

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTKY RECTIFIER / STANDARD
PART NUMBER: CRS12
MANUFACTURER: TOSHIBA

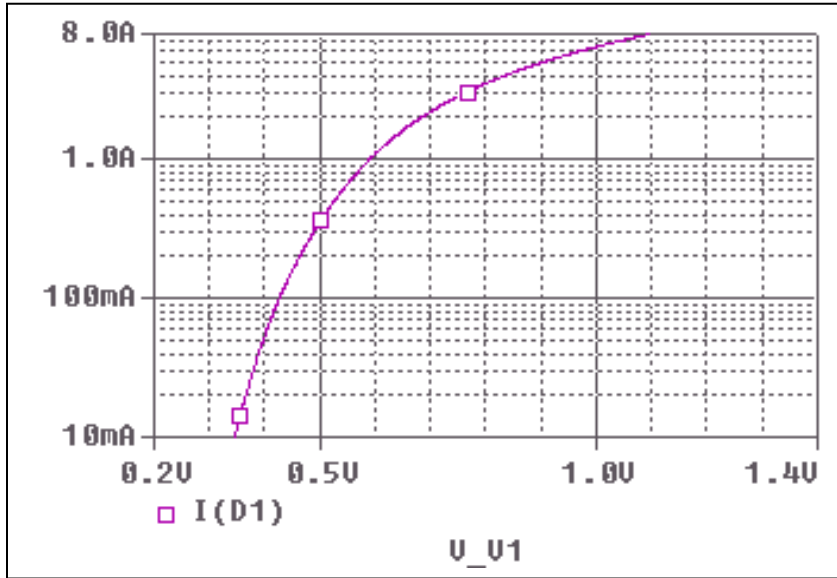


Bee Technologies Inc.

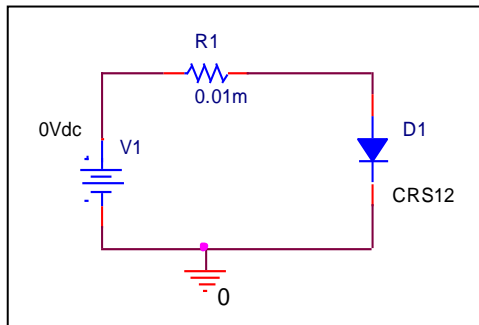
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

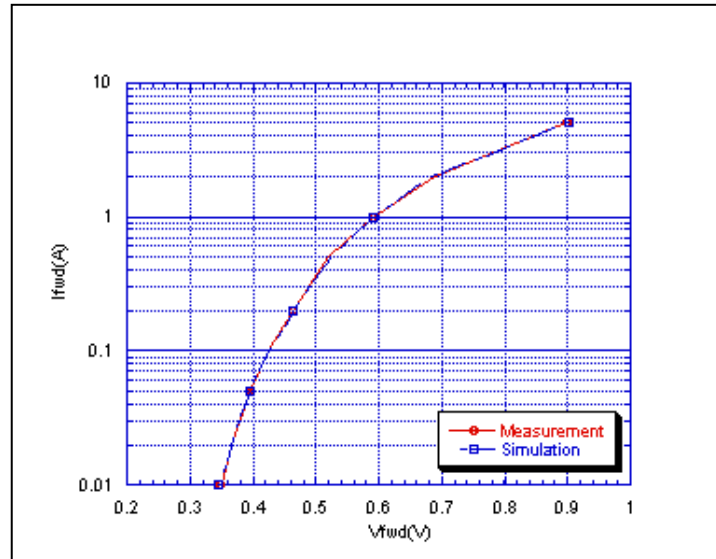


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

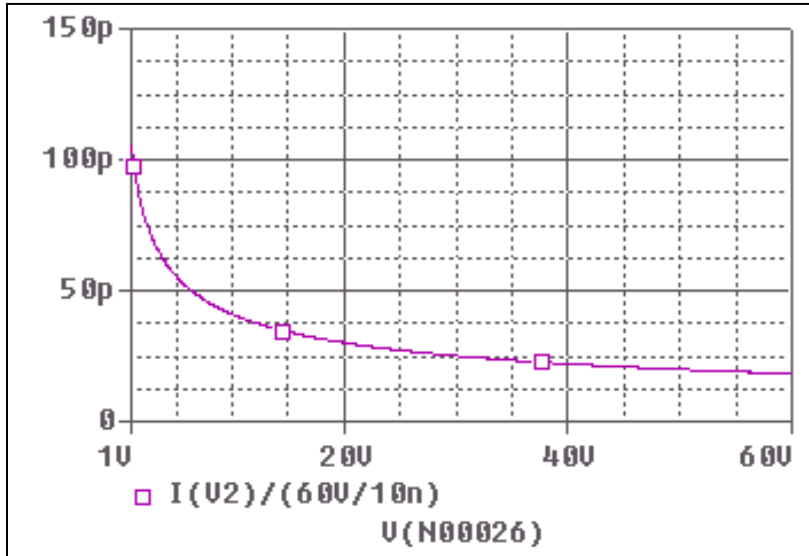


Simulation Result

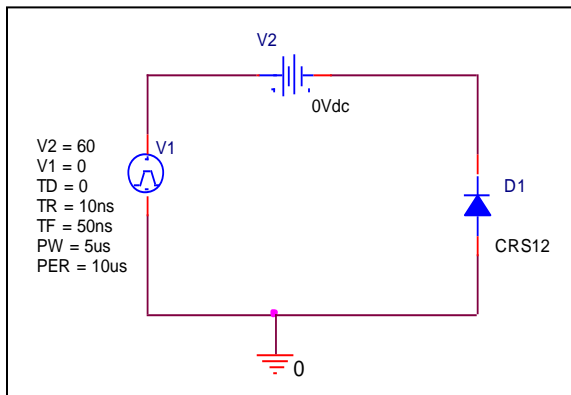
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.01	0.347	0.346	-0.43
0.02	0.365	0.366	0.27
0.05	0.397	0.397	0.03
0.1	0.425	0.426	0.31
0.2	0.465	0.463	-0.43
0.5	0.520	0.526	1.08
1	0.590	0.590	-0.03
2	0.690	0.683	-1.00
5	0.900	0.902	0.27

Junction Capacitance Characteristic

Circuit Simulation Result

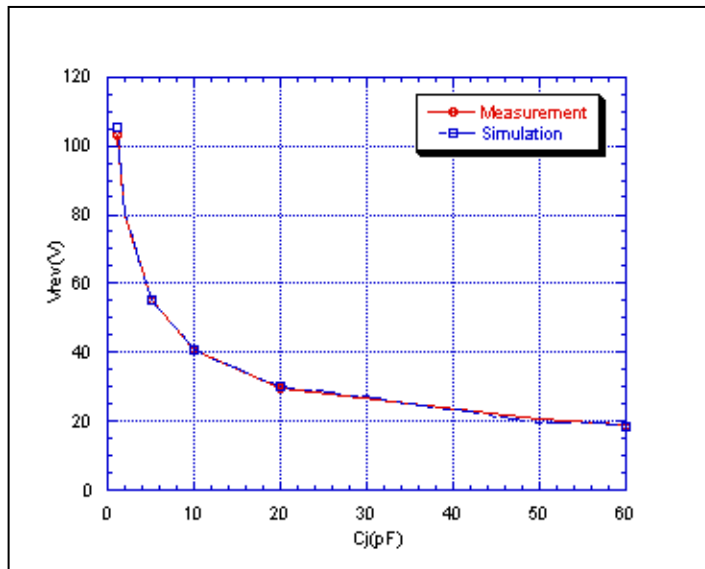


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	103.00	105.30	2.23
2	80.00	81.00	1.25
5	55.00	55.40	0.73
10	41.20	41.00	-0.49
20	29.70	30.00	1.01
50	20.20	19.80	-1.98
60	18.50	18.30	-1.08