

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / STANDARD
PART NUMBER: 1SS271
MANUFACTURER: TOSHIBA

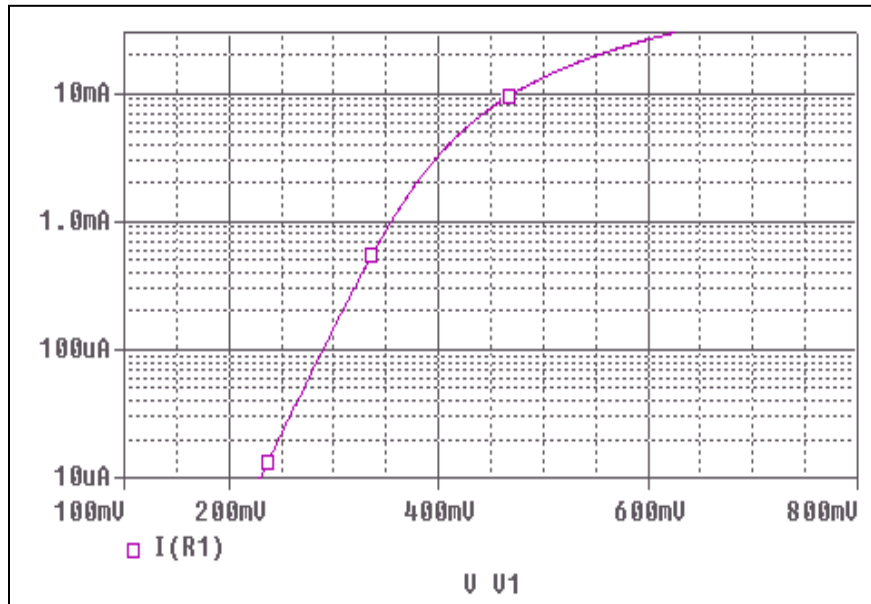


Bee Technologies Inc.

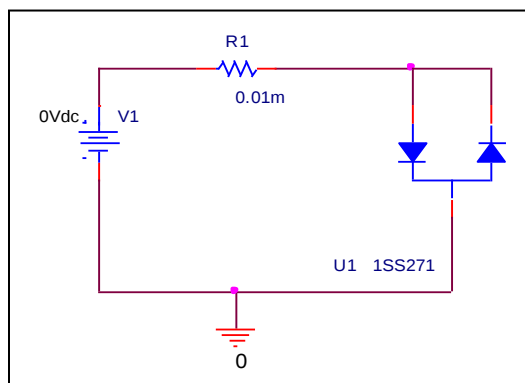
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

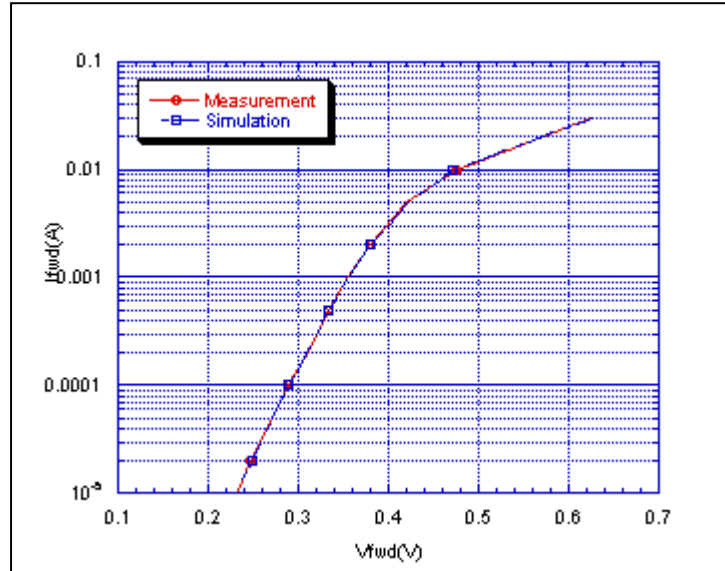


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

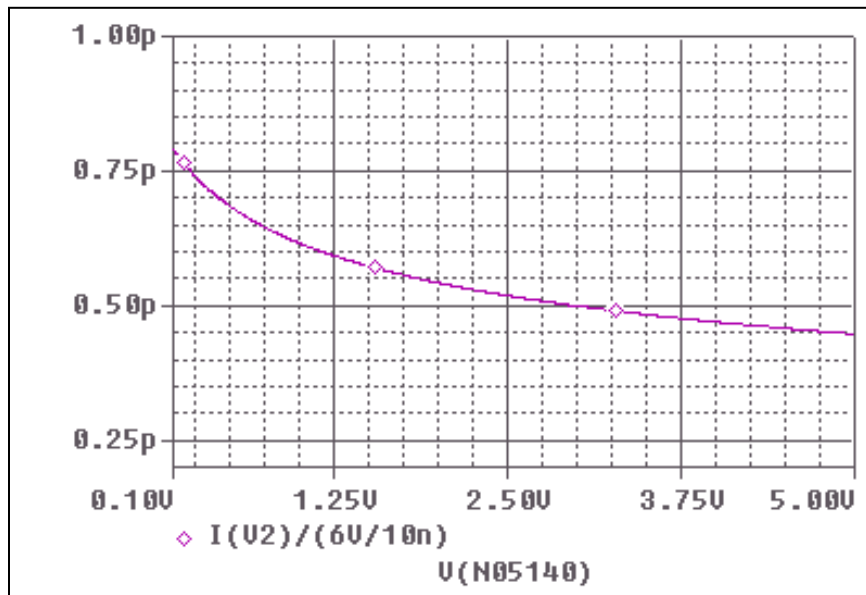


Simulation Result

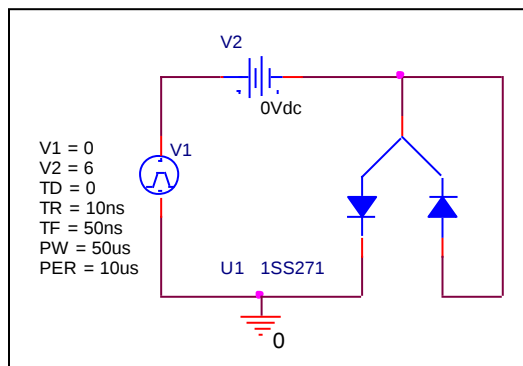
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
1.00E-05	0.230	0.230	-0.22
2.00E-05	0.247	0.248	0.40
5.00E-05	0.270	0.272	0.56
0.0001	0.288	0.290	0.56
0.0002	0.310	0.308	-0.61
0.0005	0.333	0.334	0.21
0.001	0.355	0.355	-0.06
0.002	0.380	0.379	-0.24
0.005	0.420	0.422	0.40
0.01	0.475	0.471	-0.80
0.03	0.625	0.626	0.16

Junction Capacitance Characteristic

Circuit Simulation Result

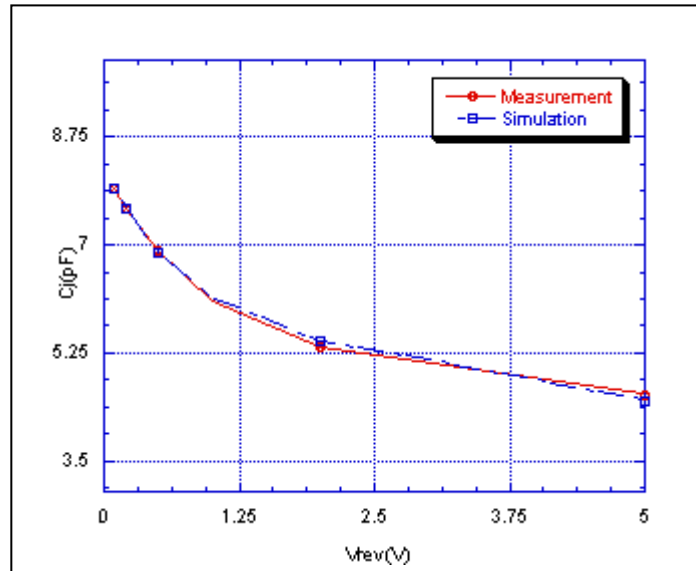


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0.1	7.90	7.92	0.22
0.2	7.60	7.57	-0.36
0.5	6.90	6.86	-0.61
1	6.08	6.16	1.32
2	5.35	5.43	1.44
5	4.56	4.47	-1.91