

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTTKY RECTIFIER / STANDARD
PART NUMBER: DE10SC4
MANUFACTURER: SHINDENGEN

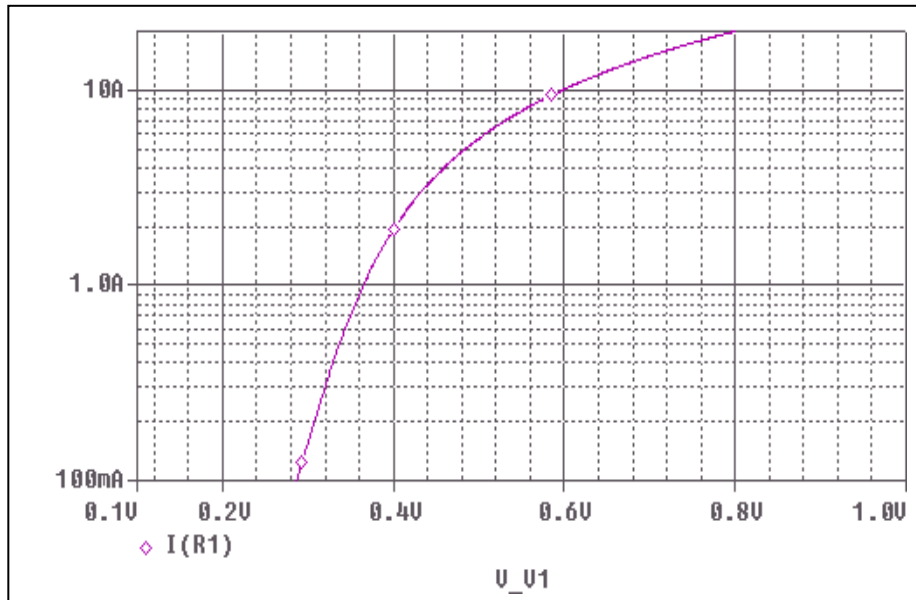


Bee Technologies Inc.

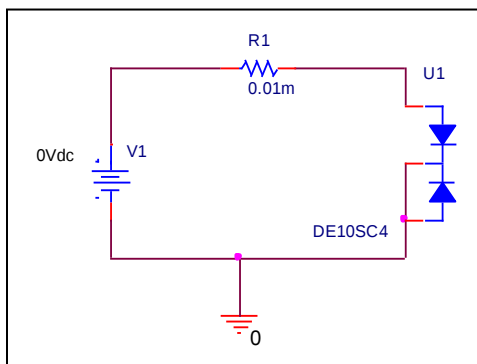
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

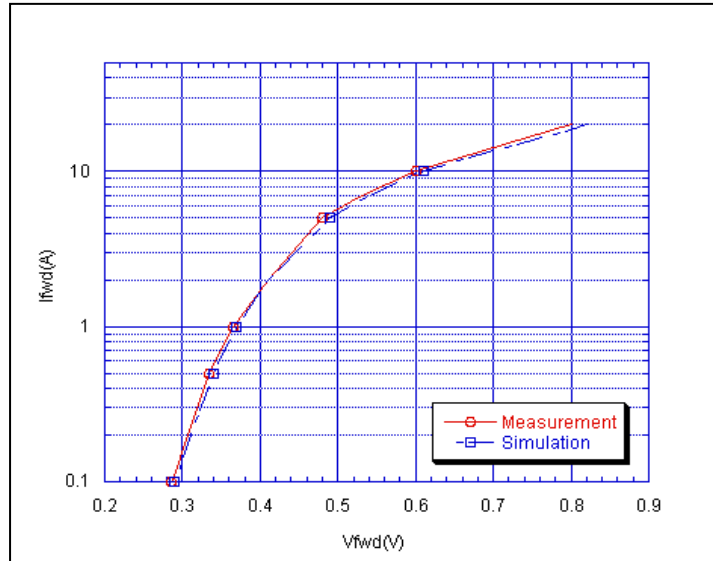


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

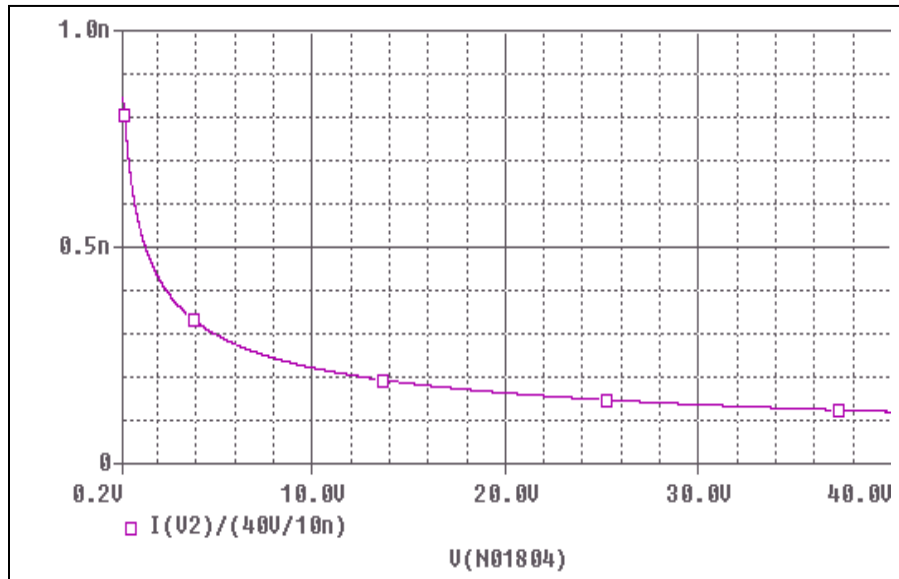


Simulation Result

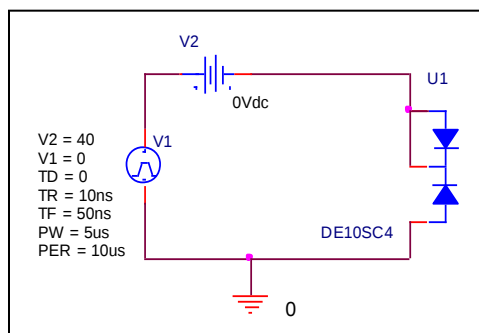
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.285	0.291	1.93
0.2	0.307	0.310	1.11
0.5	0.335	0.340	1.61
1	0.365	0.370	1.37
2	0.410	0.410	0.07
5	0.480	0.489	1.85
10	0.600	0.611	1.80
20	0.800	0.821	2.57

Junction Capacitance Characteristic

Circuit Simulation Result

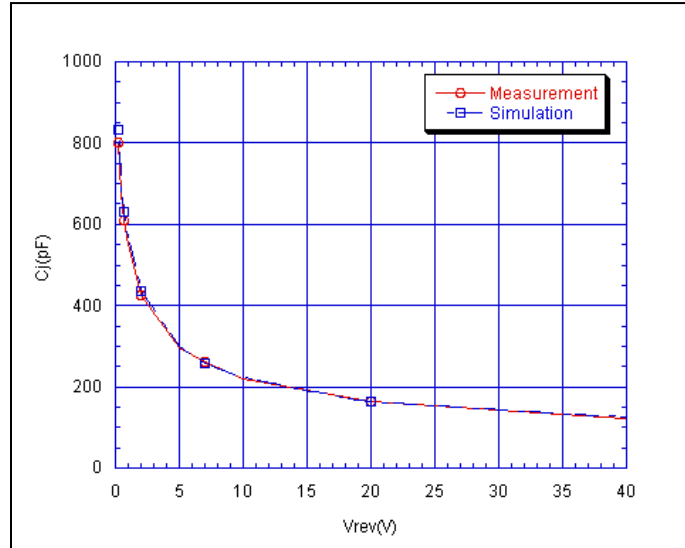


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0.2	800.00	834.50	4.31
0.5	675.00	701.50	3.93
1	550.00	562.50	2.27
2	425.00	434.60	2.26
5	298.00	298.80	0.27
10	220.00	221.60	0.73
20	165.00	163.50	-0.91
40	120.00	120.40	0.33