

# Device Modeling Report

COMPONENTS:  
DIODE/ SCHOOTKY RECTIFIER/ STANDARD  
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MANUFACTURER: TOSHIBA

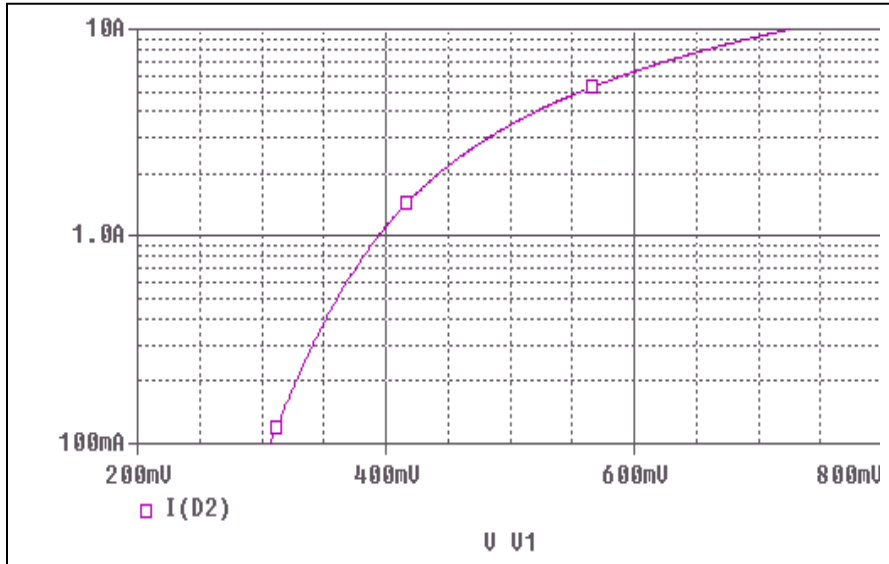


**Bee Technologies Inc.**

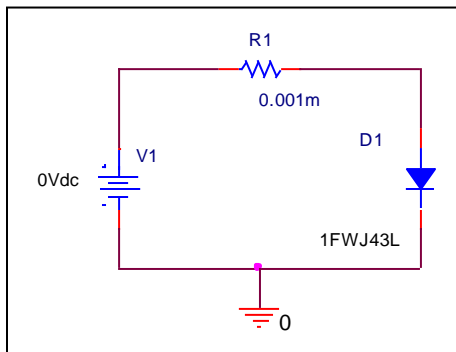
P Spice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

# Forward Current Characteristic

## Circuit Simulation Result

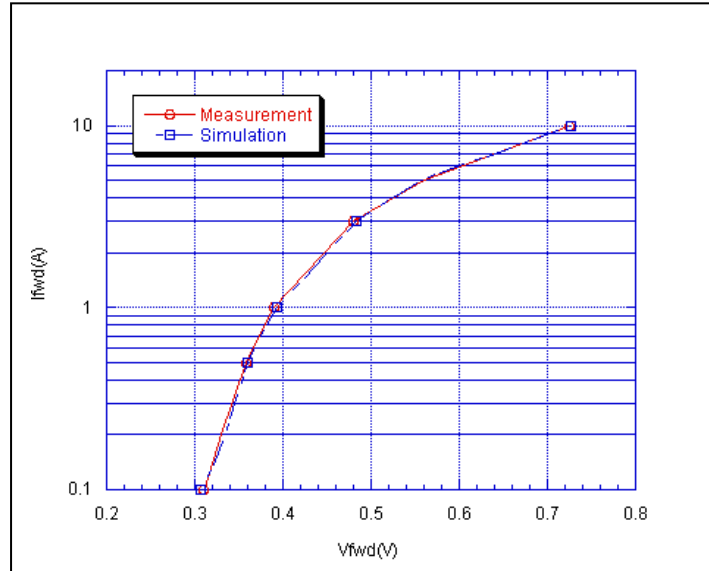


## Evaluation Circuit



# Comparison Graph

## Circuit Simulation Result

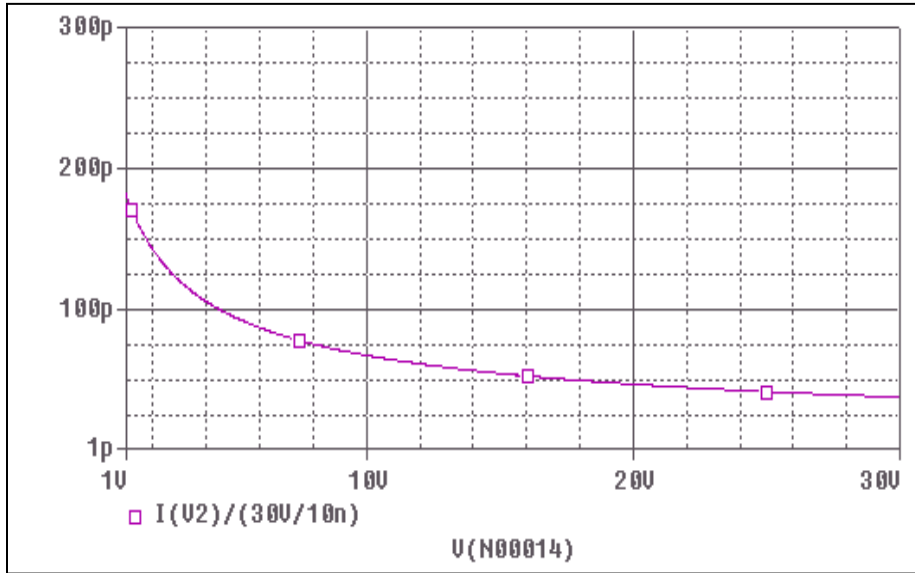


## Simulation Result

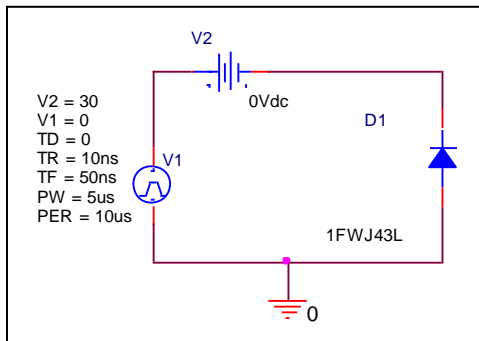
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.310	0.307	-1.03
0.2	0.330	0.335	1.52
0.5	0.359	0.361	0.45
1	0.390	0.394	0.95
5	0.560	0.557	-0.59
10	0.725	0.726	0.14

# Junction Capacitance Characteristic

## Circuit Simulation Result

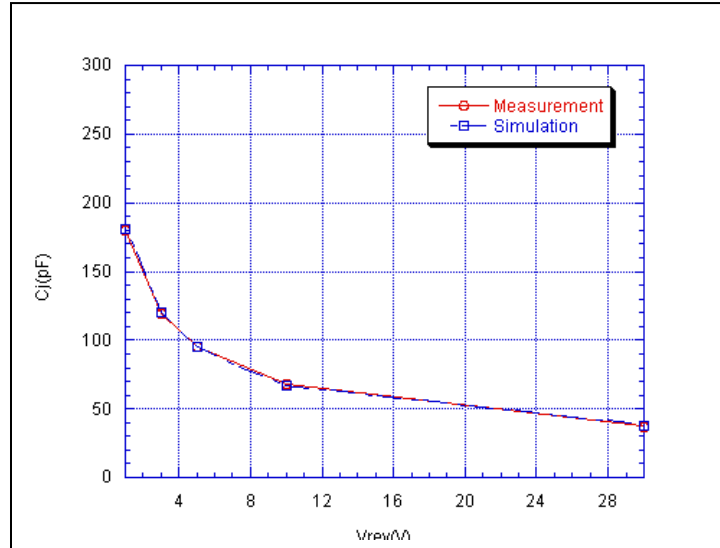


## Evaluation Circuit



# Comparison Graph

## Circuit Simulation Result



## Simulation Result

$V_{rev}$ (V)	$C_j$ (pF) Measurement	$C_j$ (pF) Simulation	%Error
1	180.00	181.40	0.78
3	119.00	119.90	0.76
5	95.00	94.90	-0.11
10	68.00	67.30	-1.03
30	37.00	37.80	2.16