

Device Modeling Report

COMPONENTS:
DIODE/ SCHOOTKY RECTIFIER / STANDARD
PART NUMBER: D1FS4
MANUFACTURER: SHINDENGEN

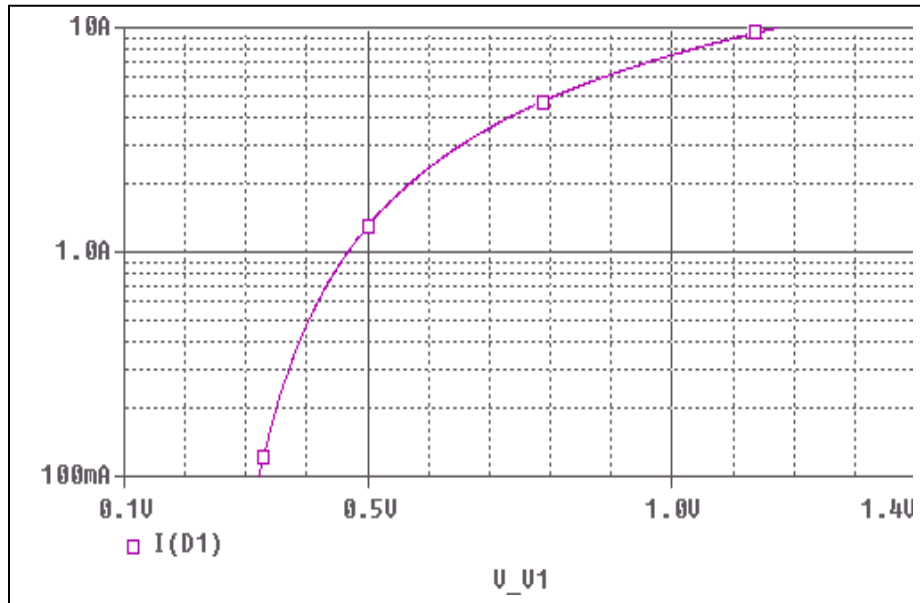


Bee Technologies Inc.

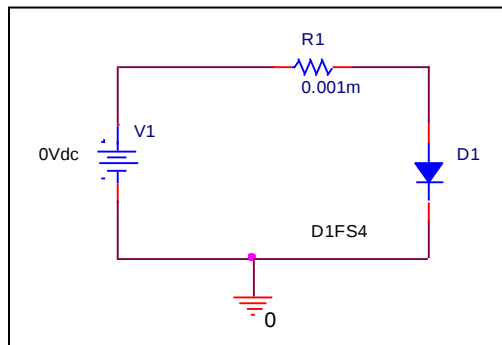
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

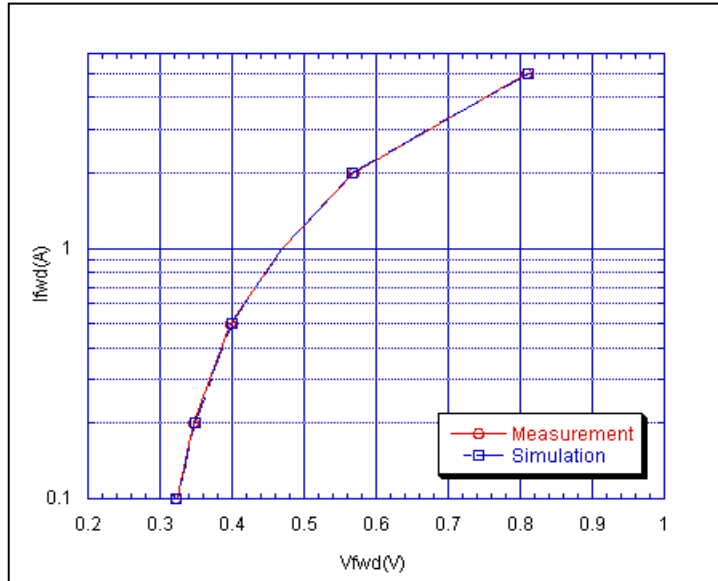


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

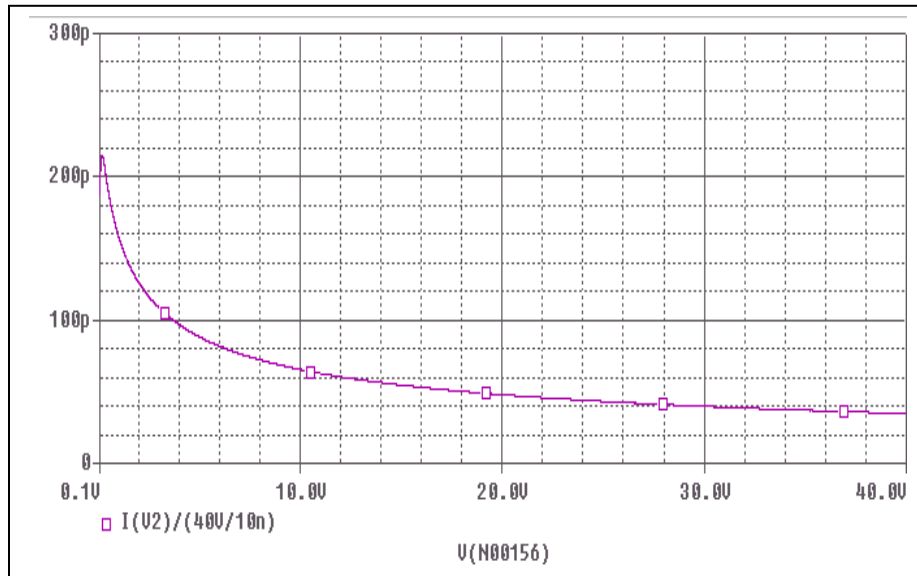


Simulation Result

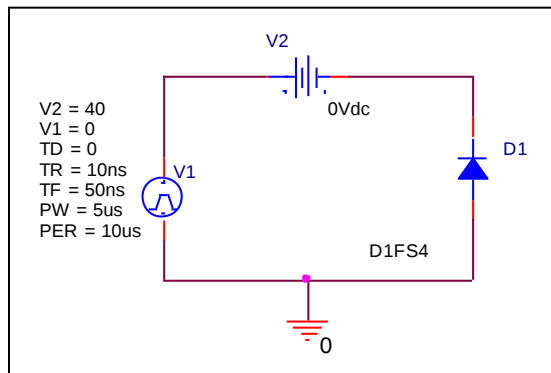
$I_{fwd}(A)$	$V_{fwd}(V)$ Measurement	$V_{fwd}(V)$ Simulation	%Error
0.05	0.300	0.298	-0.67
0.1	0.323	0.322	-0.31
0.2	0.347	0.349	0.58
0.5	0.398	0.400	0.50
1	0.470	0.469	-0.21
2	0.570	0.567	-0.53
5	0.810	0.811	0.12

Junction Capacitance Characteristic

Circuit Simulation Result

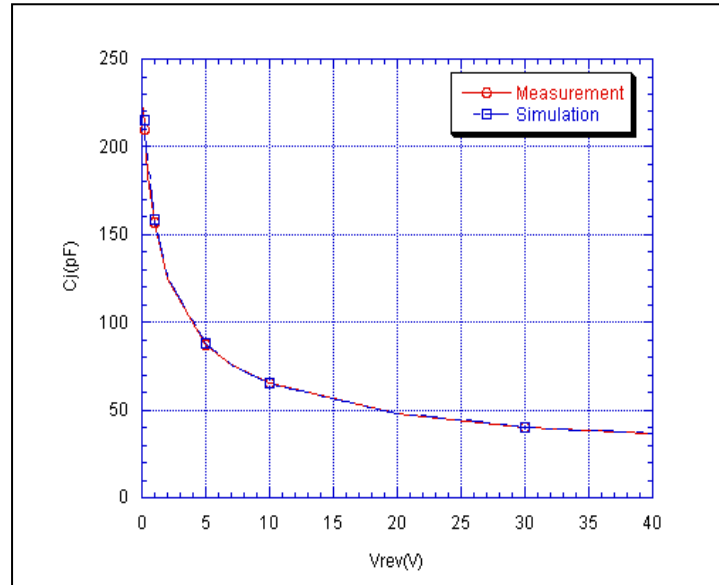


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0.1	220.000	210.000	-4.55
0.2	210.000	215.000	2.38
0.5	184.000	189.000	2.72
1	157.000	159.000	1.27
2	125.000	126.000	0.80
5	87.000	88.000	1.15
10	64.694	65.000	0.47
20	47.689	48.000	0.65
40	35.686	36.000	0.88