

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTKY RECTIFIER /STANDARD
PART NUMBER: EP05Q04
MANUFACTURER: NIEC

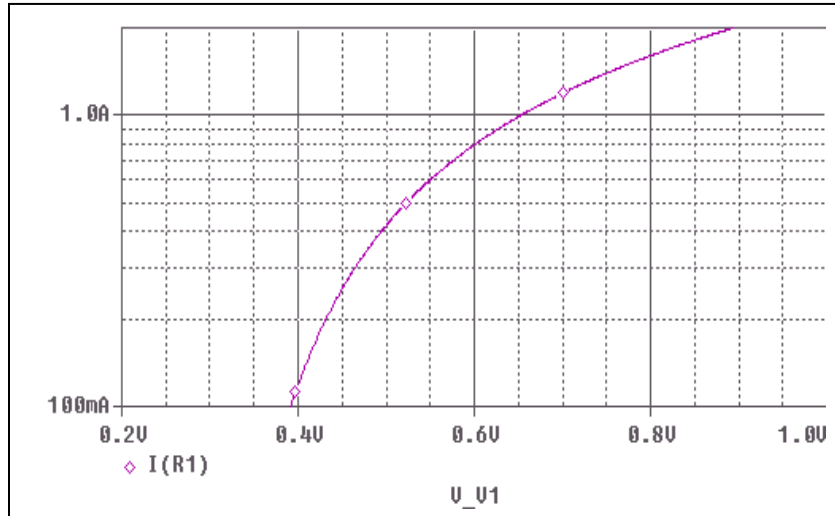


Bee Technologies Inc.

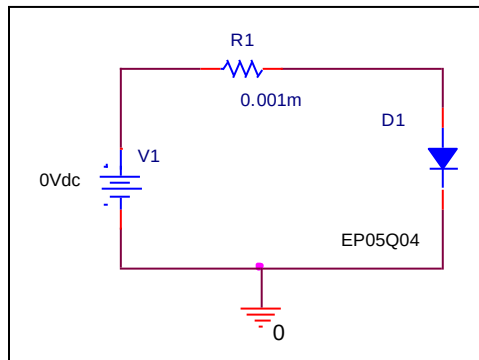
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

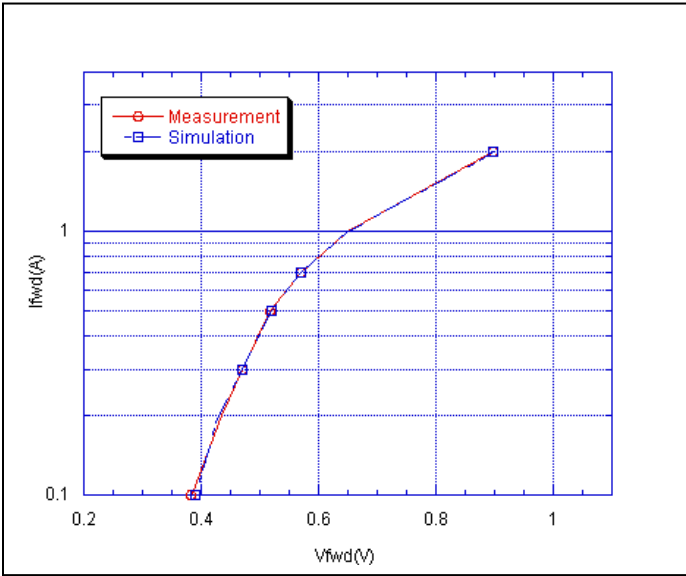


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

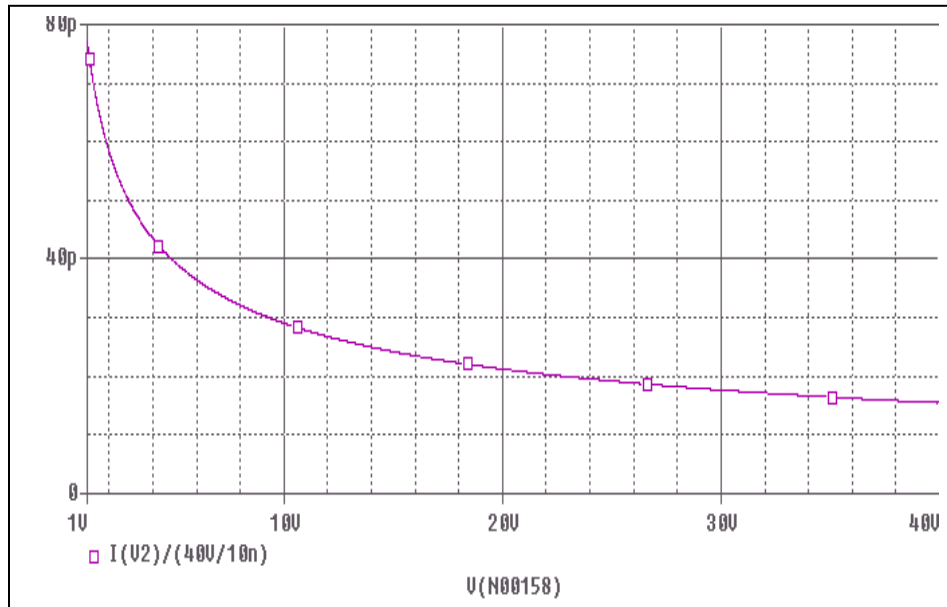


Simulation Result

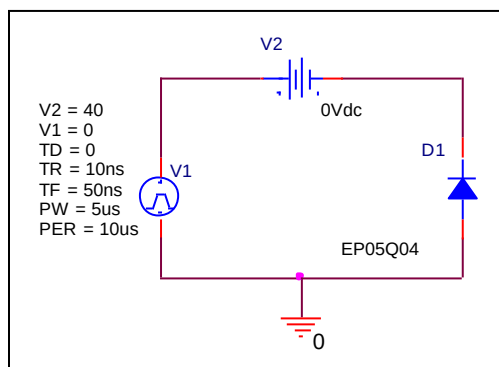
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.1	0.382	0.390	2.09
0.2	0.435	0.431	-0.92
0.5	0.518	0.520	0.39
1	0.650	0.649	-0.17
2	0.898	0.897	-0.11

Junction Capacitance Characteristic

Circuit Simulation Result

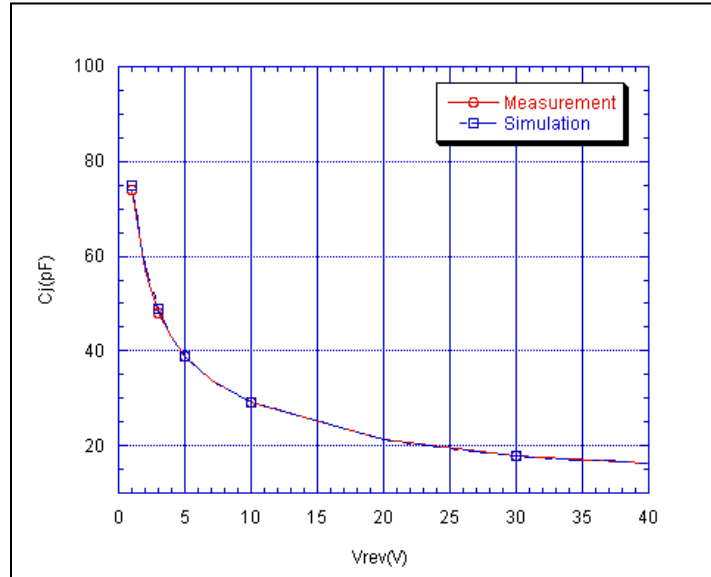


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	74.000	75.000	1.35
2	57.000	58.000	1.75
5	39.000	37.770	-3.15
10	29.000	28.570	-1.48
20	21.400	21.300	-0.47
40	16.000	15.855	-0.91