

# Device Modeling Report

COMPONENTS:  
DIODE/ SCHOOTKY RECTIFIER / STANDARD  
PART NUMBER: CRS01  
MANUFACTURER: TOSHIBA

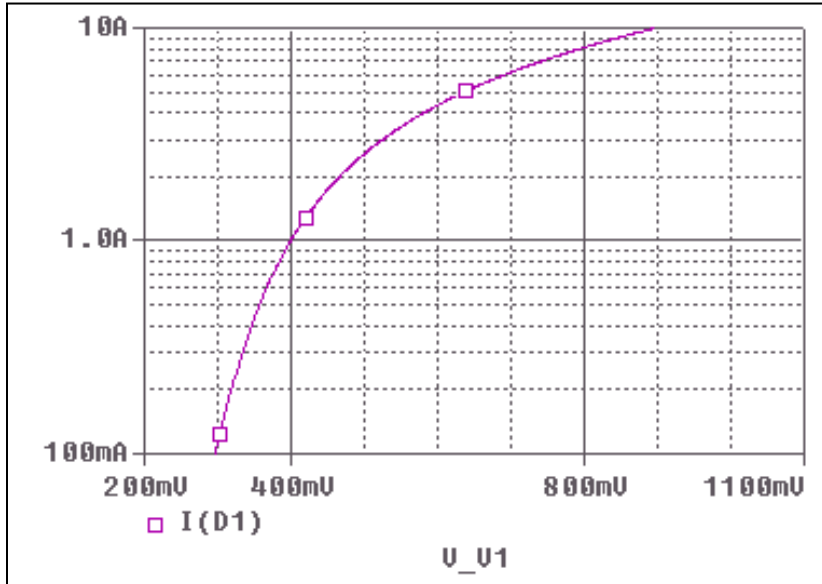


**Bee Technologies Inc.**

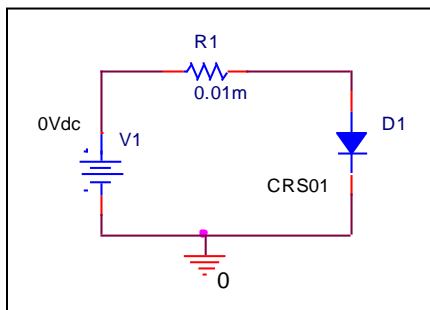
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

# Forward Current Characteristic

## Circuit Simulation Result

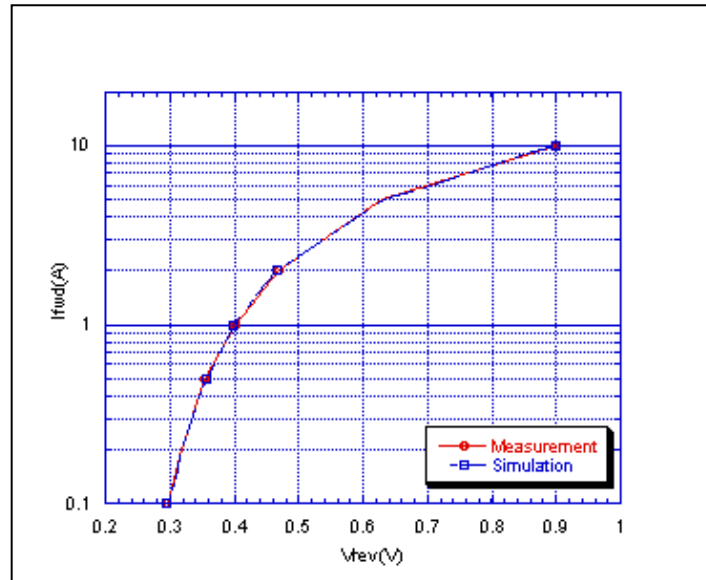


## Evaluation Circuit



# Comparison Graph

## Circuit Simulation Result

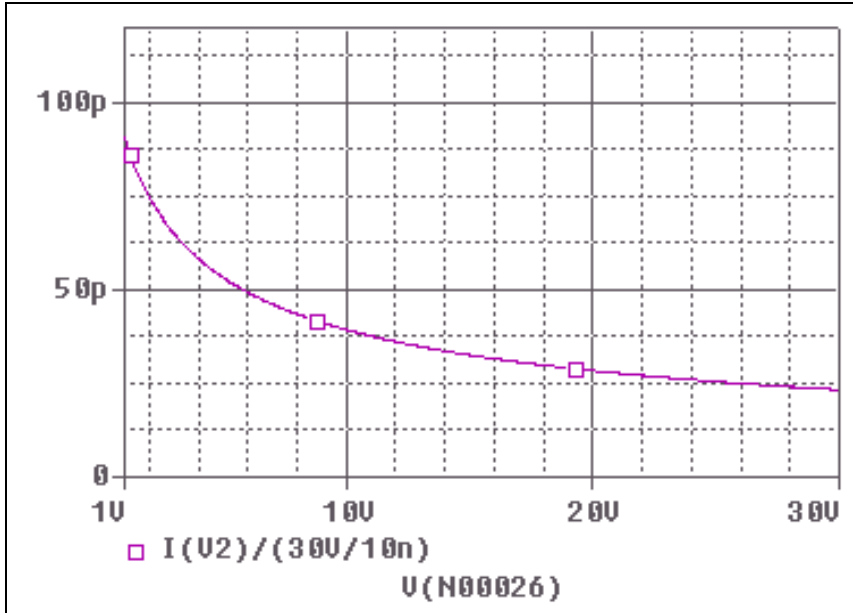


## Simulation Result

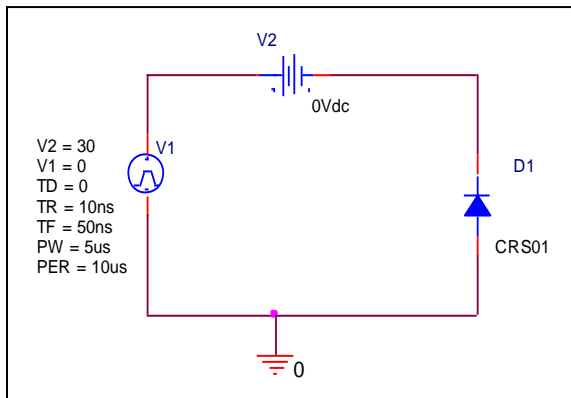
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.295	0.296	0.24
0.2	0.320	0.319	-0.47
0.5	0.355	0.357	0.51
1	0.400	0.399	-0.20
2	0.470	0.466	-0.87
5	0.630	0.636	0.95
10	0.900	0.898	-0.23

# Junction Capacitance Characteristic

## Circuit Simulation Result

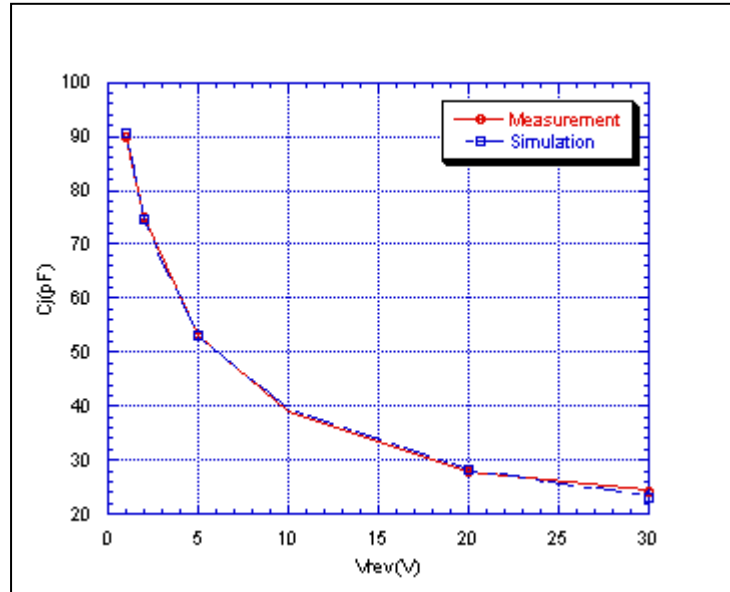


## Evaluation Circuit



## Comparison Graph

### Circuit Simulation Result



### Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	90.00	90.70	0.78
2	75.00	74.70	-0.40
5	53.00	53.20	0.38
10	39.00	39.30	0.77
20	28.00	28.30	1.07
30	24.00	23.20	-3.33