

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / STANDARD
PART NUMBER: XBS303V17R
MANUFACTURER: TOREX SEMICONDUCTOR

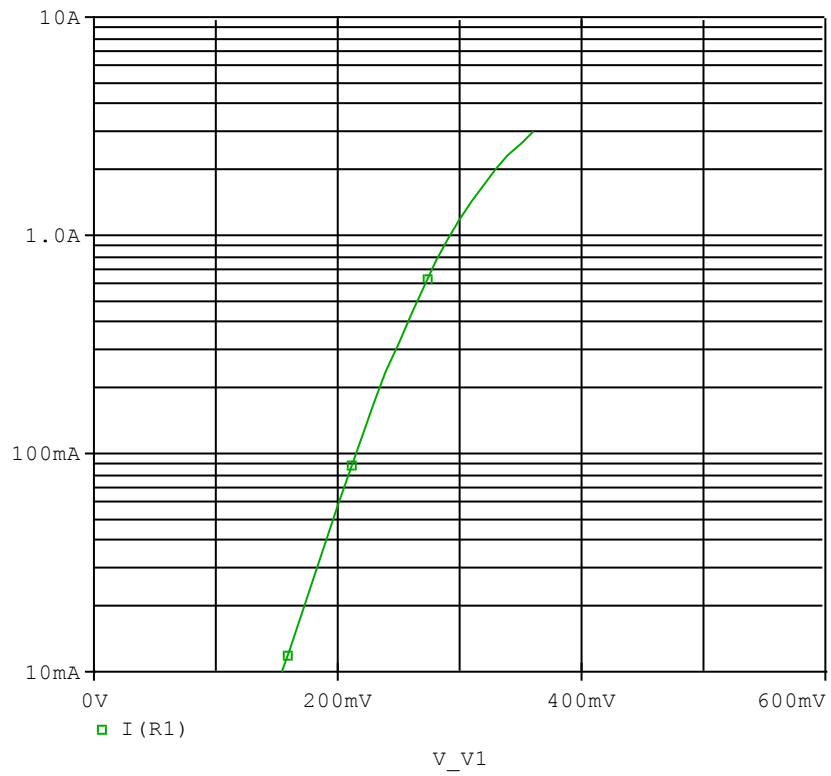


Bee Technologies Inc.

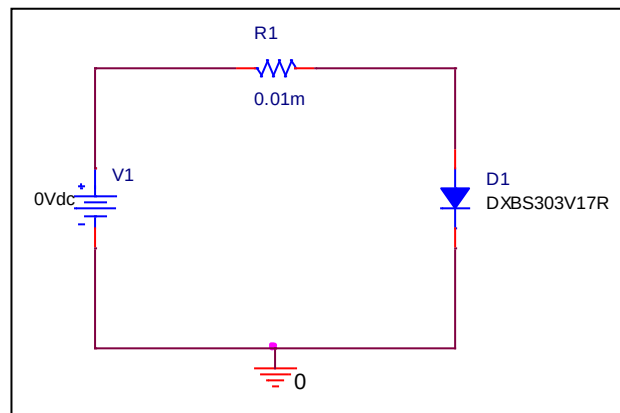
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

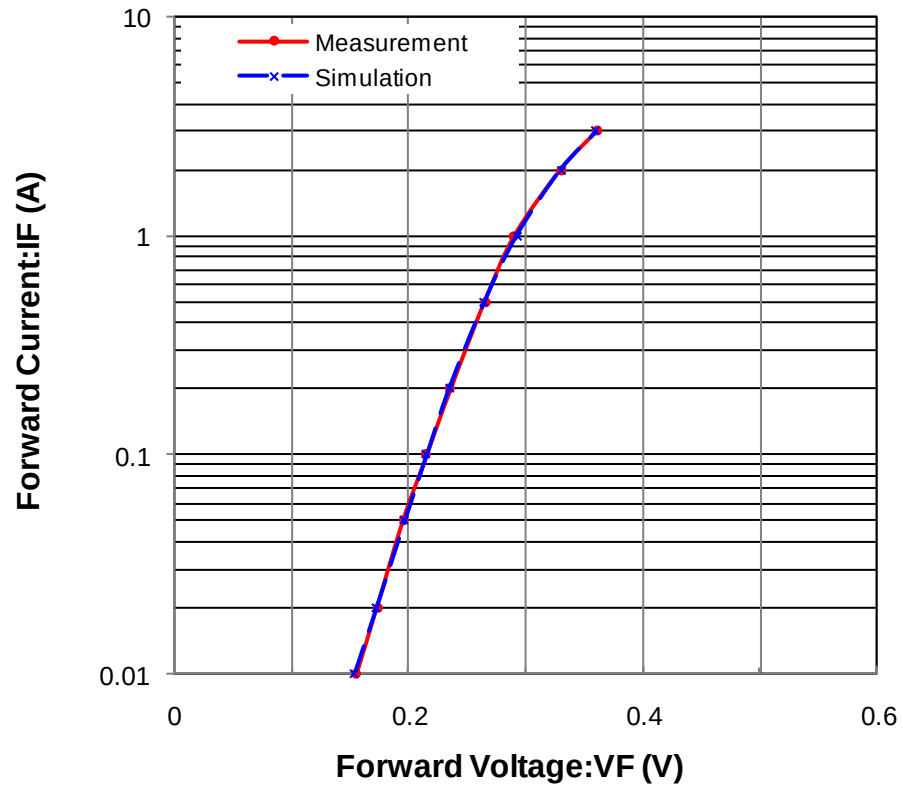


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

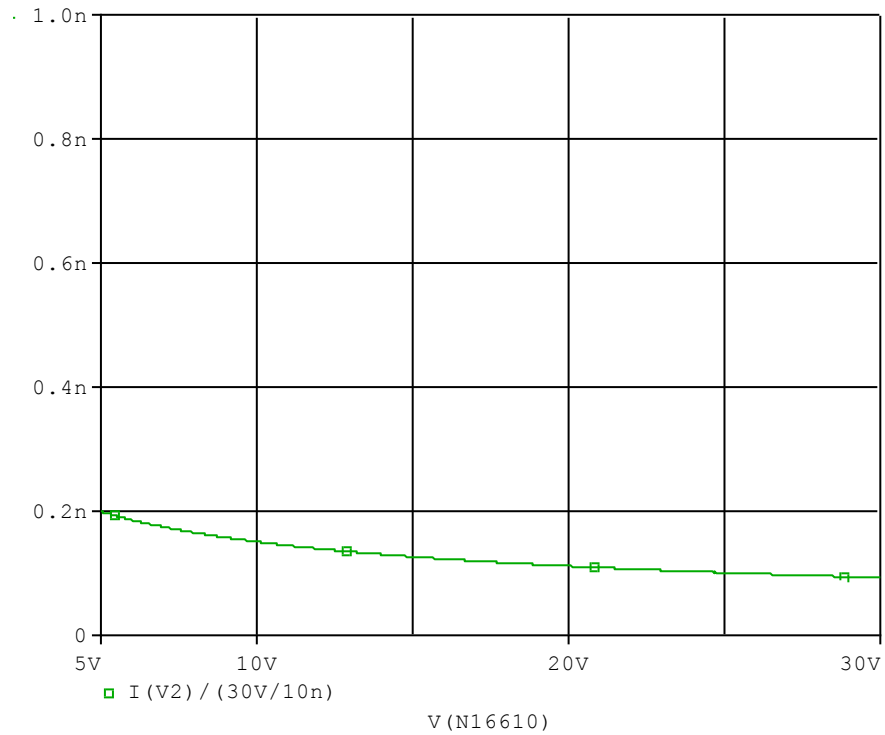


Simulation Result

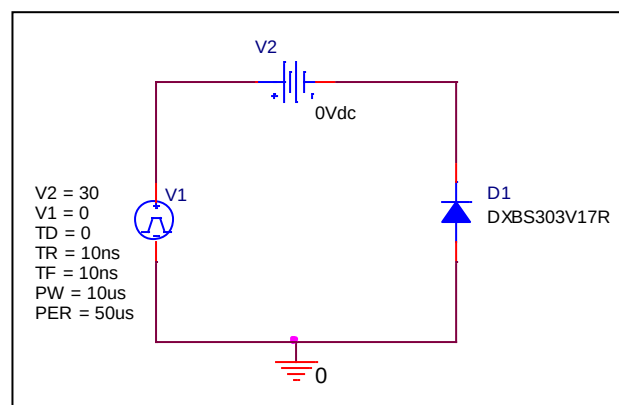
I_F (A)	V_F (V)		%Error
	Measurement	Simulation	
0.01	0.155	0.153	-1.026
0.02	0.173	0.172	-0.775
0.05	0.195	0.196	0.398
0.1	0.215	0.215	-0.147
0.2	0.235	0.235	-0.165
0.5	0.265	0.264	-0.274
1	0.290	0.292	0.724
2	0.330	0.330	-0.114
3	0.360	0.360	-0.106

Capacitance Characteristic

Circuit Simulation Result

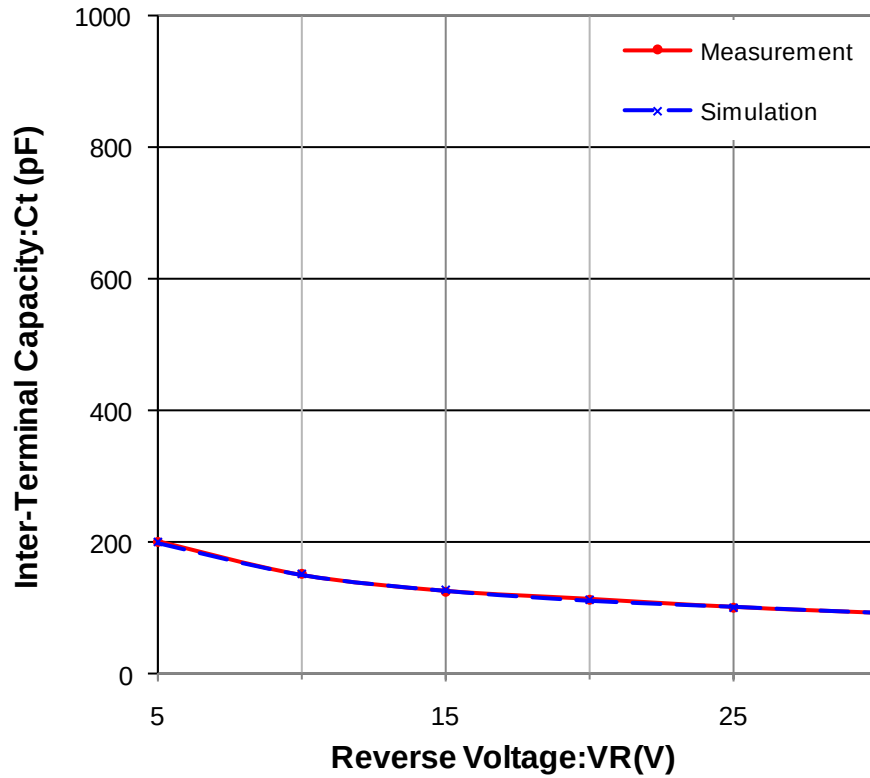


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

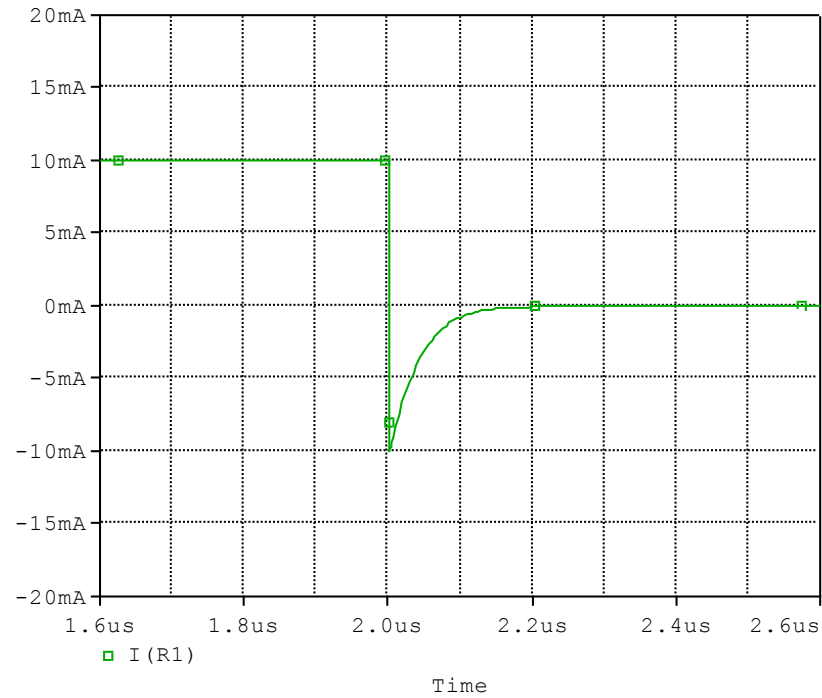


Simulation Result

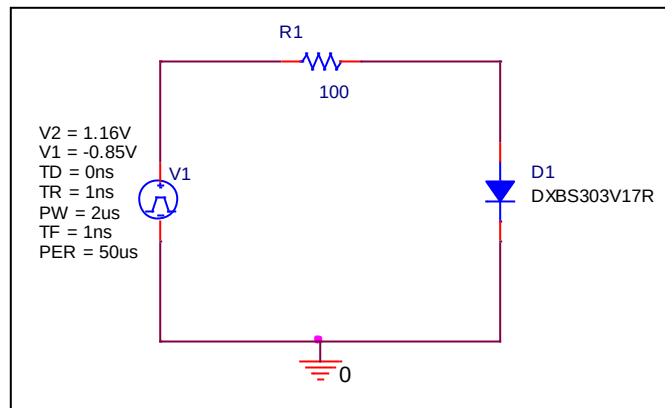
V_R (V)	C_t (pF)		%Error
	Measurement	Simulation	
5	200.000	199.773	-0.11
10	150.000	150.632	0.42
15	125.000	126.668	1.33
20	112.000	111.652	-0.31
25	100.000	100.944	0.94
30	93.000	93.030	0.03

Reverse Recovery Characteristic

Circuit Simulation Result



Evaluation Circuit



Compare Measurement vs. Simulation

Parameter	Unit	Measurement	Simulation	%Error
trr	ns	90.000	90.037	0.04