

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / PROFESSIONAL
PART NUMBER: XBS024S15R-G
MANUFACTURER: TOREX SEMICONDUCTOR

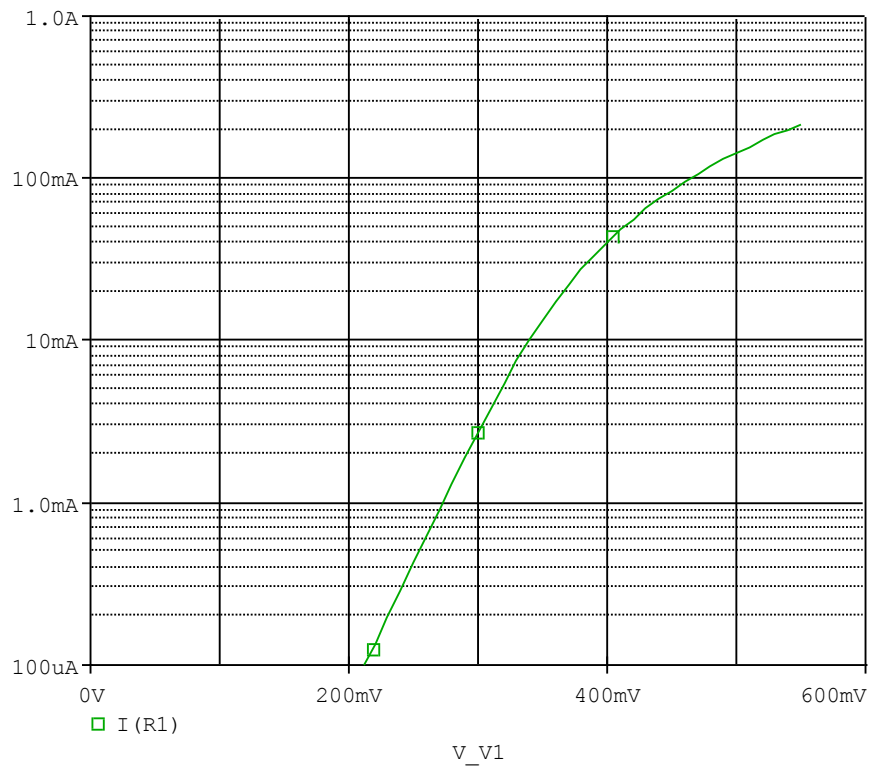


Bee Technologies Inc.

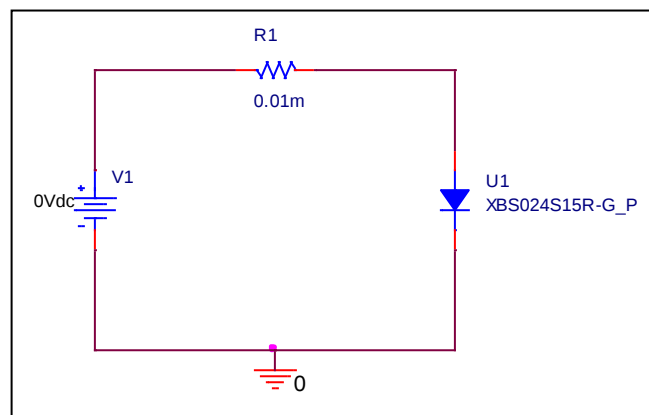
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

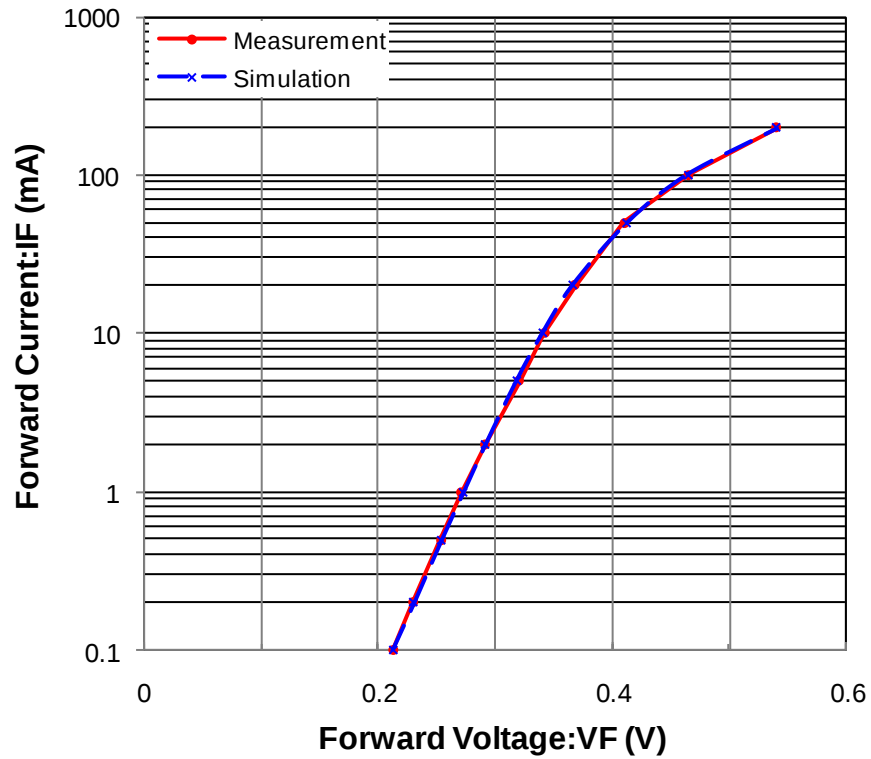


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

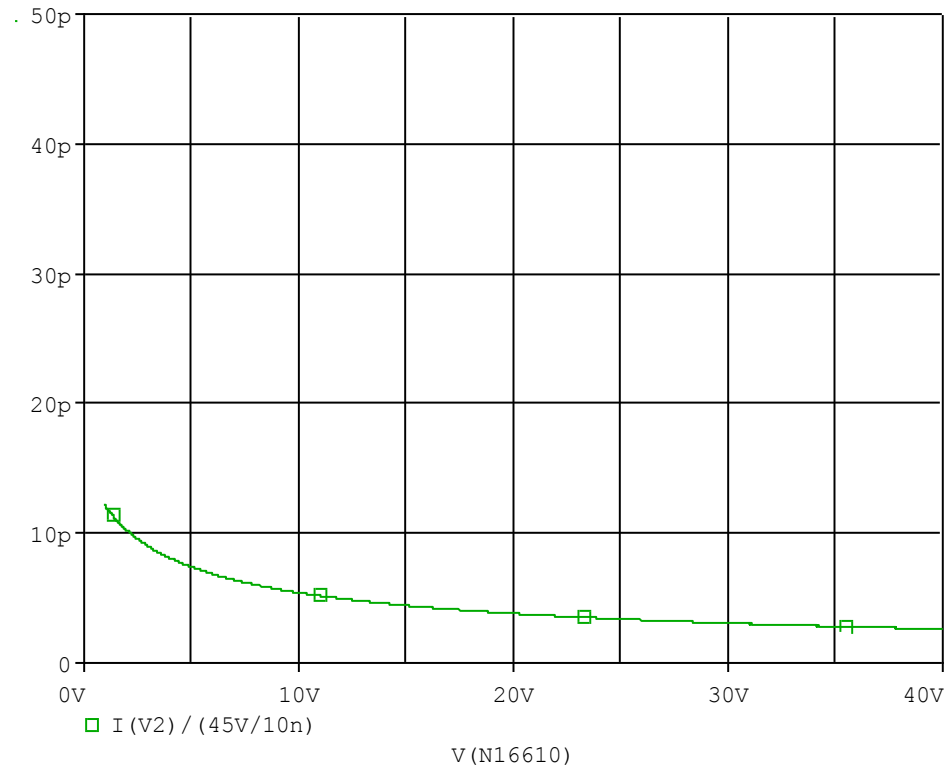


Simulation Result

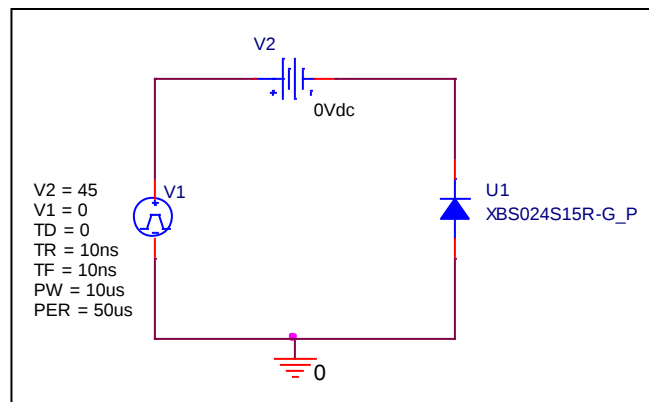
I_F (mA)	V_F (V)		%Error
	Measurement	Simulation	
0.1	0.212	0.212	0.00
0.2	0.229	0.230	0.56
0.5	0.253	0.254	0.33
1	0.271	0.272	0.48
2	0.291	0.291	0.07
5	0.320	0.317	-0.85
10	0.342	0.340	-0.71
20	0.368	0.366	-0.67
50	0.410	0.413	0.62
100	0.465	0.464	-0.11
200	0.540	0.540	-0.01

Capacitance Characteristic

Circuit Simulation Result

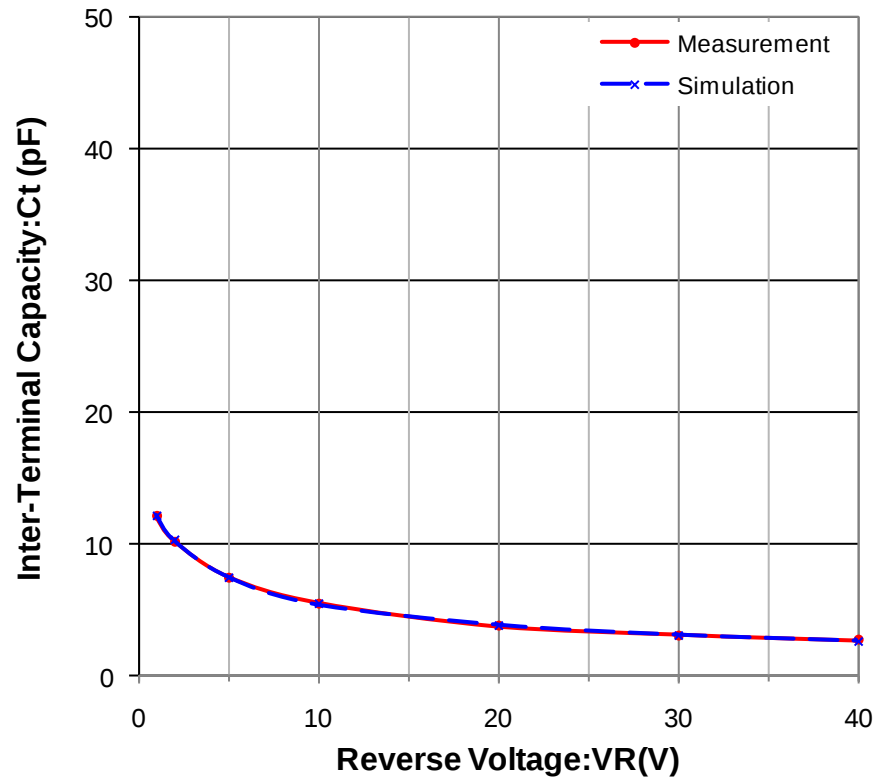


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

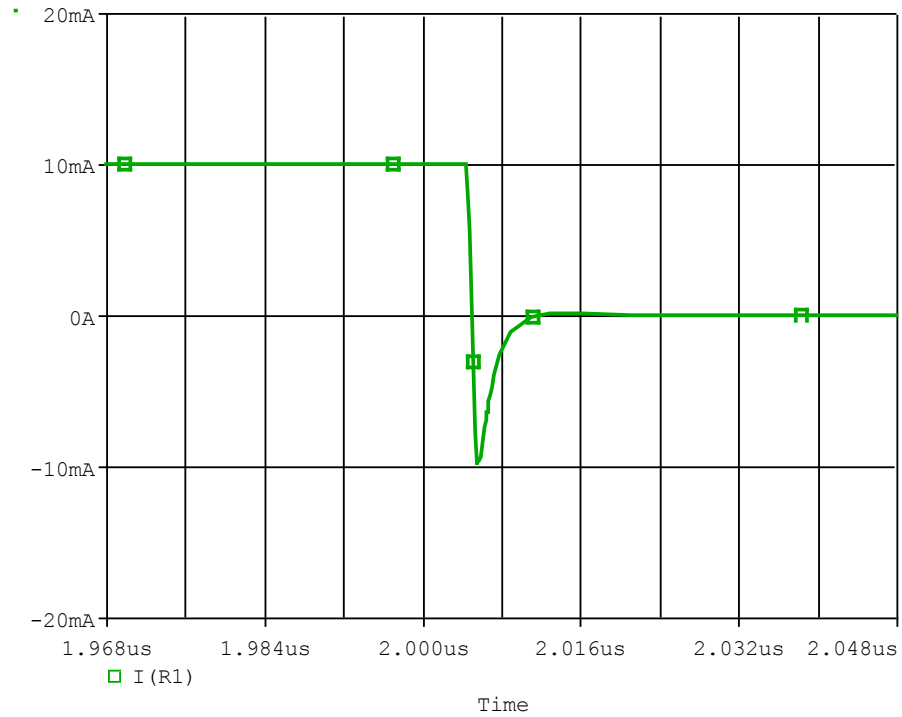


Simulation Result

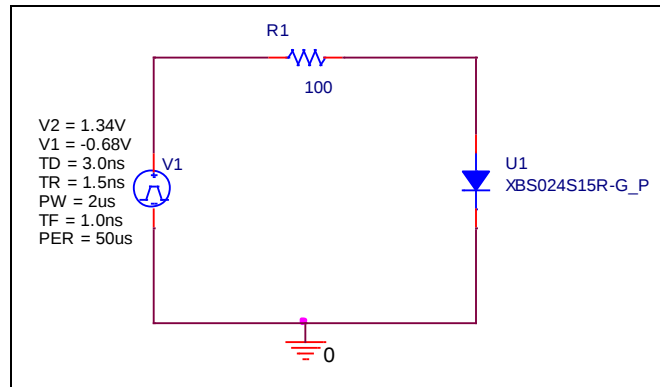
V _R (V)	C _t (pF)		%Error
	Measurement	Simulation	
1	12.100	12.172	0.60
2	10.150	10.284	1.32
5	7.455	7.419	-0.48
10	5.450	5.421	-0.53
20	3.750	3.810	1.60
30	3.050	3.068	0.60
40	2.650	2.618	-1.22

Reverse Recovery Characteristic

Circuit Simulation Result



Evaluation Circuit

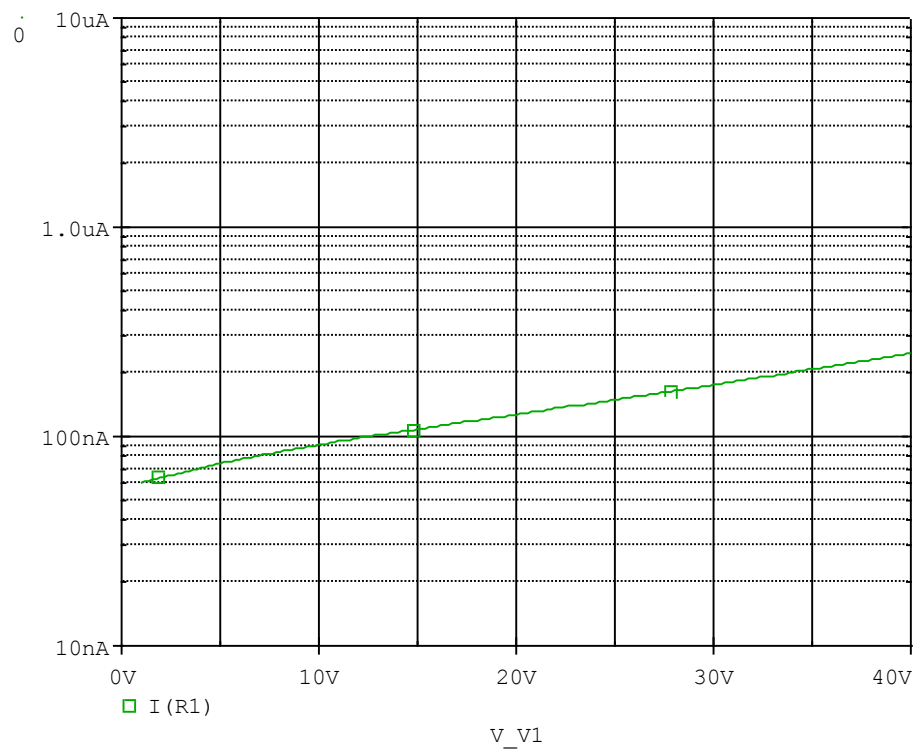


Compare Measurement vs. Simulation

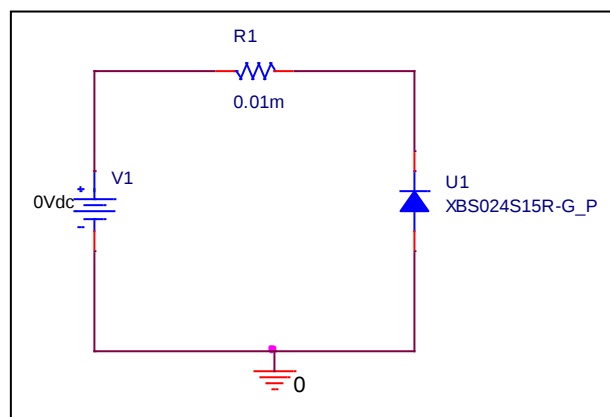
Parameter	Unit	Measurement	Simulation	%Error
trr	ns	4.000	4.085	2.12

Reverse Characteristic

Circuit Simulation Result

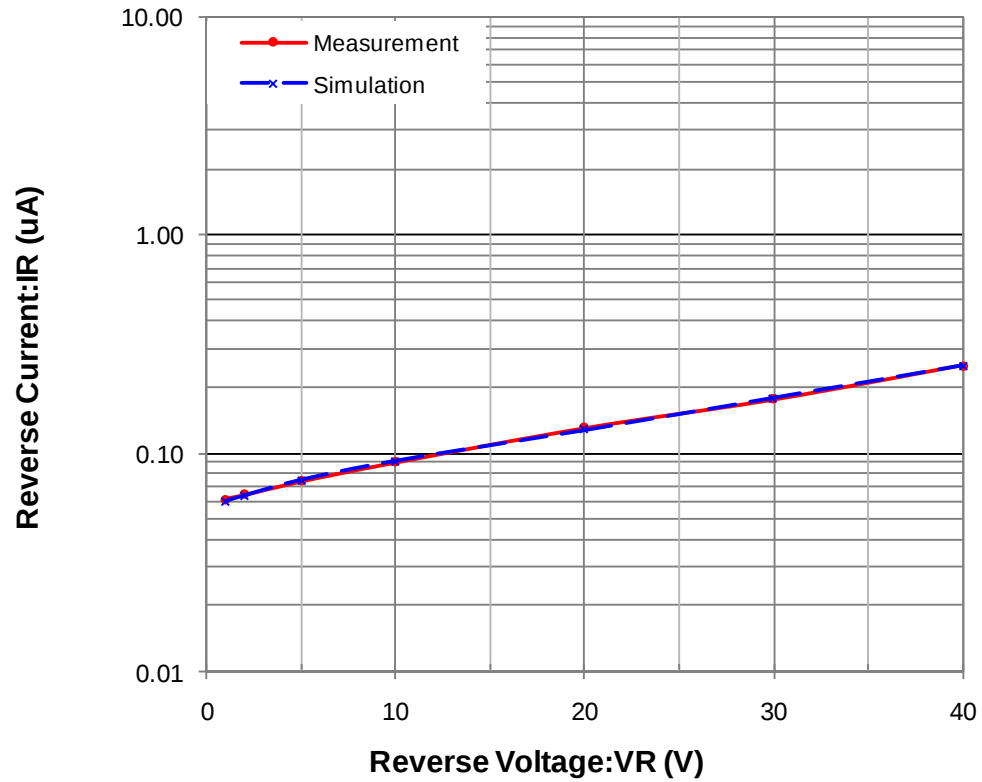


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_R (V)	I_R (uA)		%Error
	Measurement	Simulation	
1	0.061	0.060	-1.68
2	0.064	0.064	-0.43
5	0.074	0.074	1.26
10	0.090	0.091	1.65
20	0.130	0.128	-1.89
30	0.175	0.177	0.90
40	0.250	0.251	0.33