

# Device Modeling Report

COMPONENTS:  
DIODE/ SCHOOTKY RECTIFIER /STANDARD  
PART NUMBER: HN2S01FU  
MANUFACTURER: TOSHIBA

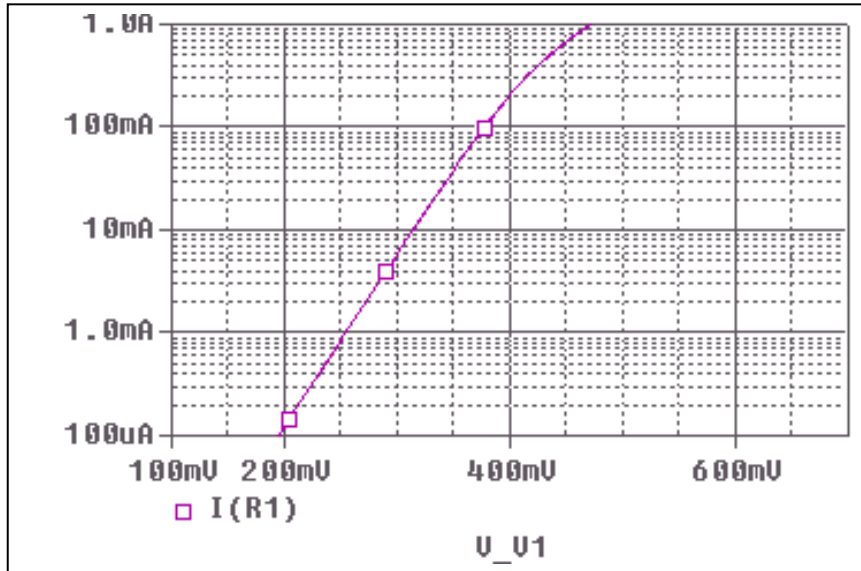


**Bee Technologies Inc.**

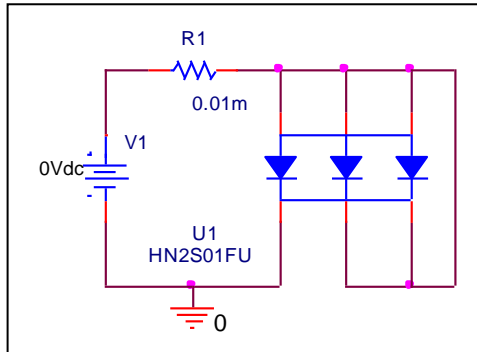
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

# Forward Current Characteristic

## Circuit Simulation Result

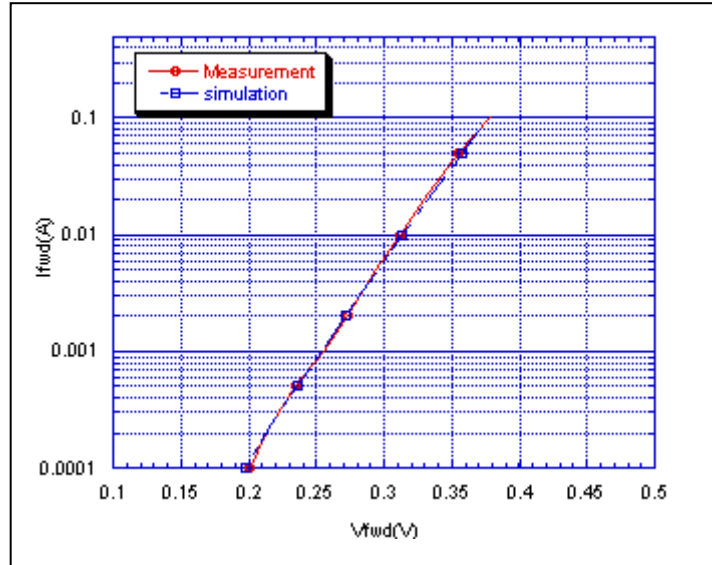


## Evaluation Circuit



# Comparison Graph

## Circuit Simulation Result

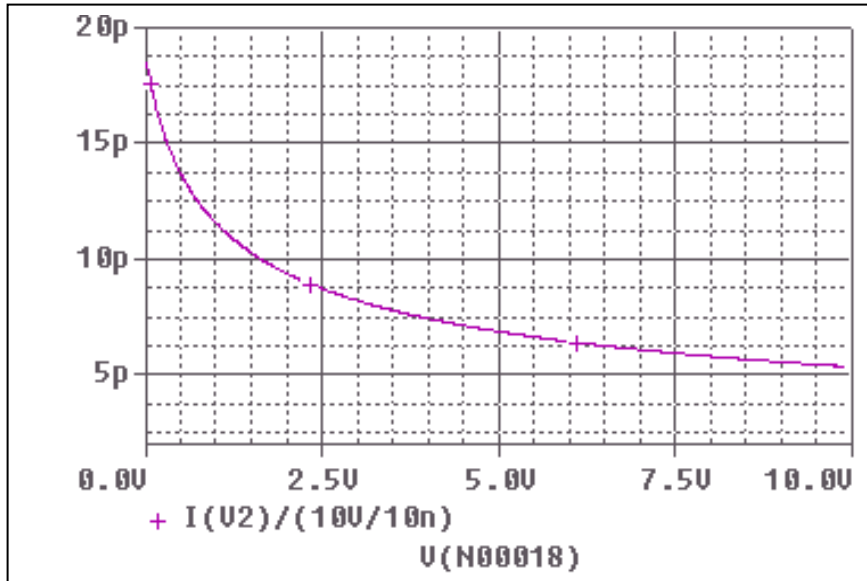


## Simulation Result

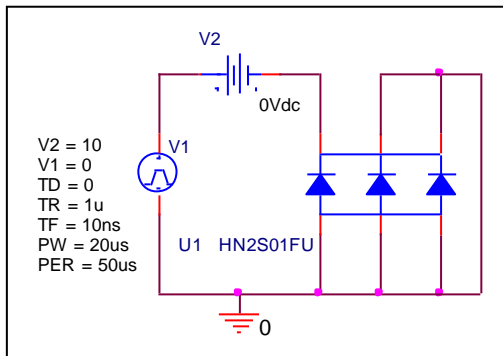
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.0001	0.200	0.198	-1.25
0.0002	0.213	0.212	-0.28
0.0005	0.235	0.236	0.51
0.001	0.255	0.254	-0.35
0.002	0.273	0.272	-0.37
0.005	0.294	0.296	0.61
0.01	0.312	0.314	0.64
0.02	0.330	0.332	0.70
0.05	0.355	0.357	0.62
0.1	0.379	0.377	-0.50

# Junction Capacitance Characteristic

## Circuit Simulation Result

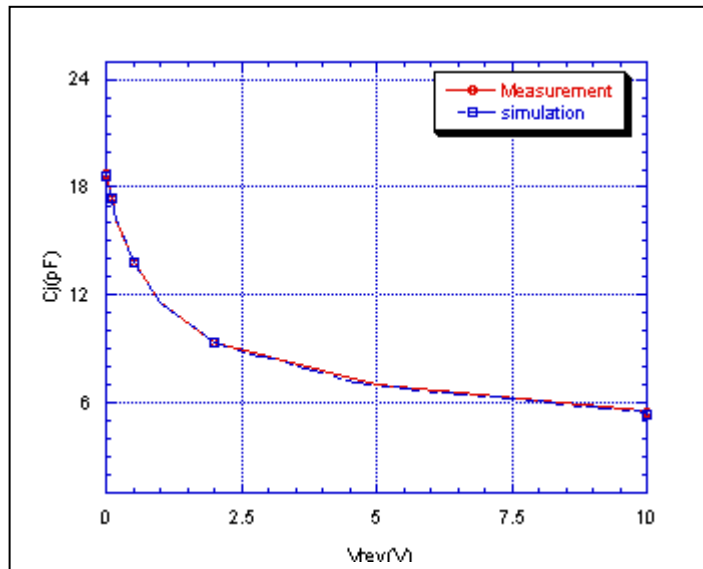


## Evaluation Circuit



## Comparison Graph

### Circuit Simulation Result



### Simulation Result

$V_{rev}$ (V)	$C_j$ (pF) Measurement	$C_j$ (pF) Simulation	%Error
0.02	18.700	18.600	-0.53
0.05	18.200	18.100	-0.55
0.1	17.411	17.400	-0.06
0.2	16.205	16.200	-0.03
0.5	13.808	13.800	-0.06
1	11.620	11.600	-0.17
2	9.470	9.400	-0.74
5	7.000	6.900	-1.43
10	5.500	5.400	-1.82