

# Device Modeling Report

COMPONENTS:  
DIODE/ SCHOOTKY RECTIFIER / STANDARD  
PART NUMBER: M1FM3  
MANUFACTURER: SHINDENGEN

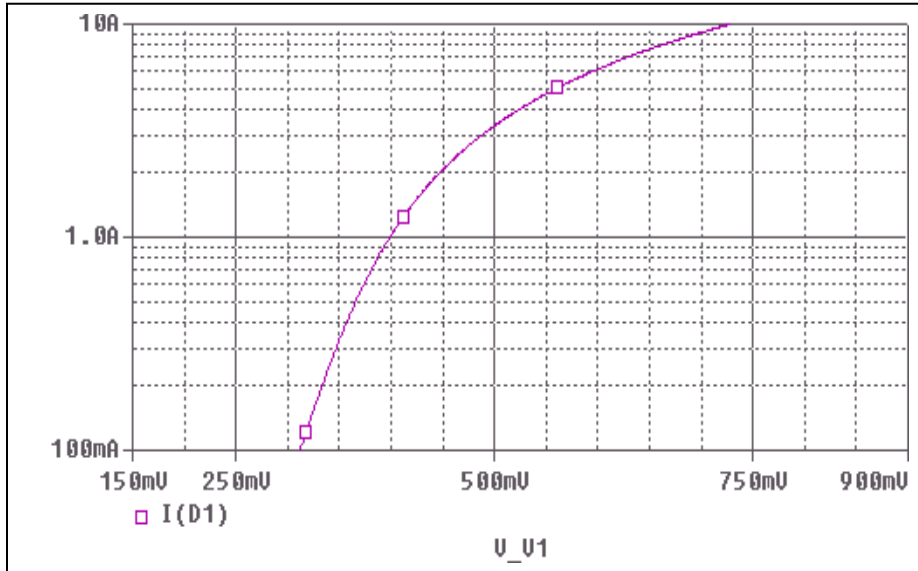


**Bee Technologies Inc.**

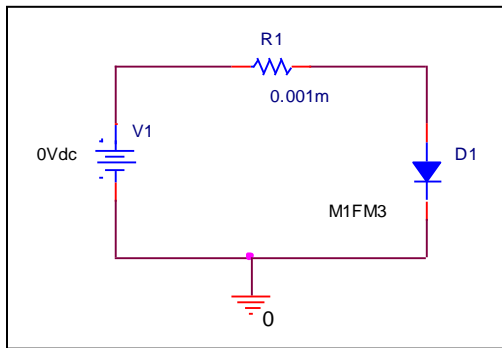
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

# Forward Current Characteristic

## Circuit Simulation Result

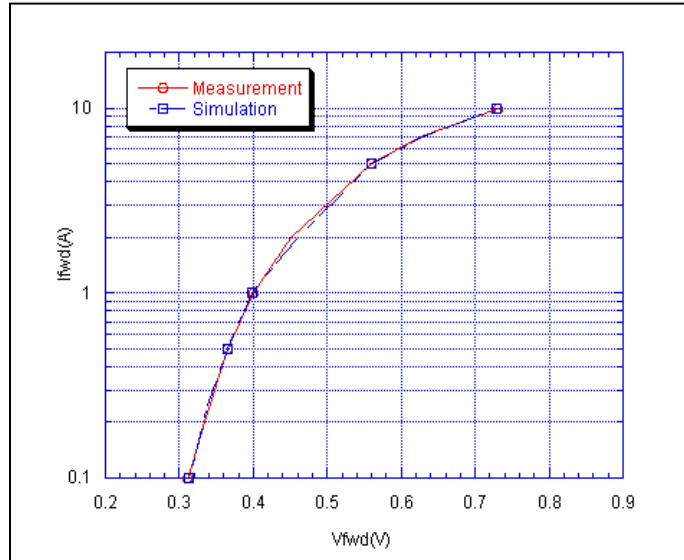


## Evaluation Circuit



# Comparison Graph

## Circuit Simulation Result

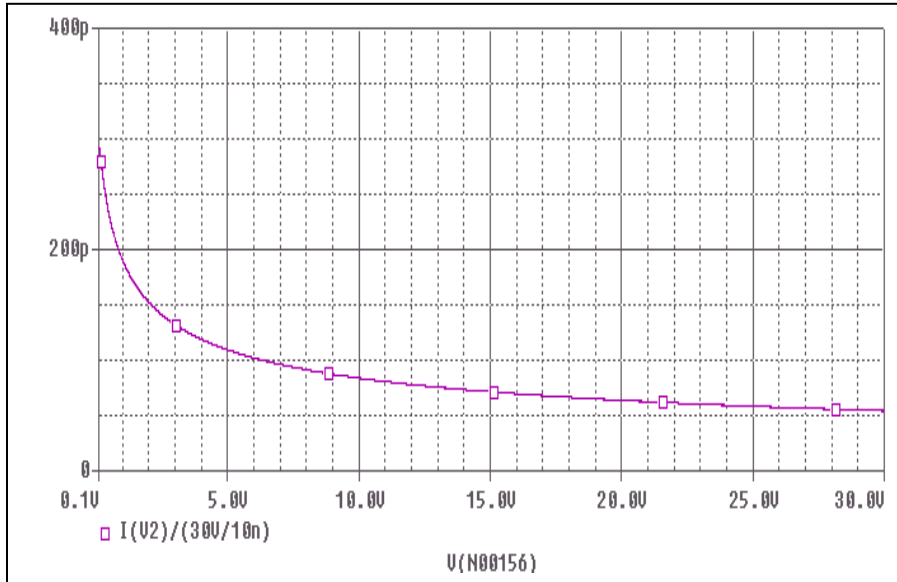


## Simulation Result

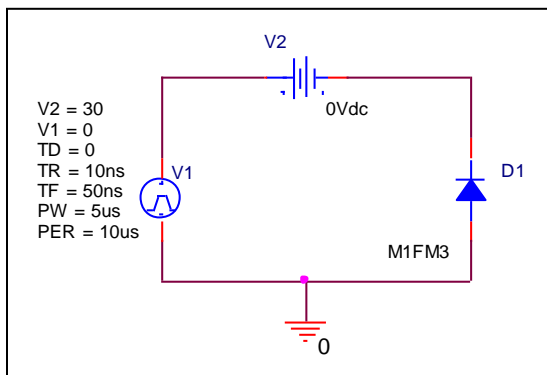
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.310	0.312	0.65
0.2	0.334	0.333	-0.30
0.5	0.366	0.365	-0.27
1	0.400	0.399	-0.25
2	0.450	0.460	2.22
5	0.561	0.560	-0.18
10	0.730	0.729	-0.14

# Junction Capacitance Characteristic

## Circuit Simulation Result

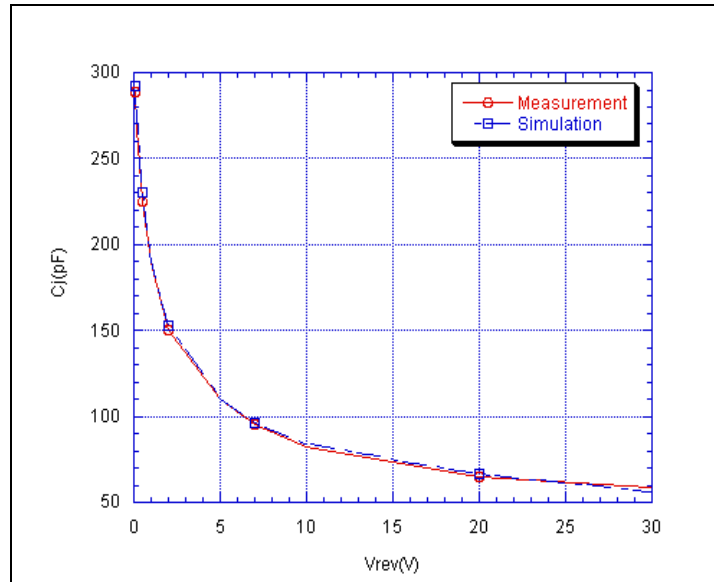


## Evaluation Circuit



# Comparison Graph

## Circuit Simulation Result



## Simulation Result

Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0.1	289.00	292.00	1.04
0.2	268.00	277.00	3.36
0.5	225.00	230.00	2.22
1	189.00	190.00	0.53
2	150.11	153.00	1.92
5	110.15	110.00	-0.13
10	82.00	84.00	2.44
20	65.00	67.00	3.08