

Device Modeling Report

COMPONENTS:

DIODE/ SCHOOTKY RECTIFIER /STANDARD

PART NUMBER: EC31QS10

MANUFACTURER: NIEC

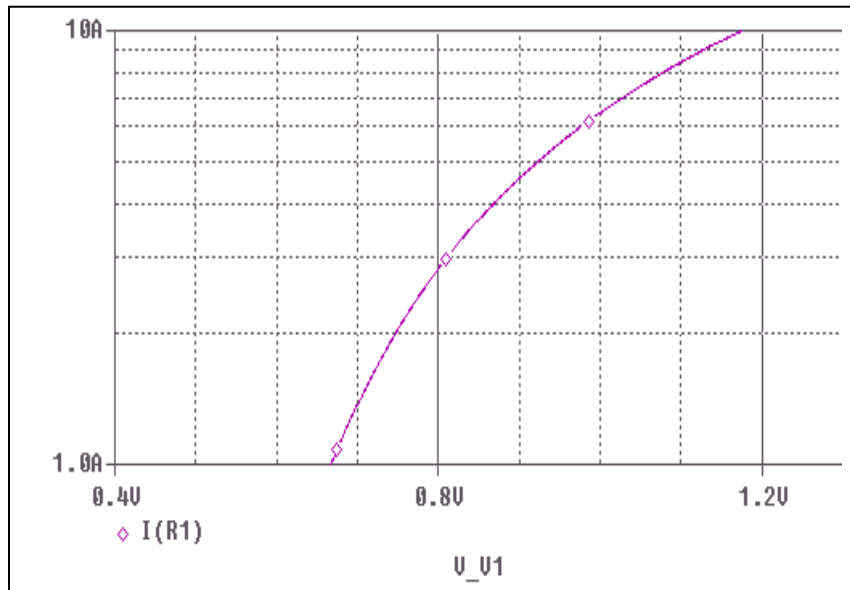


Bee Technologies Inc.

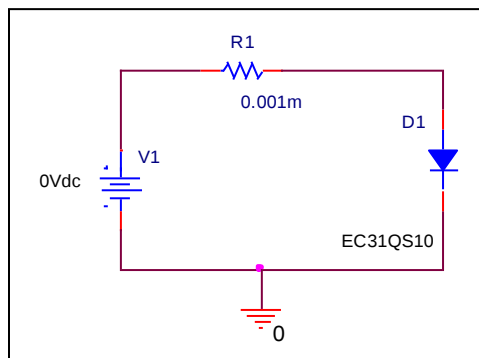
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

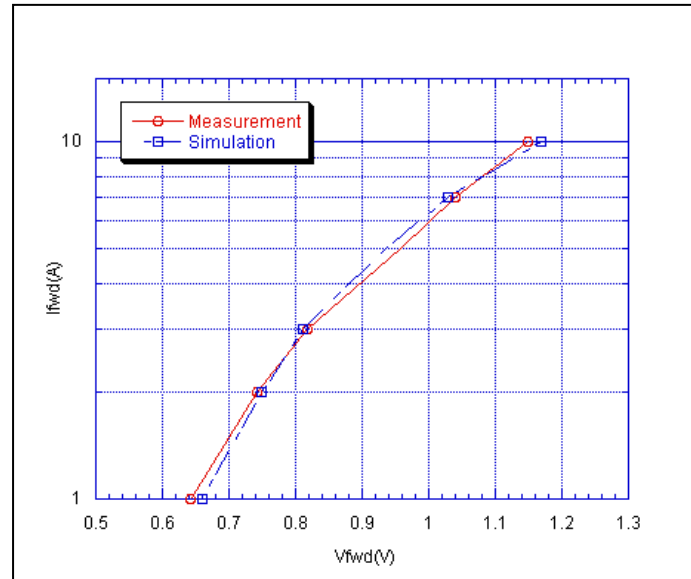


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

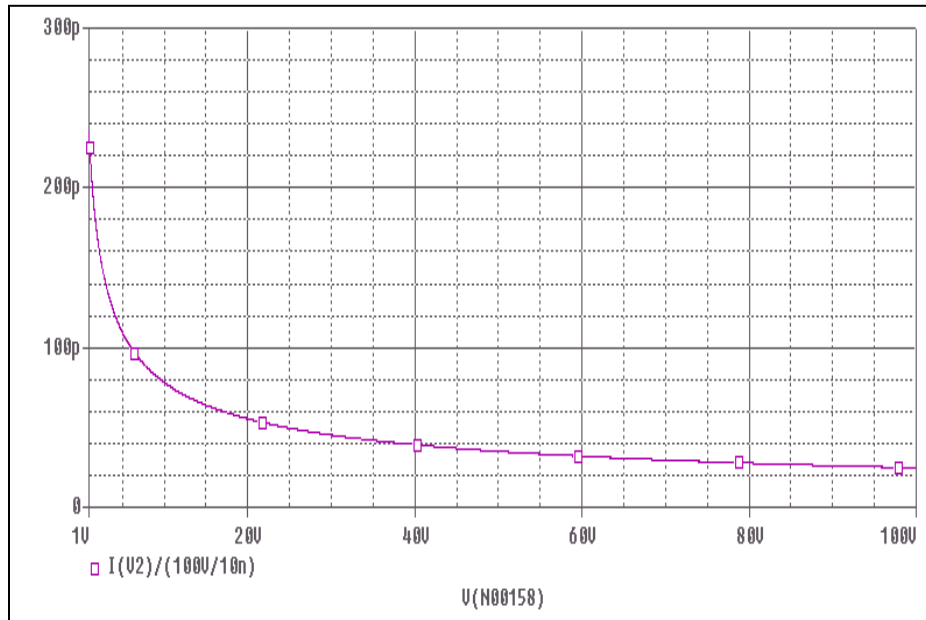


Simulation Result

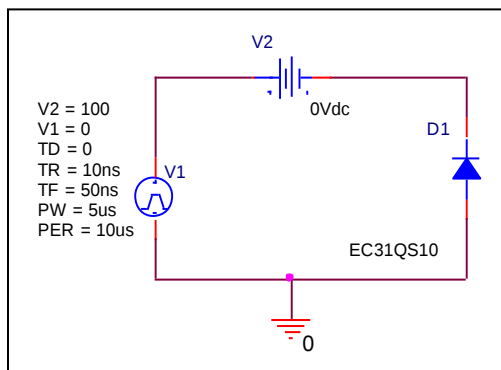
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
1	0.642	0.659	2.65
2	0.742	0.748	0.81
3	0.818	0.812	-0.73
5	0.958	0.935	-2.40
7	1.040	1.030	-0.96
10	1.150	1.170	1.74

Junction Capacitance Characteristic

Circuit Simulation Result

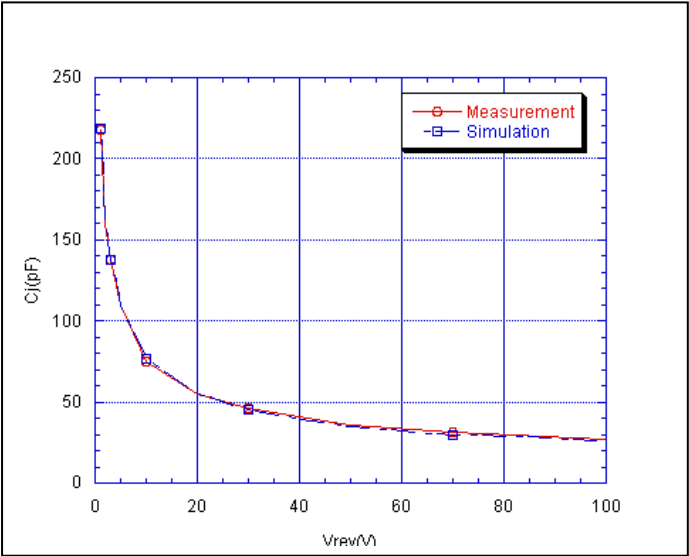


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

$V_{rev}(V)$	$C_j(pF)$ Measurement	$C_j(pF)$ Simulation	%Error
1	218.000	219.000	0.46
2	160.000	165.000	3.13
5	110.000	109.000	-0.91
10	75.000	77.000	2.67
20	55.000	54.000	-1.82
50	36.000	35.000	-2.78
100	26.000	25.000	-3.85