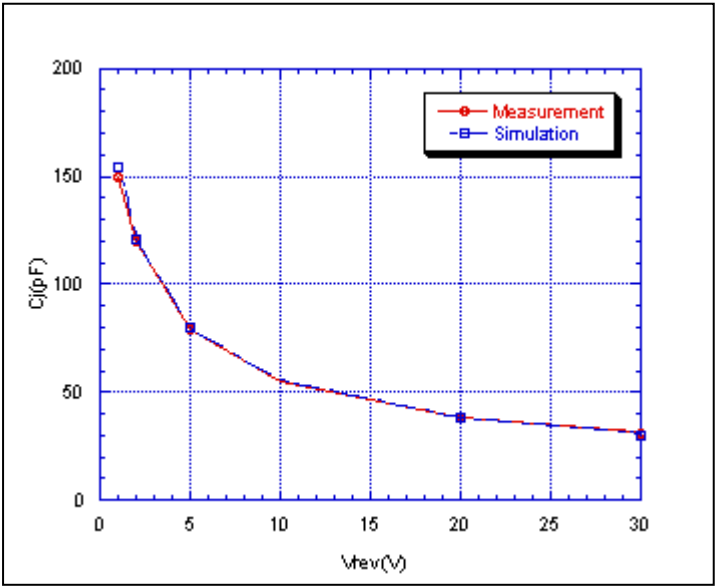


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	150.00	154.60	3.07
2	120.00	120.70	0.58
5	79.00	79.90	1.14
10	55.00	55.70	1.27
20	38.00	38.00	0.00
30	31.00	30.20	-2.58