

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTTKY RECTIFIER /STANDARD
PART NUMBER: EP05Q03L
MANUFACTURER: NIEC

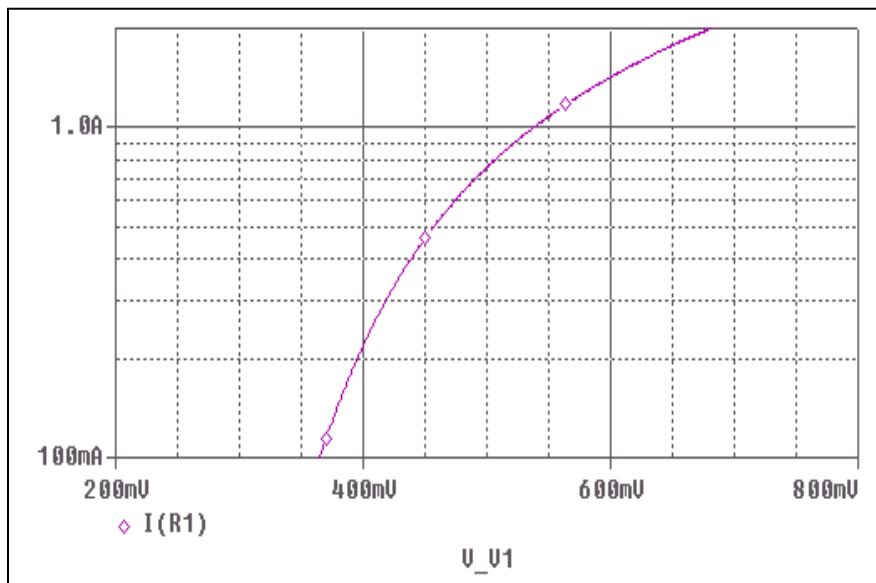


Bee Technologies Inc.

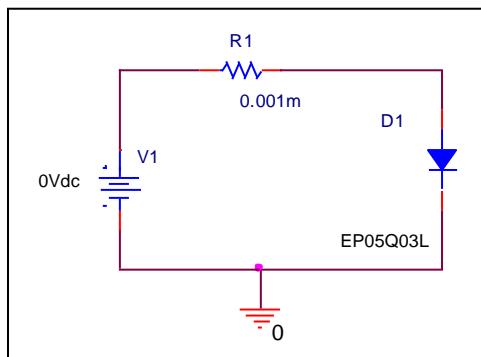
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

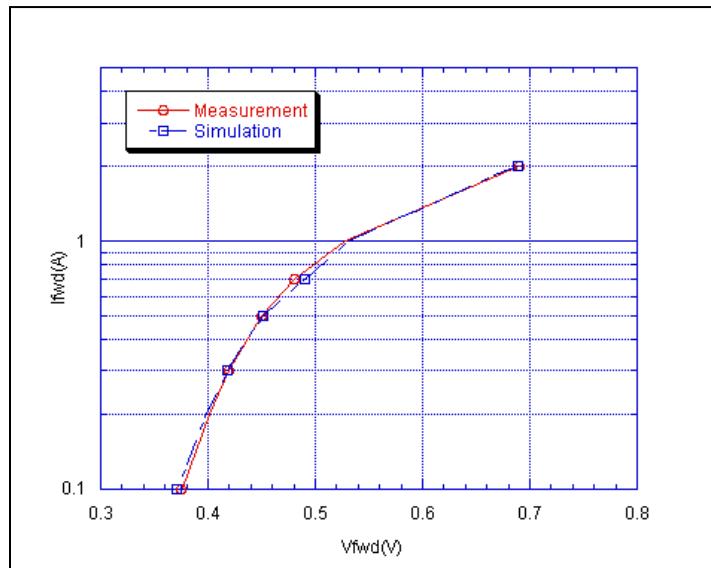


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

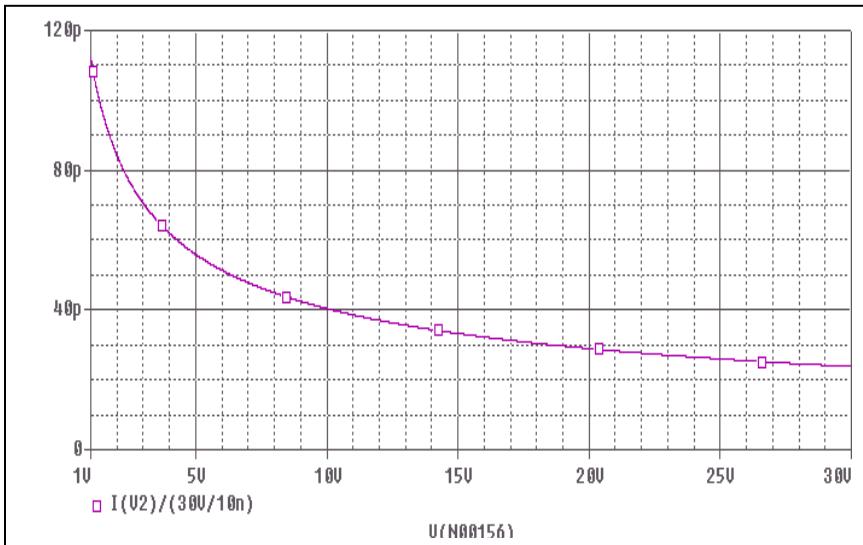


Simulation Result

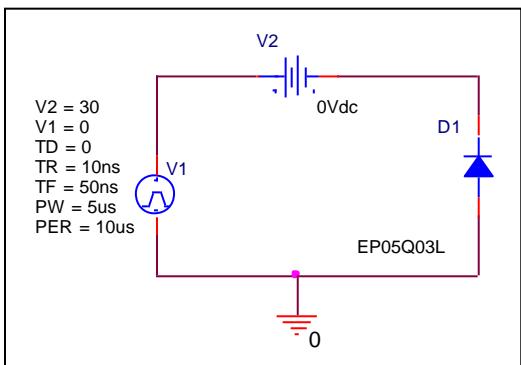
$I_{fwd}(A)$	$V_{fwd}(V)$ Measurement	$V_{fwd}(V)$ Simulation	%Error
0.1	0.375	0.371	-1.07
0.2	0.402	0.398	-1.00
0.5	0.450	0.452	0.44
1	0.528	0.531	0.57
2	0.690	0.689	-0.14

Capacitance Characteristic

Circuit Simulation Result

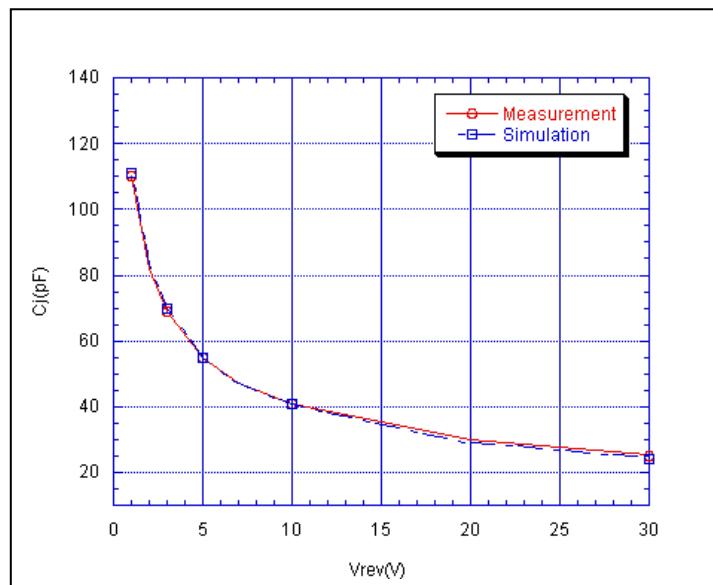


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
1	110.000	111.000	0.91
2	82.000	83.000	1.22
5	55.000	54.400	-1.09
10	41.000	40.540	-1.12
20	30.000	29.000	-3.33
30	25.000	24.000	-4.00