

# Device Modeling Report

COMPONENTS:  
DIODE/ SCHOOTTKY RECTIFIER / STANDARD  
PART NUMBER: 21DQ03L  
MANUFACTURER: NIEC

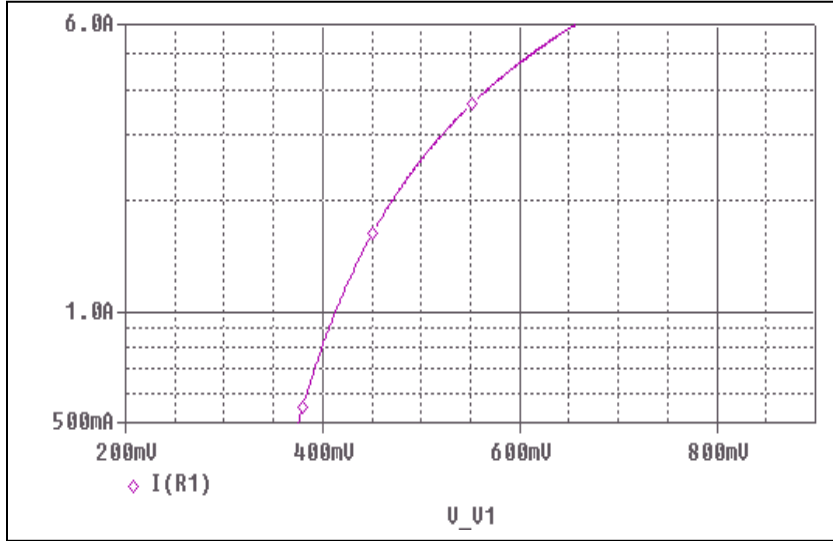


**Bee Technologies Inc.**

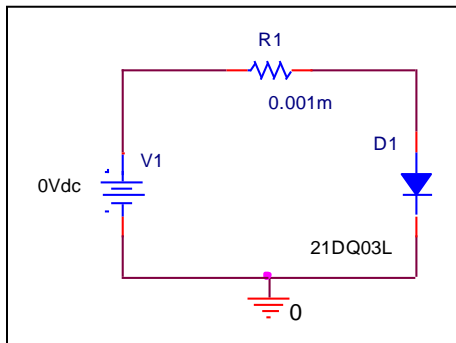
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

# Forward Current Characteristic

## Circuit Simulation Result

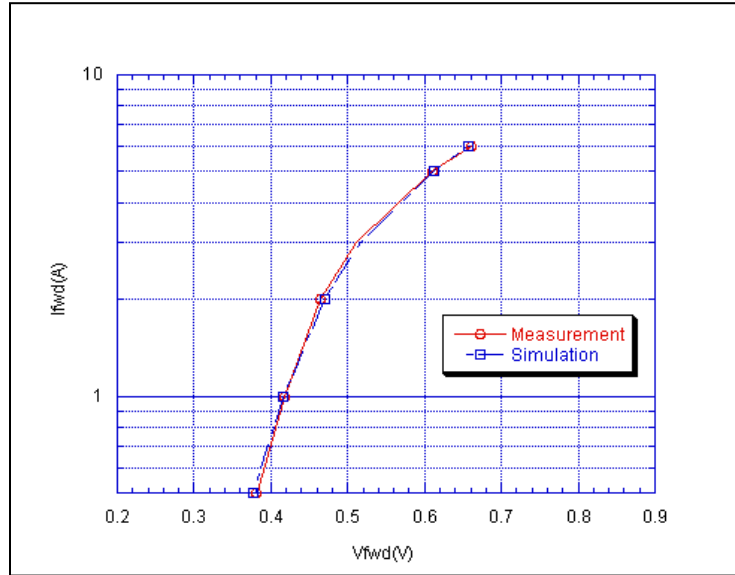


## Evaluation Circuit



# Comparison Graph

## Circuit Simulation Result

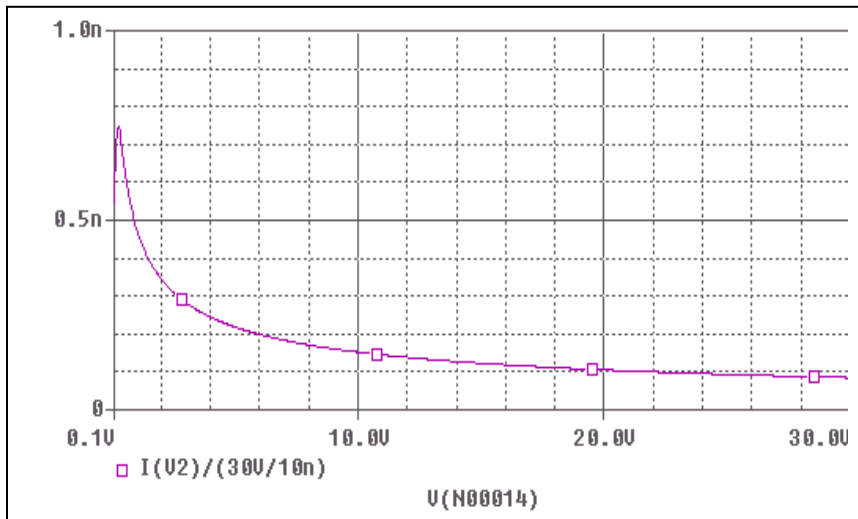


## Simulation Result

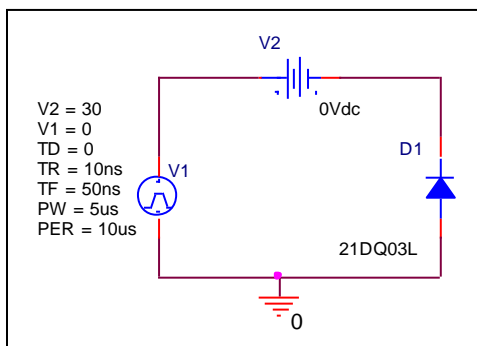
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.5	0.380	0.378	-0.53
1	0.418	0.415	-0.72
2	0.465	0.470	1.08
3	0.512	0.518	1.17
5	0.610	0.612	0.33
6	0.660	0.657	-0.45

# Capacitance Characteristic

## Circuit Simulation Result

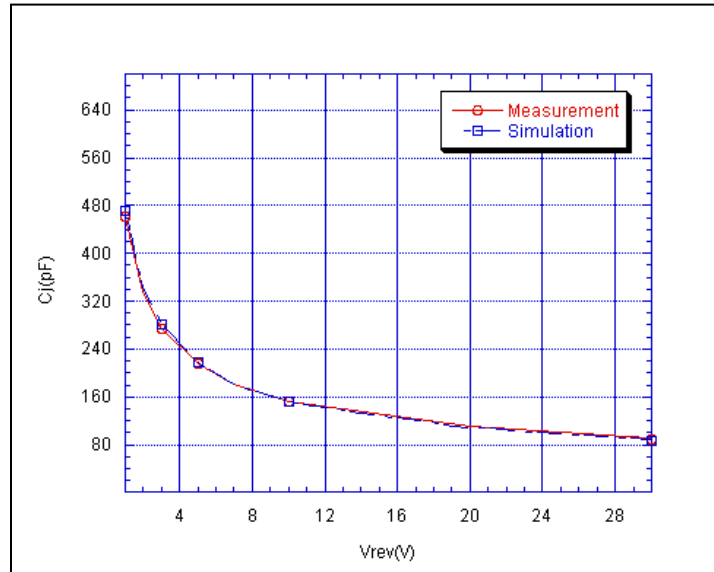


## Evaluation Circuit



# Comparison Graph

## Circuit Simulation Result



## Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	461.000	471.000	2.17
2	335.000	341.000	1.79
3	275.000	280.000	1.82
5	216.000	217.000	0.46
7	182.000	181.500	-0.27
10	152.000	151.000	-0.66
20	110.000	109.000	-0.91