

Device Modeling Report

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

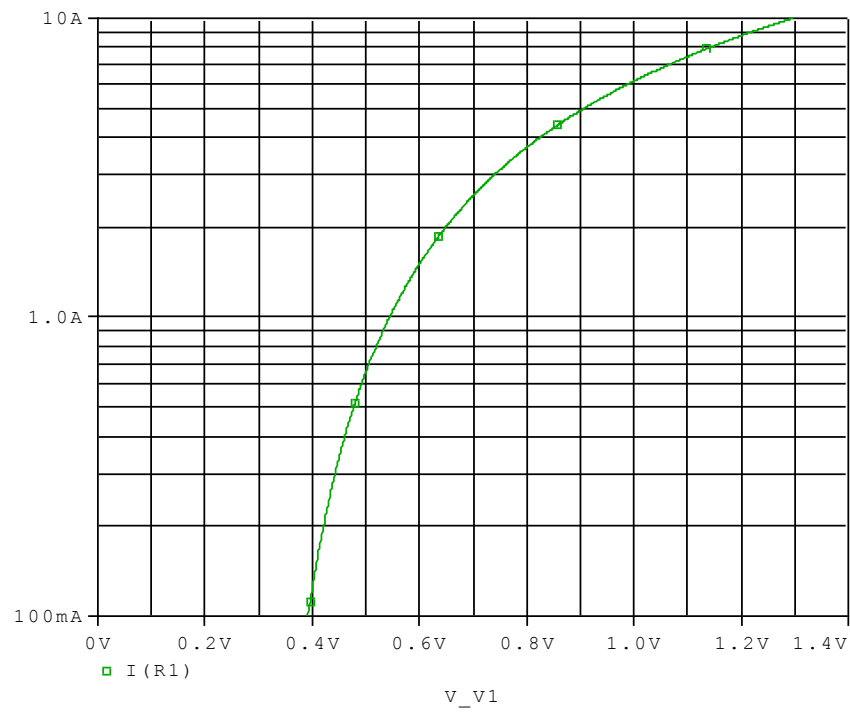


Bee Technologies Inc.

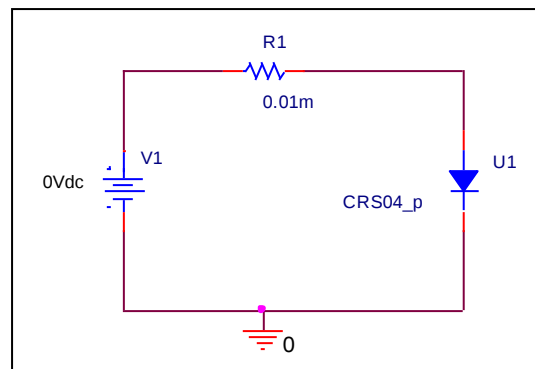
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

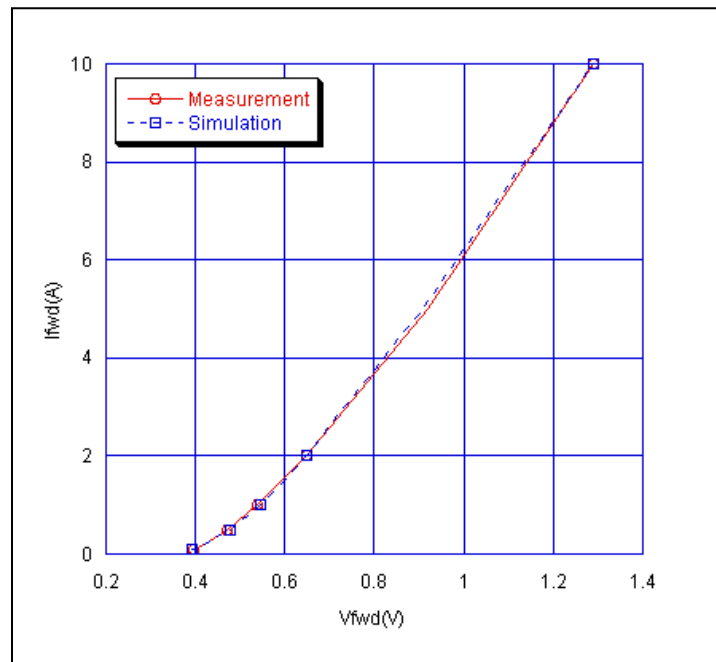


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

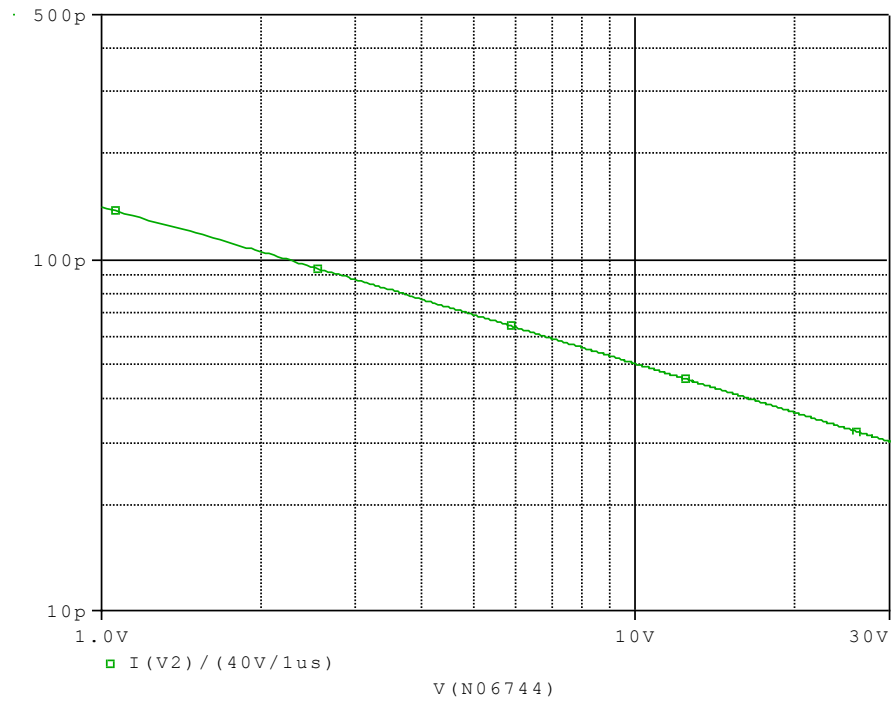


Simulation Result

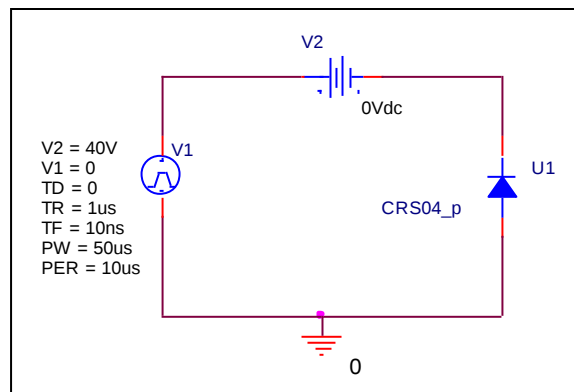
Ifwd(A)	Vfwd(V)		%Error
	Measurement	Simulation	
0.100	0.396	0.392	1.010
0.200	0.420	0.420	0.000
0.500	0.470	0.477	1.489
1.000	0.540	0.544	0.741
2.000	0.650	0.649	0.154
5.000	0.920	0.908	1.304
10.000	1.290	1.290	0.000

Capacitance Characteristic

Circuit Simulation Result

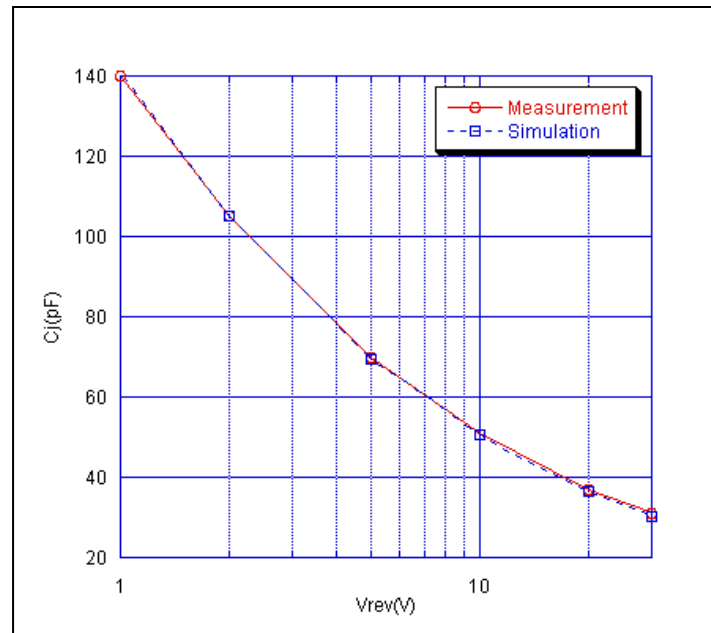


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

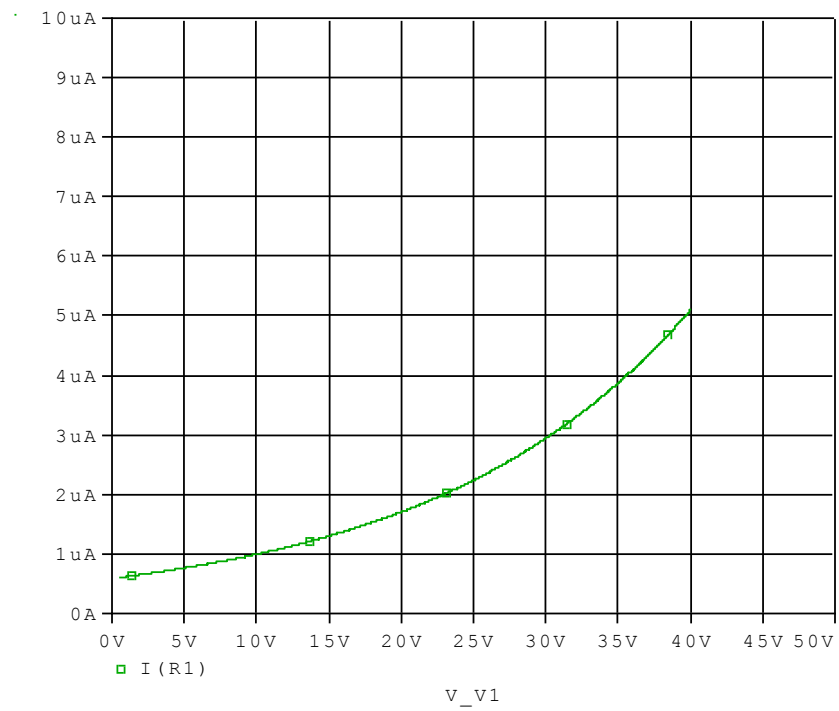


Simulation Result

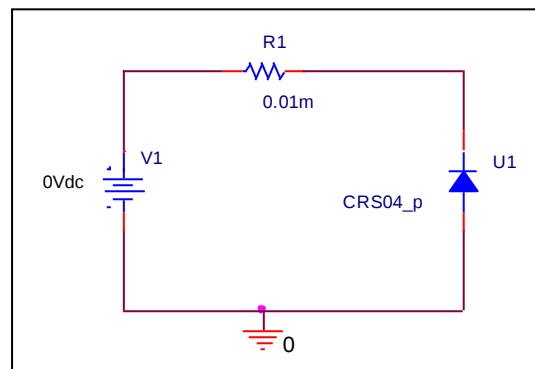
Vrev(V)	Cj(pF)		%Error
	Measurement	Simulation	
1.000	140.000	140.936	0.669
2.000	105.000	105.060	0.057
5.000	70.000	69.554	0.637
10.000	51.000	50.592	0.800
20.000	37.000	36.567	1.170
30.000	31.000	30.352	2.090

Reverse Characteristic

Circuit Simulation Result

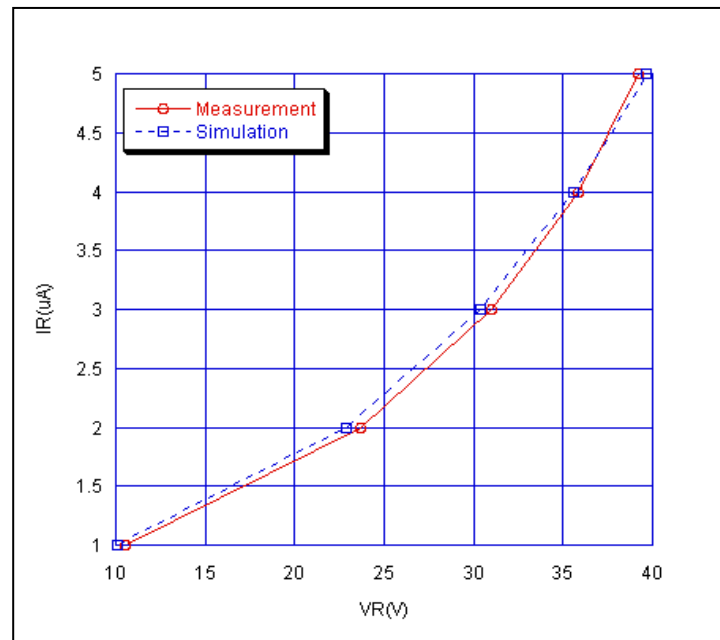


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

$I_R(\mu A)$	$V_R(V)$		Error(%)
	Measurement	Simulation	
1.000	10.500	10.089	- 3.914
2.000	23.700	22.928	- 3.257
3.000	31.000	30.363	- 2.055
4.000	35.900	35.581	- 0.889
5.000	39.250	39.657	1.037

Reverse Characteristic

Reference

