

# Device Modeling Report

COMPONENTS:  
DIODE/ SCHOOTTKY RECTIFIER / STANDARD  
PART NUMBER: 2FWJ42N  
MANUFACTURER: TOSHIBA

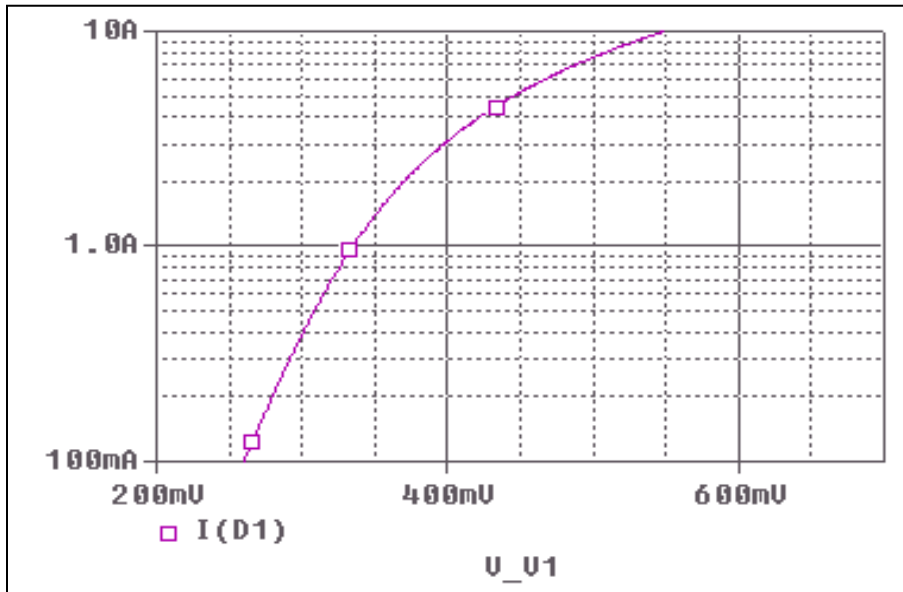


**Bee Technologies Inc.**

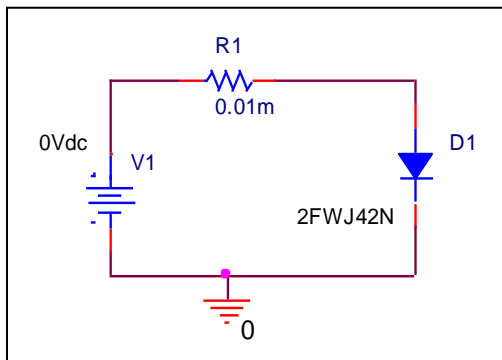
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

# Forward Current Characteristic

## Circuit Simulation Result

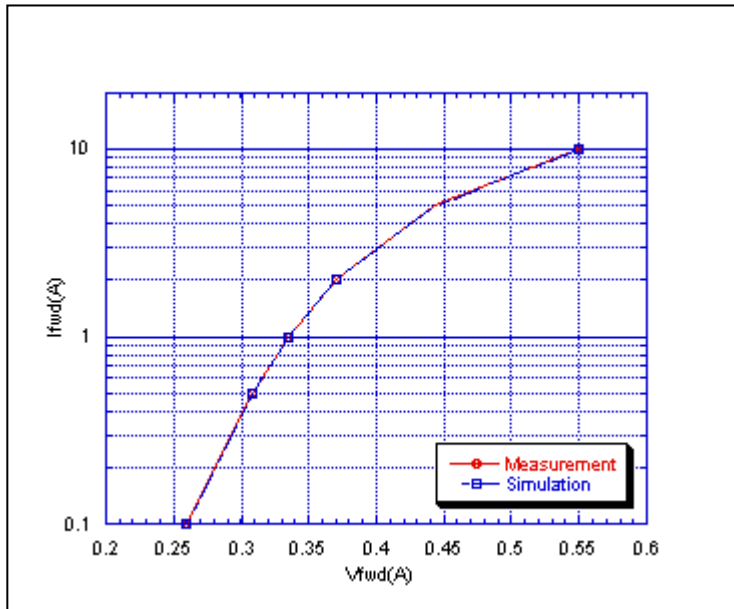


## Evaluation Circuit



# Comparison Graph

## Circuit Simulation Result

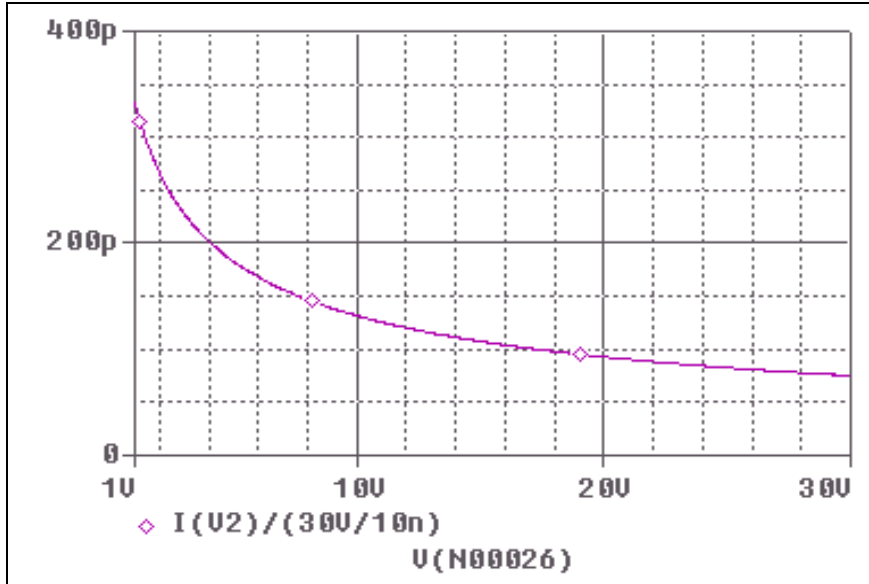


## Simulation Result

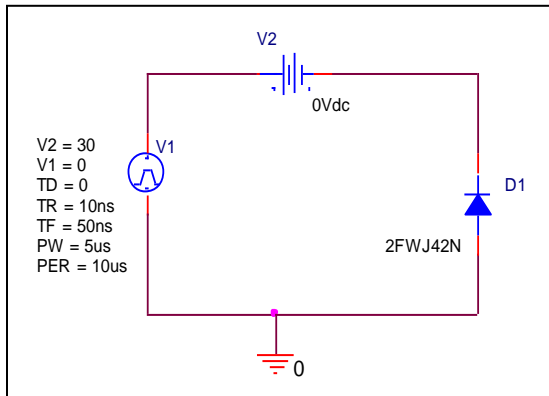
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.260	0.260	-0.12
0.2	0.280	0.279	-0.25
0.5	0.308	0.308	0.06
1	0.335	0.335	-0.09
2	0.370	0.370	-0.03
5	0.443	0.445	0.47
10	0.550	0.549	-0.16

# Junction Capacitance Characteristic

## Circuit Simulation Result

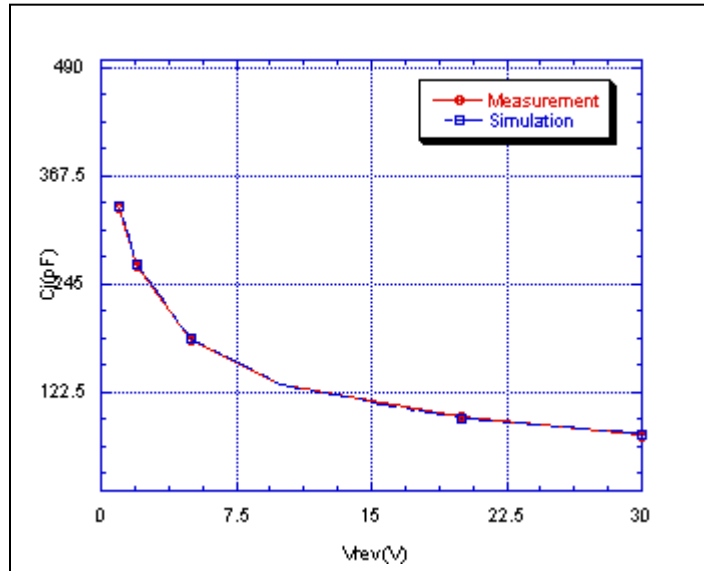


## Evaluation Circuit



# Comparison Graph

## Circuit Simulation Result



## Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	330.000	333.100	0.94
2	265.000	266.400	0.53
5	182.000	182.700	0.38
10	132.000	131.600	-0.30
20	95.000	92.800	-2.32
30	73.000	75.100	2.88