

Device Modeling Report

COMPONENTS:

DIODE/ SCHOTTKY RECTIFIER / STANDARD

PART NUMBER: NSQ03A03L

MANUFACTURER: NIEC

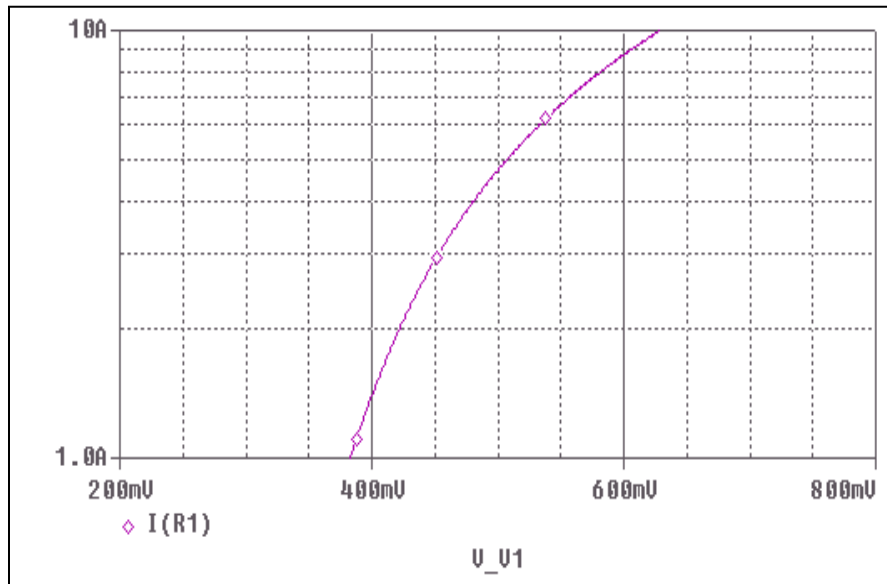


Bee Technologies Inc.

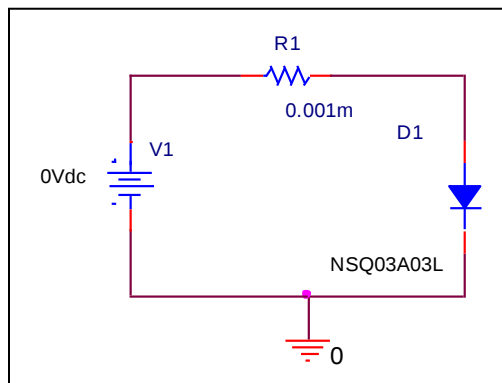
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

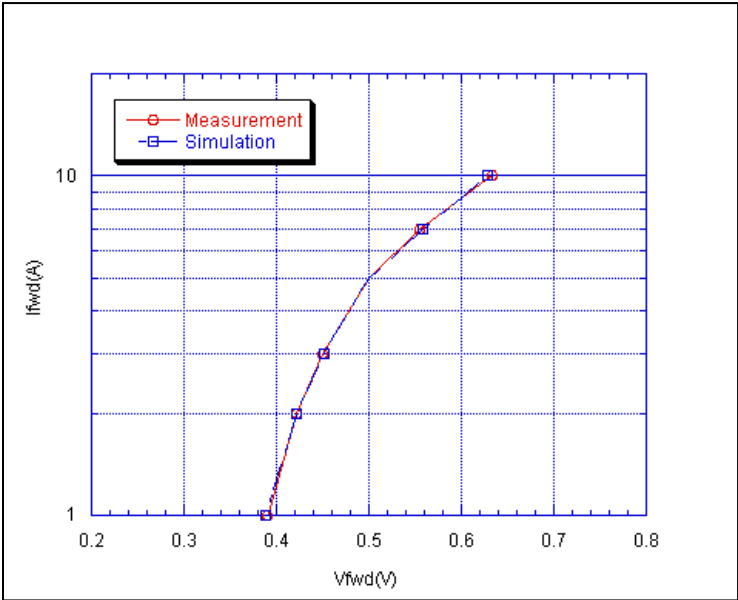


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

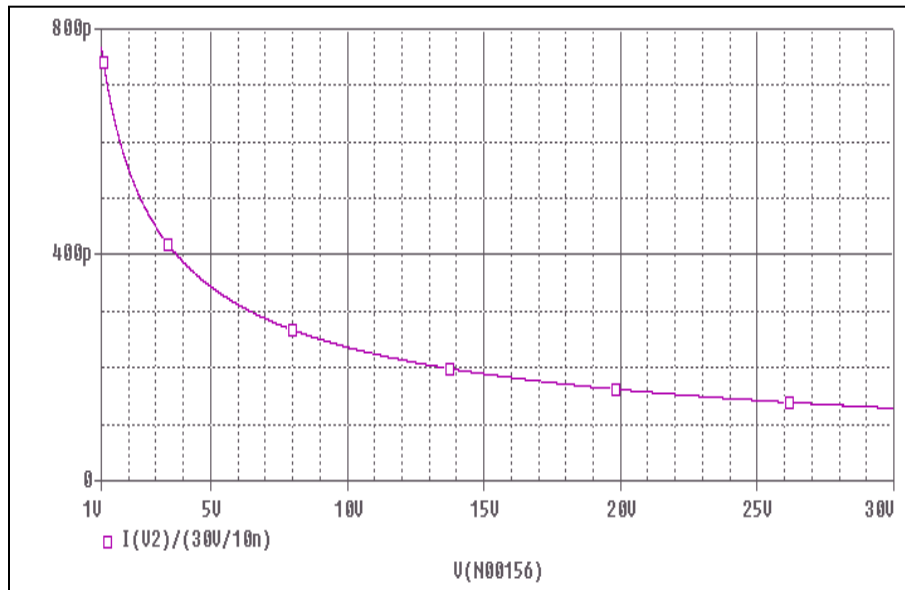


Simulation Result

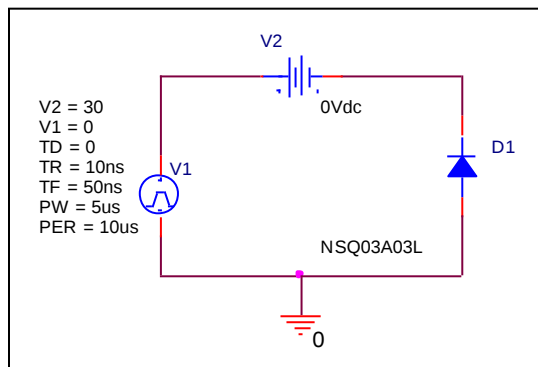
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
1	0.39	0.39	-0.26
2	0.42	0.42	-0.24
5	0.50	0.50	0.40
10	0.63	0.63	-0.79

Capacitance Characteristic

Circuit Simulation Result

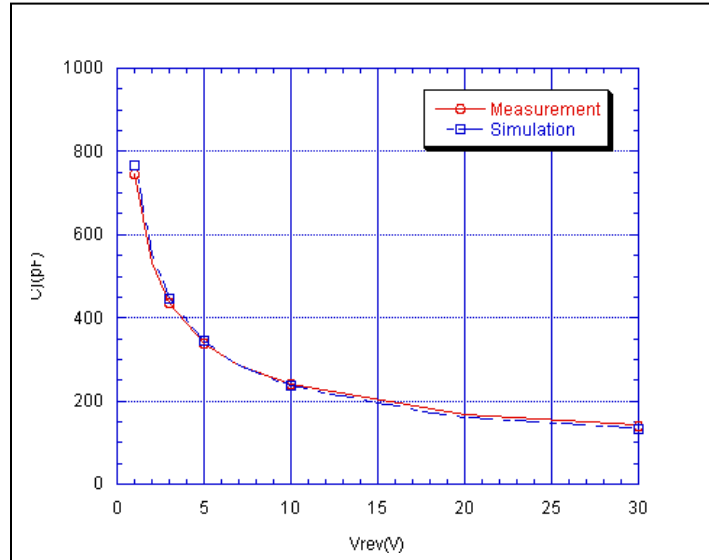


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
1	747.00	765.00	2.41
2	535.00	552.00	3.18
5	339.00	345.00	1.77
10	239.00	236.00	-1.26
20	167.00	161.00	-3.59
30	138.00	133.00	-3.62