

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTKY RECTIFIER / STANDARD
PART NUMBER: DF30SC4M
MANUFACTURER: SHINDENGEN

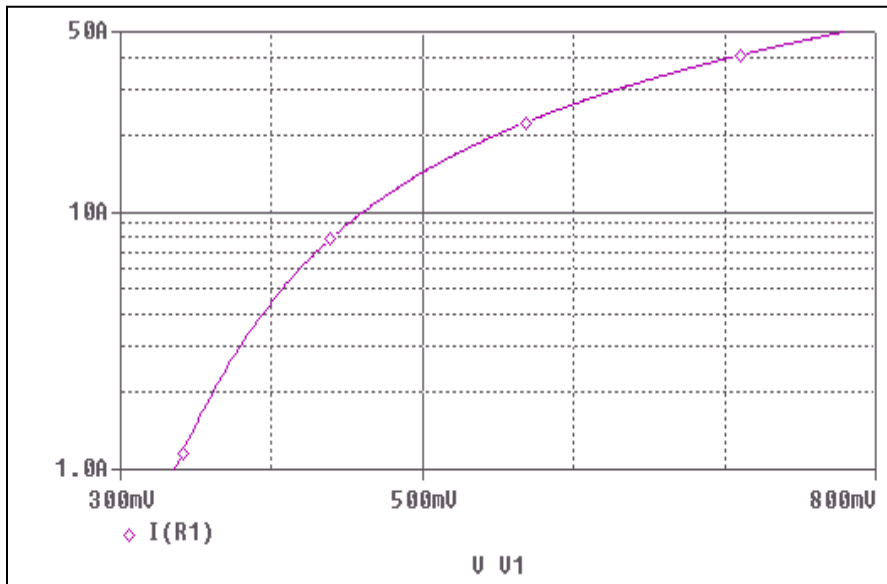


Bee Technologies Inc.

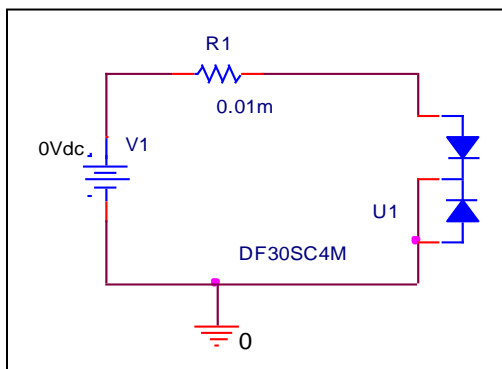
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

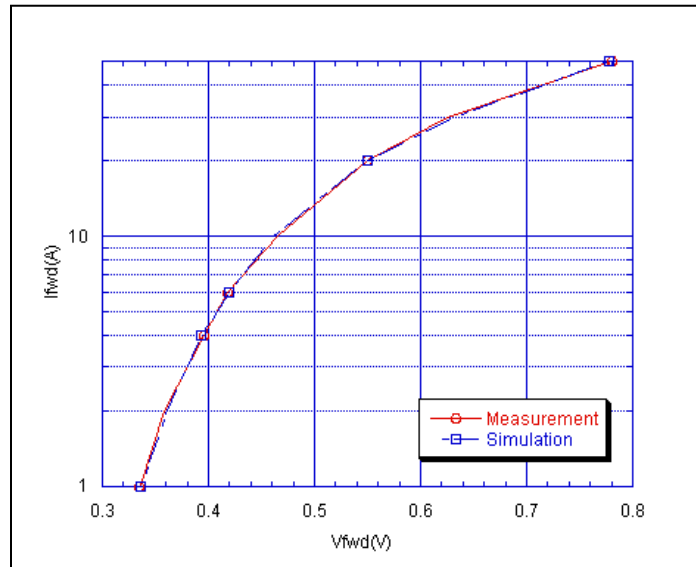


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

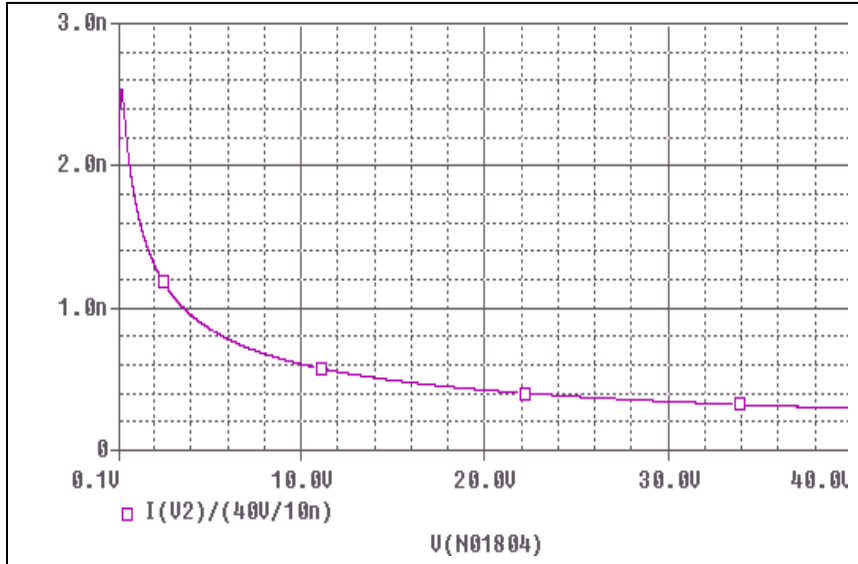


Simulation Result

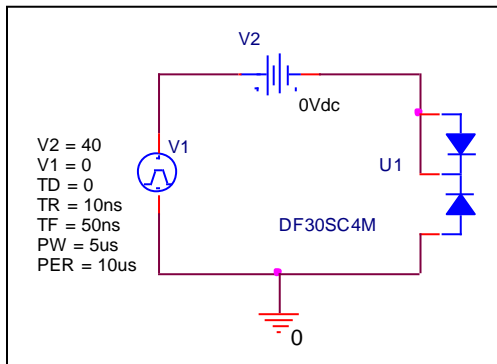
$I_{fwd}(A)$	$V_{fwd}(V)$ Measurement	$V_{fwd}(V)$ Simulation	%Error
1	0.335	0.336	0.30
2	0.358	0.361	0.84
4	0.396	0.394	-0.58
6	0.418	0.419	0.24
10	0.465	0.461	-0.97
20	0.550	0.550	-0.05
50	0.780	0.779	-0.19

Junction Capacitance Characteristic

Circuit Simulation Result

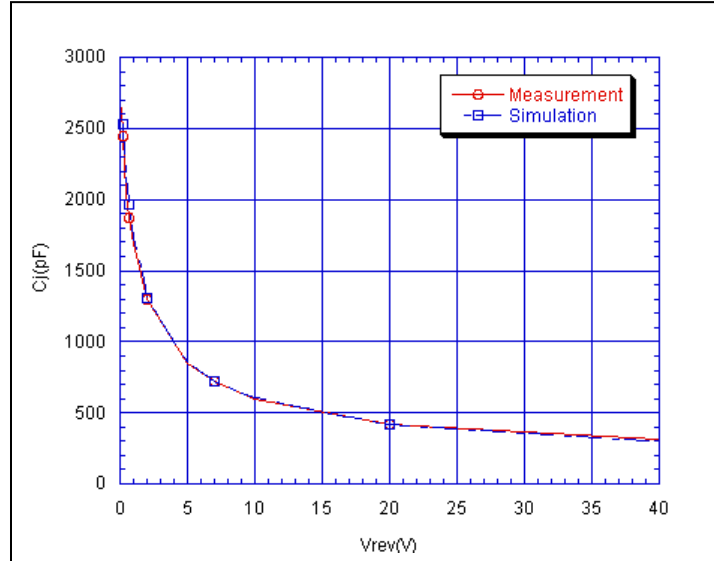


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0.1	2520.00	2400.00	-4.76
0.2	2450.00	2528.00	3.18
0.5	2110.00	2185.00	3.55
1	1690.00	1729.00	2.31
2	1300.00	1306.00	0.46
5	850.00	855.20	0.61
10	600.00	604.80	0.80
20	420.00	423.80	0.90
40	300.00	295.90	-1.37