

Device Modeling Report

COMPONENTS:

DIODE/ SCHOOTTKY RECTIFIER / STANDARD

PART NUMBER: EC31QS03L

MANUFACTURER: NIEC

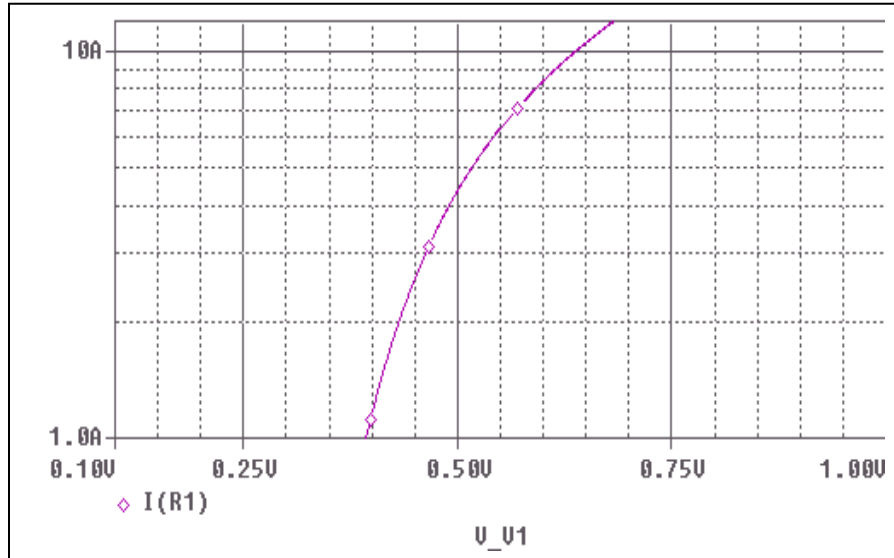


Bee Technologies Inc.

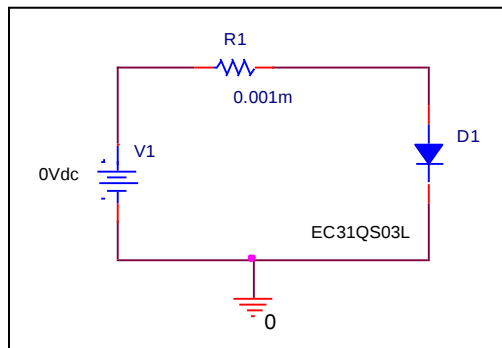
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

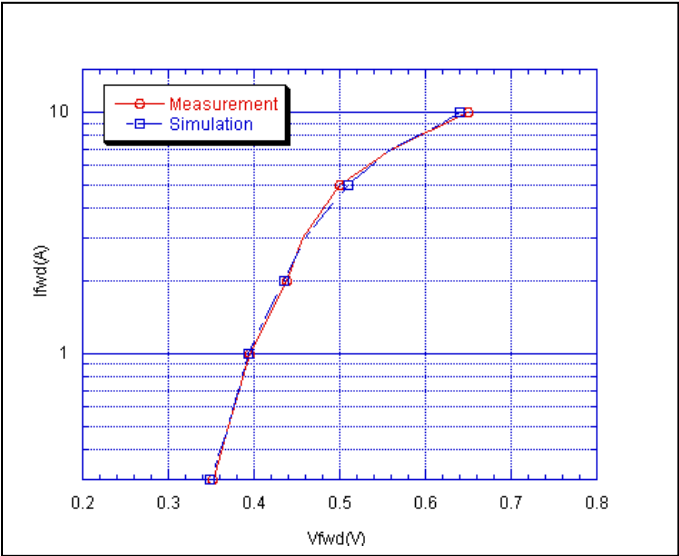


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

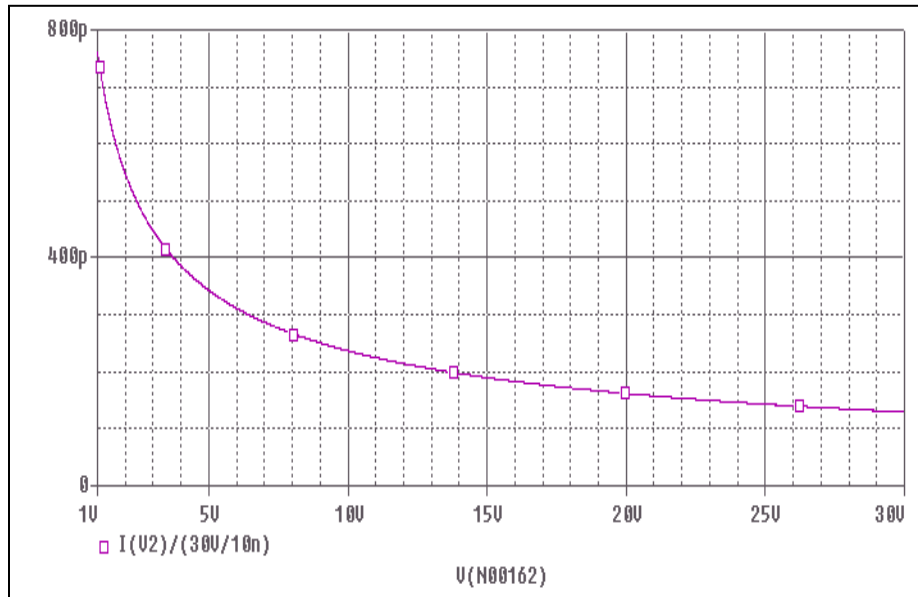


Simulation Result

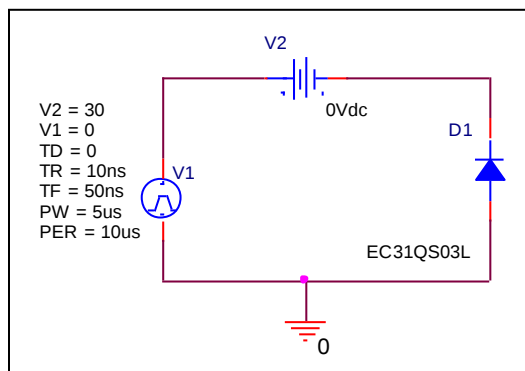
$I_{fwd}(A)$	$V_{fwd}(V)$ Measurement	$V_{fwd}(V)$ Simulation	%Error
0.5	0.370	0.368	-0.54
1	0.395	0.394	-0.25
2	0.438	0.435	-0.68
5	0.500	0.510	2.00
10	0.650	0.640	-1.54

Capacitance Characteristic

Circuit Simulation Result

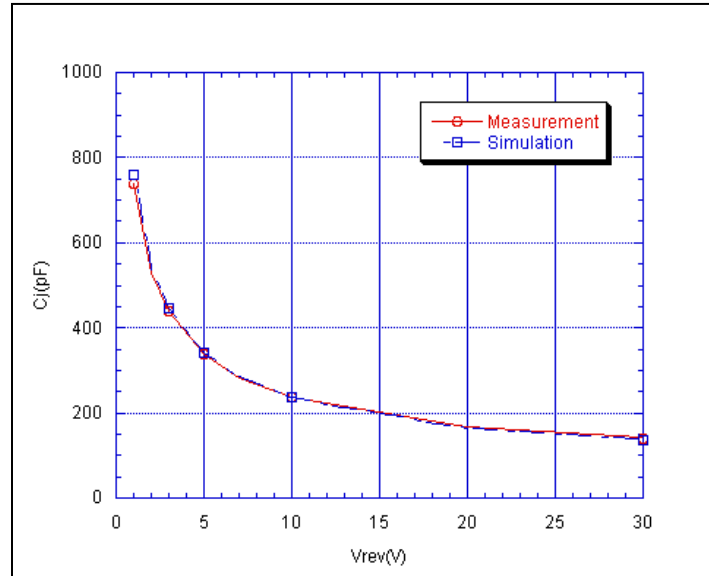


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
1	739.000	759.000	2.71
2	531.000	541.000	1.88
5	338.000	343.000	1.48
10	238.000	237.000	-0.42
20	169.000	165.000	-2.37
30	139.000	135.000	-2.88