

Device Modeling Report

COMPONENTS:

DIODE/ SCHOOTTKY RECTIFIER / STANDARD

PART NUMBER: D30SC4M

MANUFACTURER: SHINDENGEN

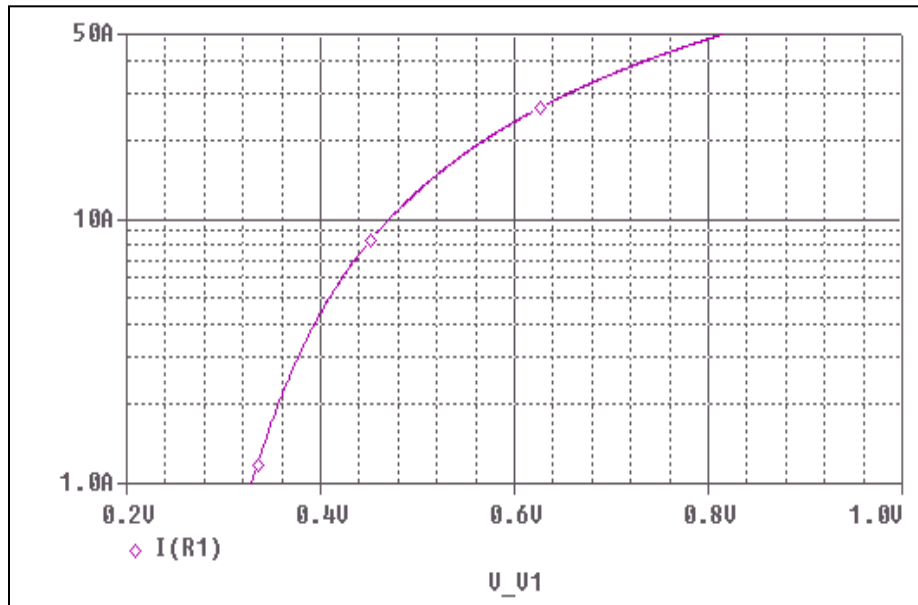


Bee Technologies Inc.

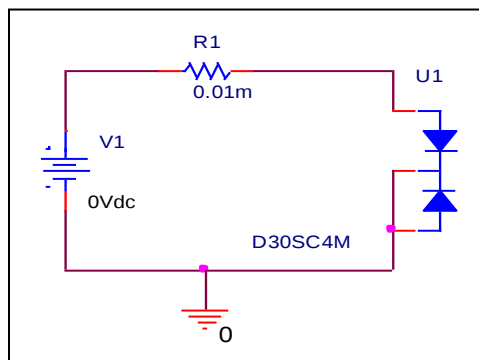
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

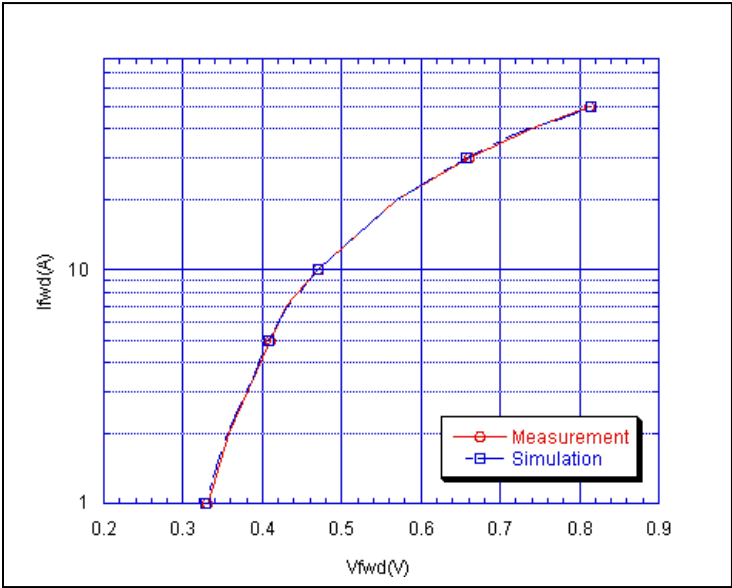


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

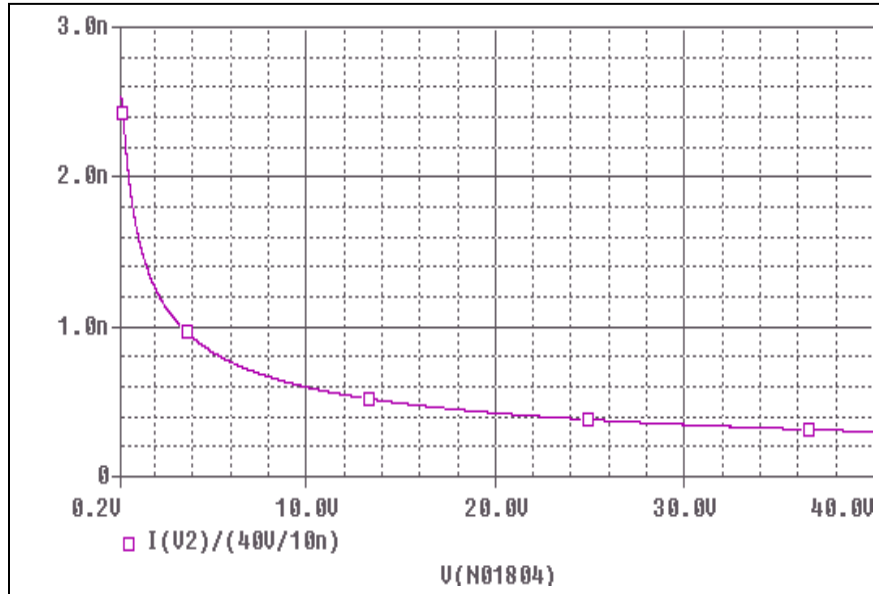


Simulation Result

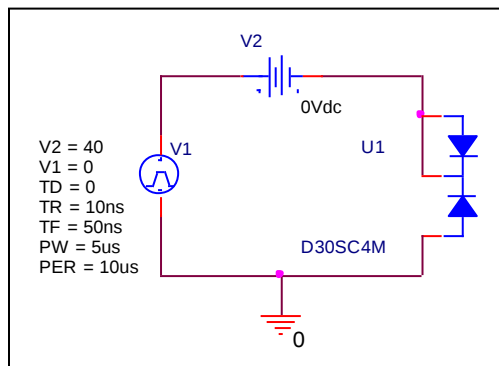
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
1	0.330	0.329	-0.30
2	0.357	0.356	-0.22
5	0.410	0.409	-0.24
10	0.470	0.471	0.13
20	0.568	0.570	0.35
50	0.812	0.815	0.37

Junction Capacitance Characteristic

Circuit Simulation Result

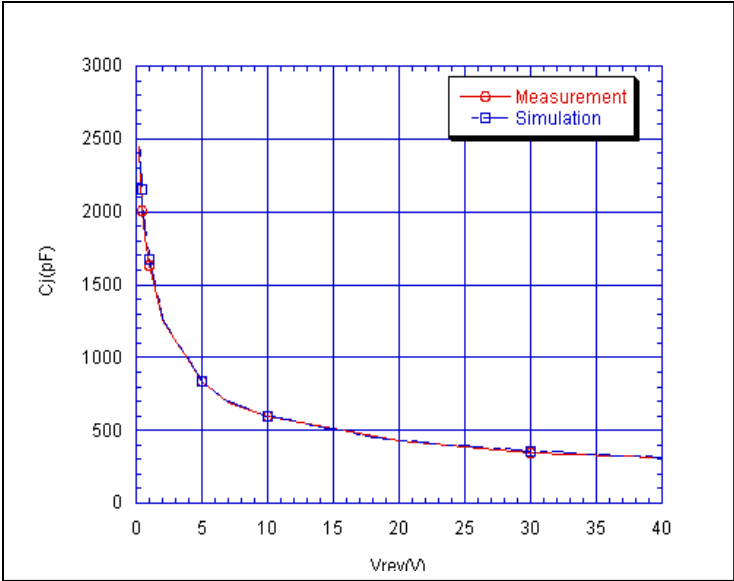


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

$V_{rev}(V)$	$C_j(pF)$ Measurement	$C_j(pF)$ Simulation	%Error
0.2	2450.00	2510.00	2.45
0.5	2100.00	2156.00	2.67
1	1630.00	1676.00	2.82
2	1250.00	1264.00	1.12
5	835.00	834.30	-0.08
10	600.00	597.60	-0.40
20	430.00	424.70	-1.23
40	300.00	301.70	0.57