

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / STANDARD
PART NUMBER: CRS03
MANUFACTURER: TOSHIBA

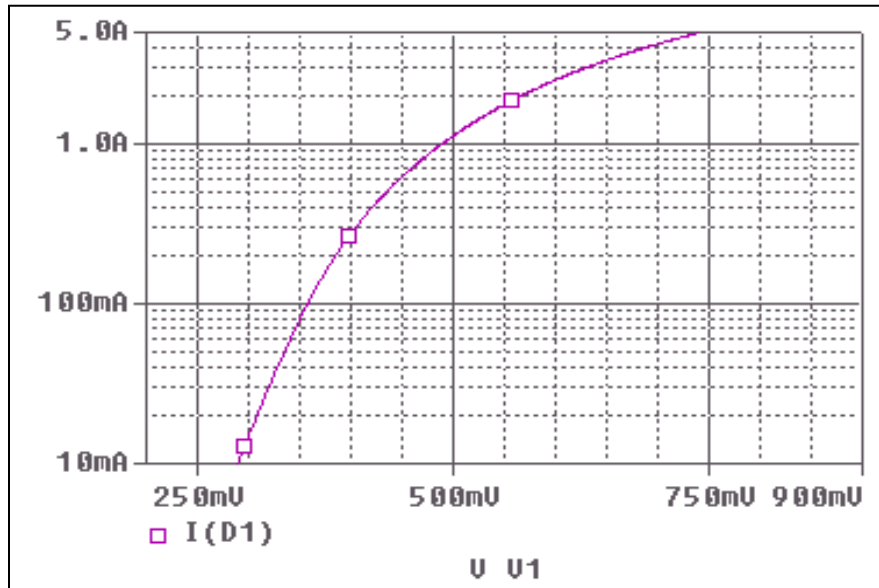


Bee Technologies Inc.

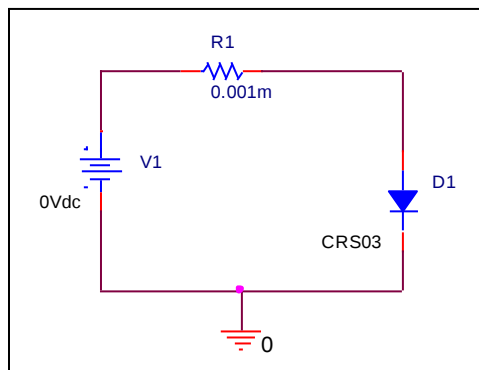
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

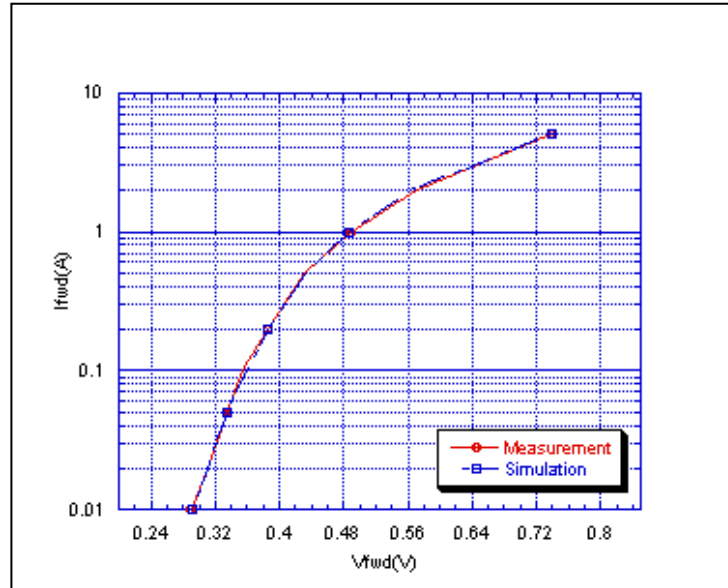


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

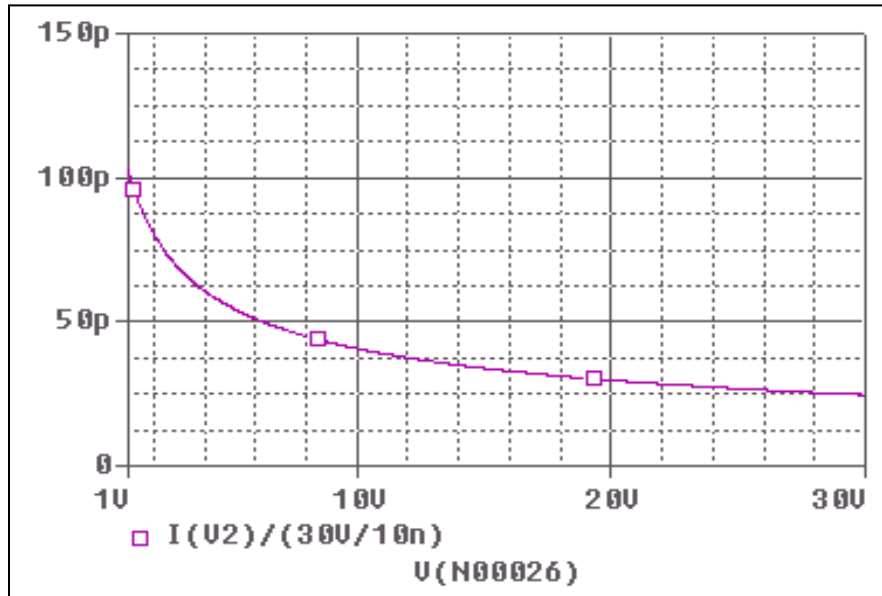


Simulation Result

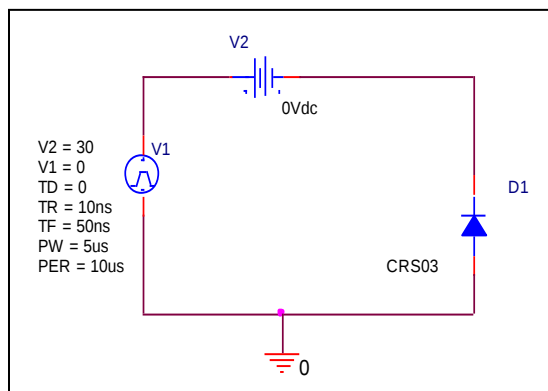
$I_{fwd}(A)$	$V_{fwd}(V)$ Measurement	$V_{fwd}(V)$ Simulation	%Error
0.01	0.290	0.291	0.28
0.02	0.310	0.310	0.10
0.05	0.335	0.336	0.30
0.1	0.355	0.358	0.96
0.2	0.385	0.385	0.08
0.5	0.430	0.434	0.91
1	0.490	0.487	-0.71
2	0.570	0.564	-0.98
5	0.740	0.739	-0.16

Junction Capacitance Characteristic

Circuit Simulation Result

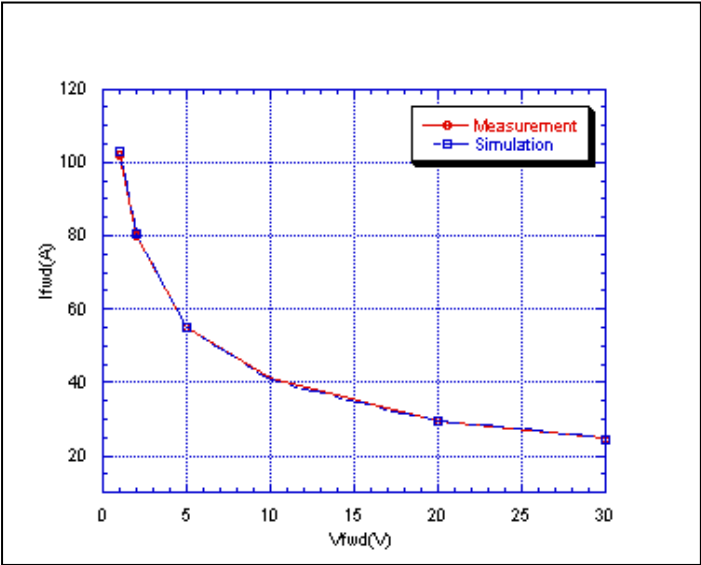


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	102.000	102.800	0.78
2	80.000	80.300	0.37
5	55.000	55.200	0.36
10	41.000	40.700	-0.73
20	29.700	29.600	-0.34
30	24.500	24.600	0.41