

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTKY RECTIFIER / STANDARD
PART NUMBER: 21DQ04
MANUFACTURER: NIEC

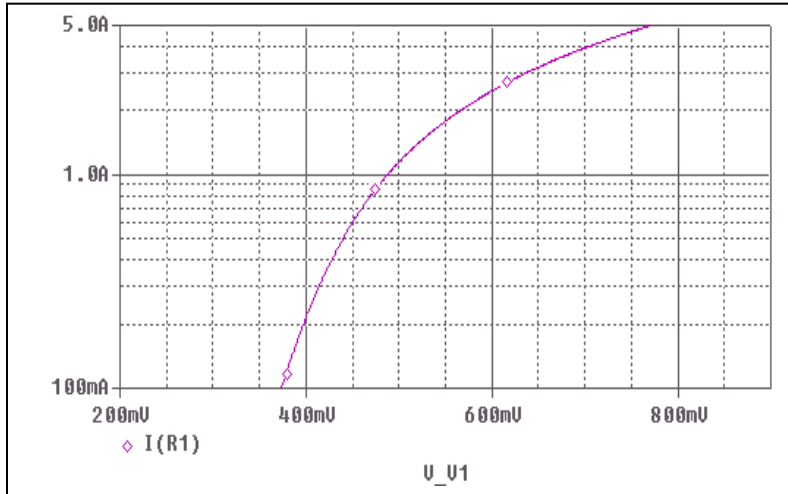


Bee Technologies Inc.

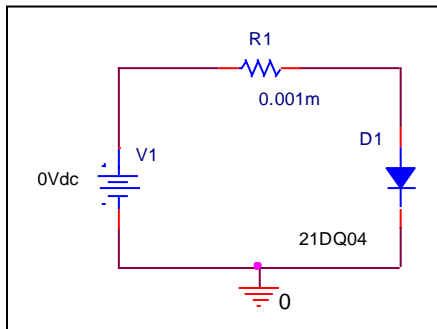
P Spice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

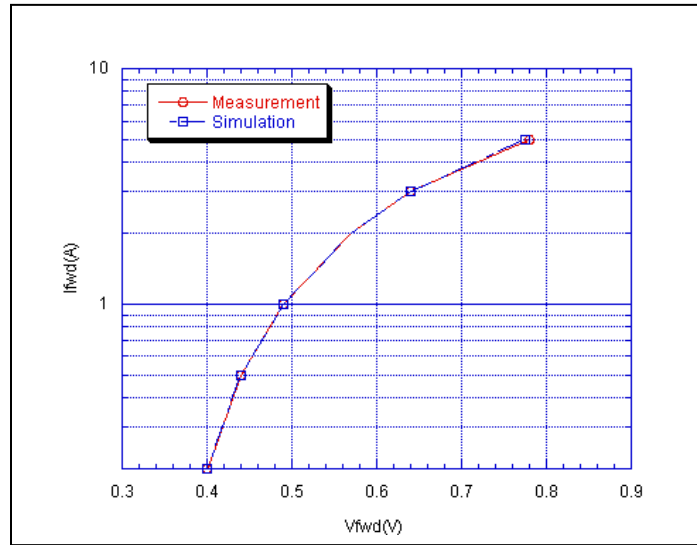


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

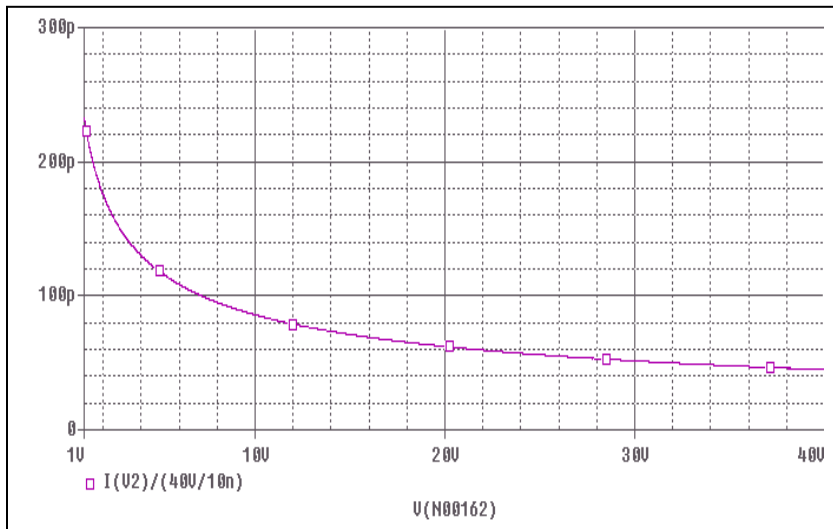


Simulation Result

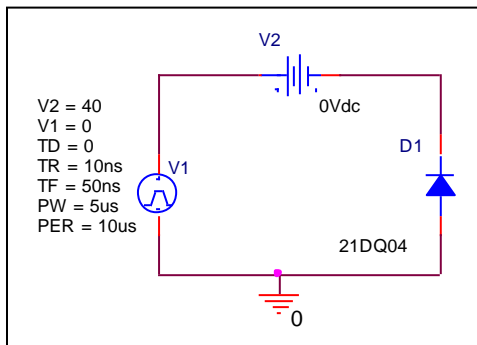
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.2	0.400	0.399	-0.30
0.5	0.440	0.438	-0.51
1	0.490	0.486	-0.82
2	0.570	0.569	-0.20
3	0.640	0.635	-0.78
5	0.780	0.775	-0.64

Junction Capacitance Characteristic

Circuit Simulation Result

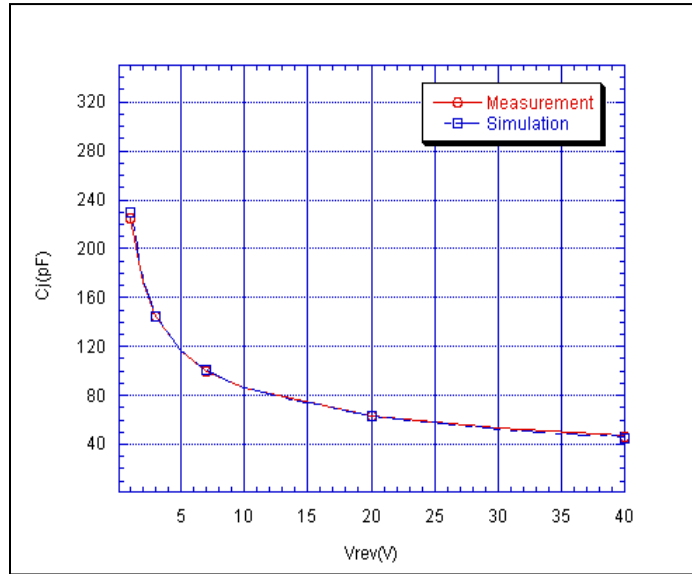


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	225.000	230.000	2.22
2	172.000	174.000	1.16
3	144.000	145.000	0.69
5	116.000	117.000	0.86
7	100.000	101.000	1.00
10	86.000	85.770	-0.27
20	63.000	62.852	-0.23
30	53.00	52.00	-1.89
40	46.00	45.00	-2.17