

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / STANDARD
PART NUMBER: XBS204S17R
MANUFACTURER: TOREX SEMICONDUCTOR

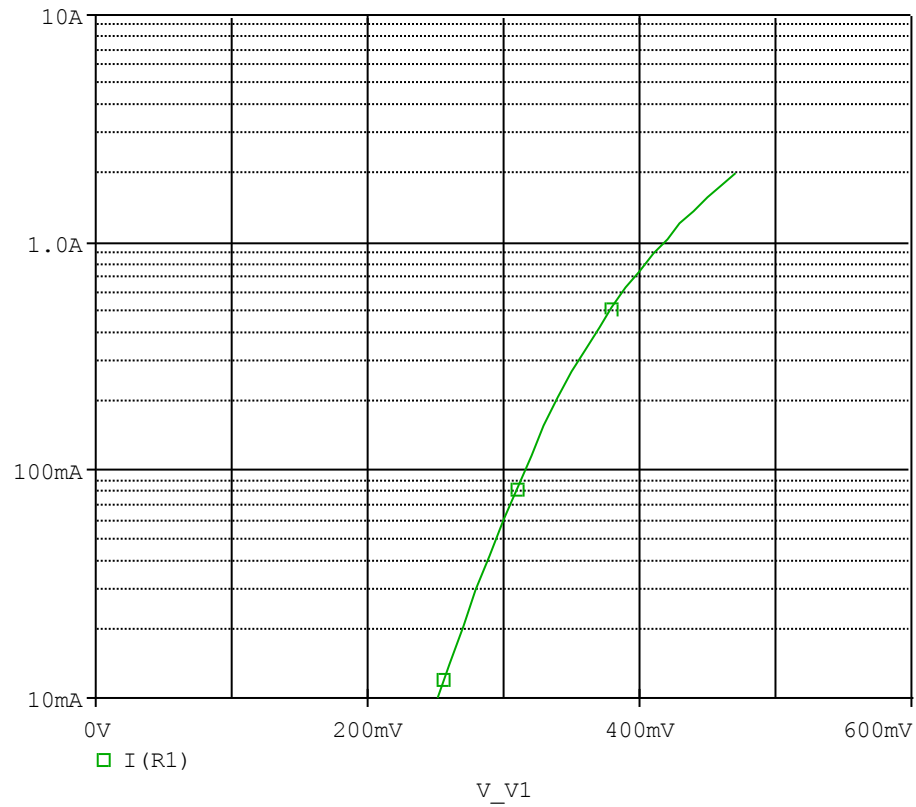


Bee Technologies Inc.

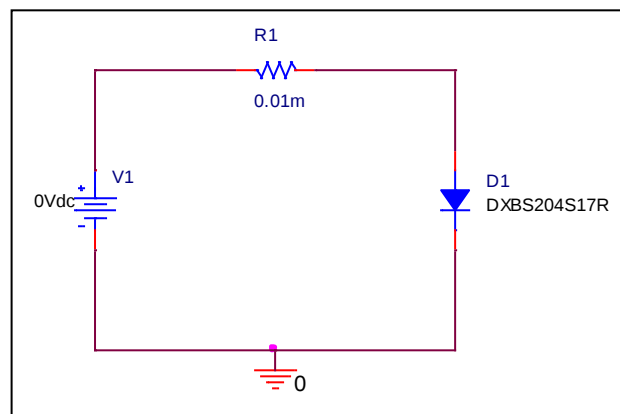
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

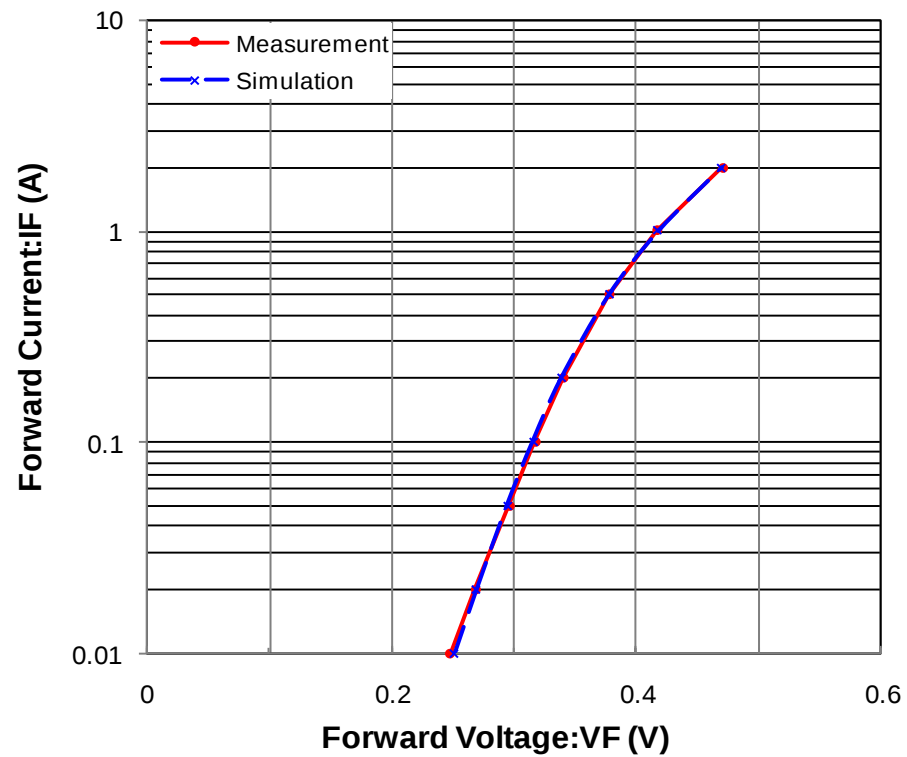


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

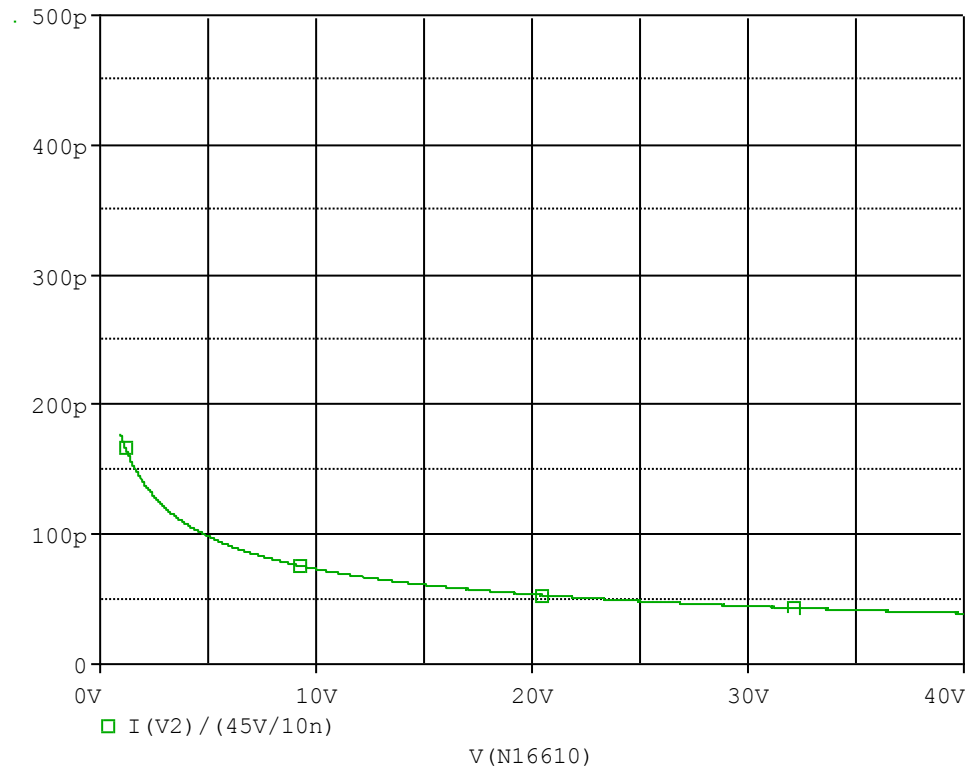


Simulation Result

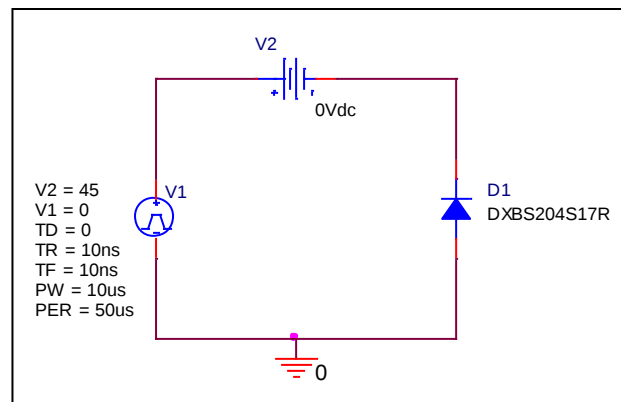
I_F (A)	V_F (V)		%Error
	Measurement	Simulation	
0.01	0.248	0.251	1.06
0.02	0.268	0.269	0.41
0.05	0.296	0.294	-0.61
0.1	0.317	0.315	-0.65
0.2	0.340	0.338	-0.45
0.5	0.377	0.378	0.14
1	0.416	0.417	0.31
2	0.470	0.470	-0.10

Capacitance Characteristic

Circuit Simulation Result

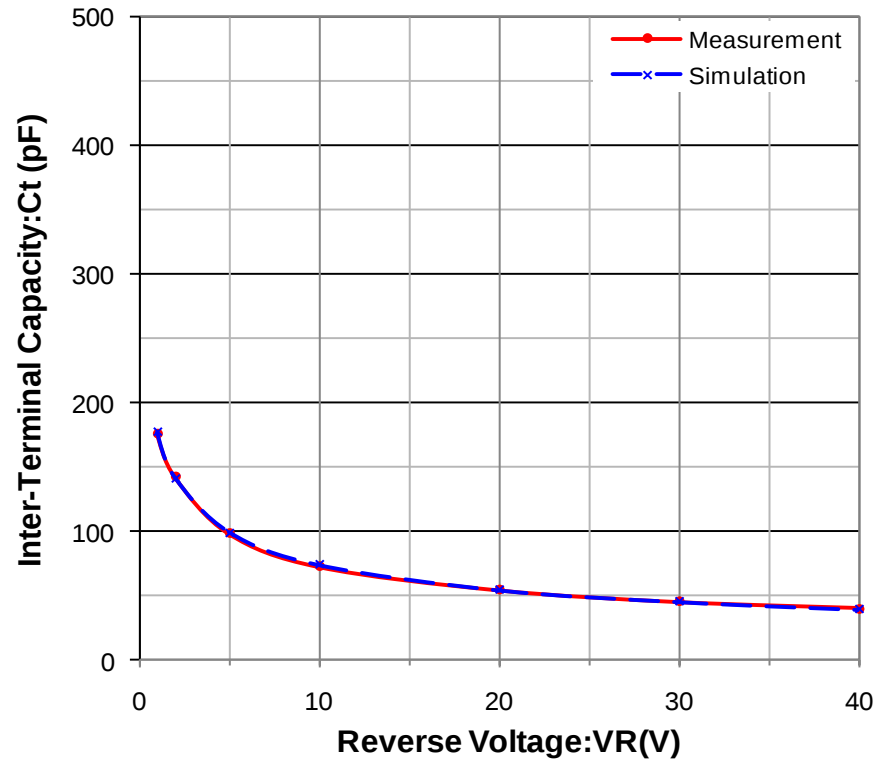


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

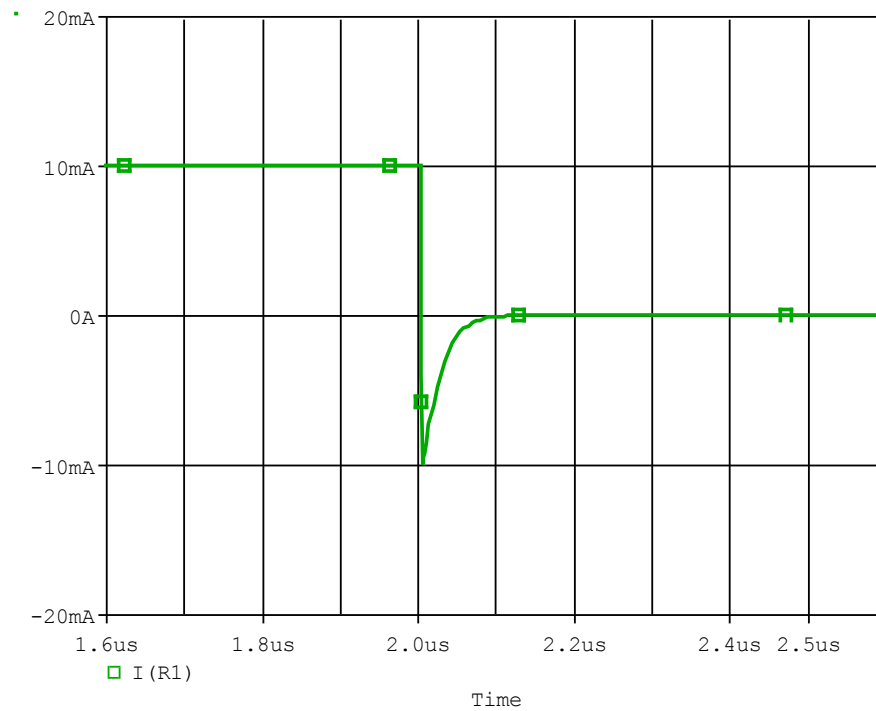


Simulation Result

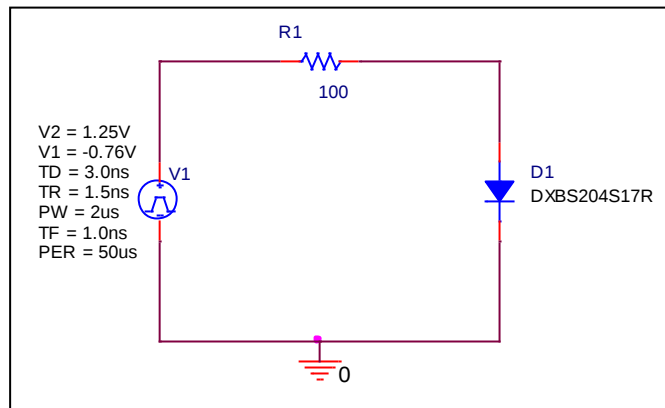
V _R (V)	C _t (pF)		%Error
	Measurement	Simulation	
1	175.000	176.945	1.11
2	142.000	141.176	-0.58
5	98.000	98.738	0.75
10	72.000	73.398	1.94
20	54.000	53.762	-0.44
30	45.000	44.703	-0.66
40	40.000	39.188	-2.03

Reverse Recovery Characteristic

Circuit Simulation Result



Evaluation Circuit



Compare Measurement vs. Simulation

Parameter	Unit	Measurement	Simulation	%Error
trr	ns	51.000	52.423	2.79