Device Modeling Report

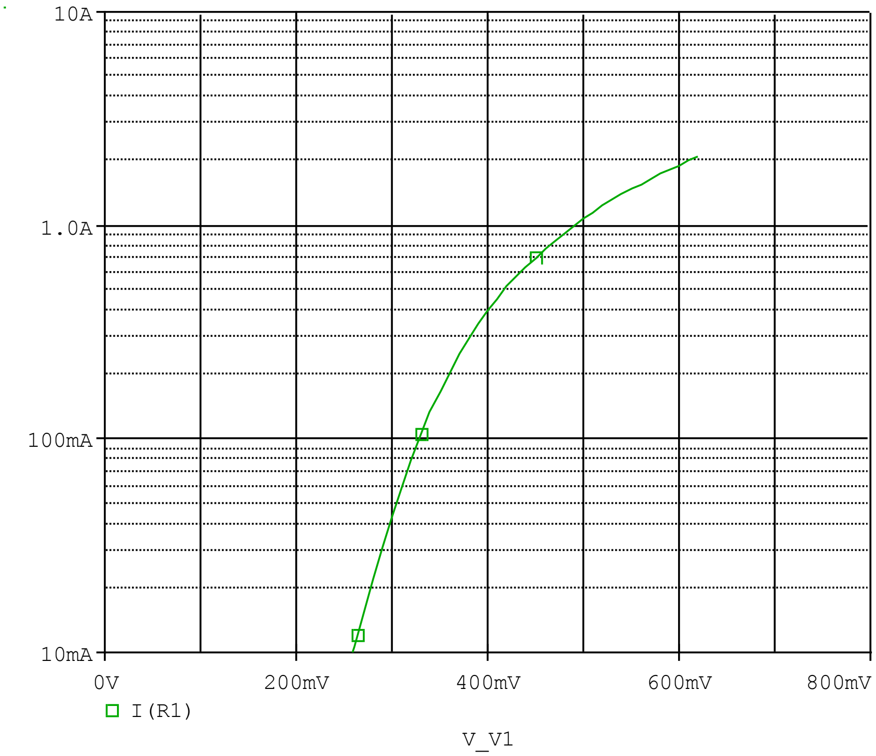
COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / PROFESSIONAL
PART NUMBER: XBS206S17R
MANUFACTURER: TOREX SEMICONDUCTOR

Bee Technologies Inc.

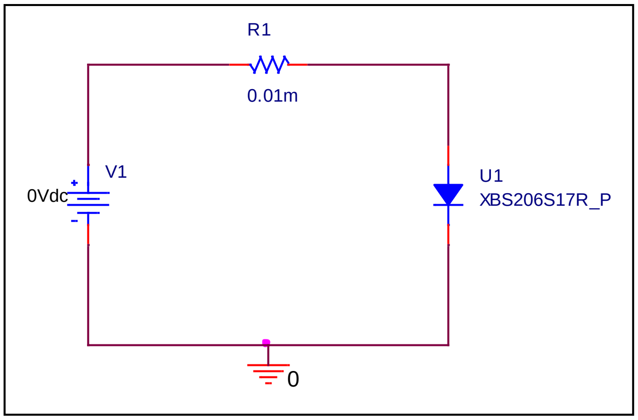
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

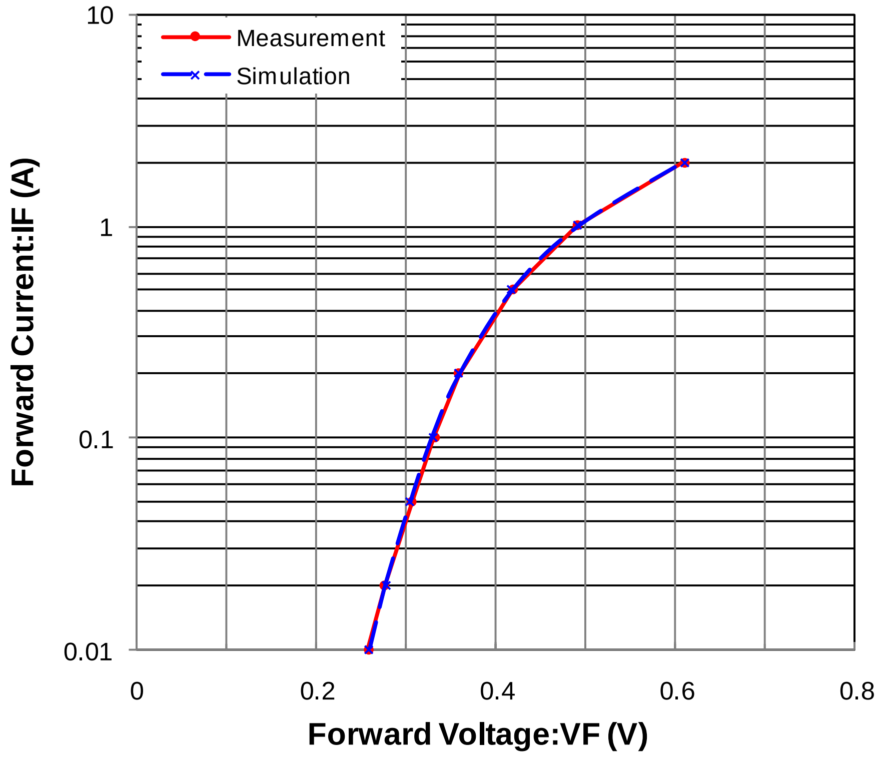


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

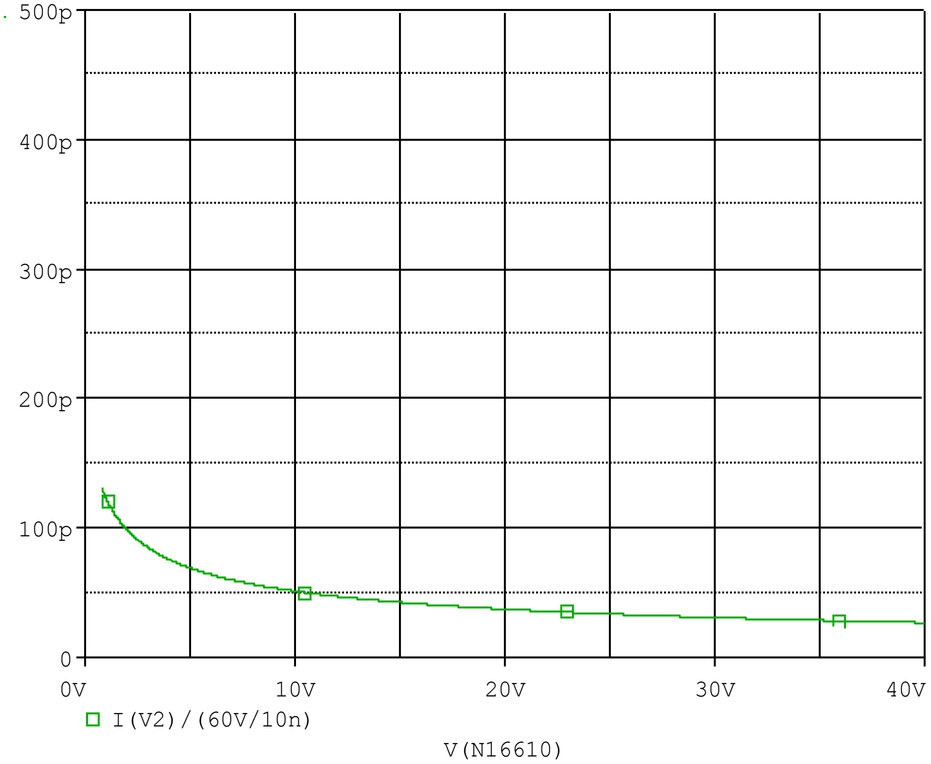


Simulation Result

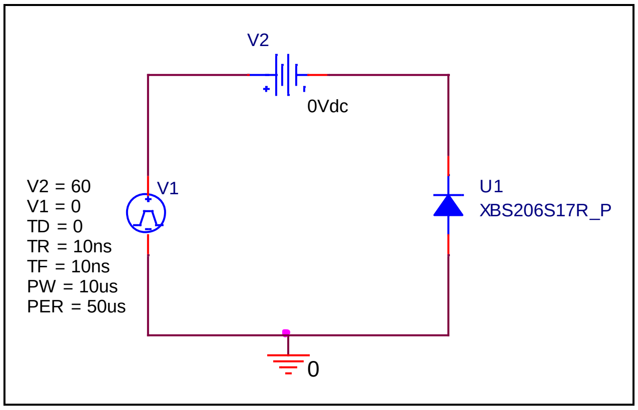
I_F (A)	V_F (V)		%Error
	Measurement	Simulation	
0.01	0.257	0.258	0.40
0.02	0.276	0.277	0.40
0.05	0.306	0.304	-0.51
0.1	0.331	0.329	-0.72
0.2	0.358	0.359	0.17
0.5	0.418	0.418	-0.10
1	0.490	0.491	0.14
2	0.610	0.610	-0.03

Capacitance Characteristic

Circuit Simulation Result

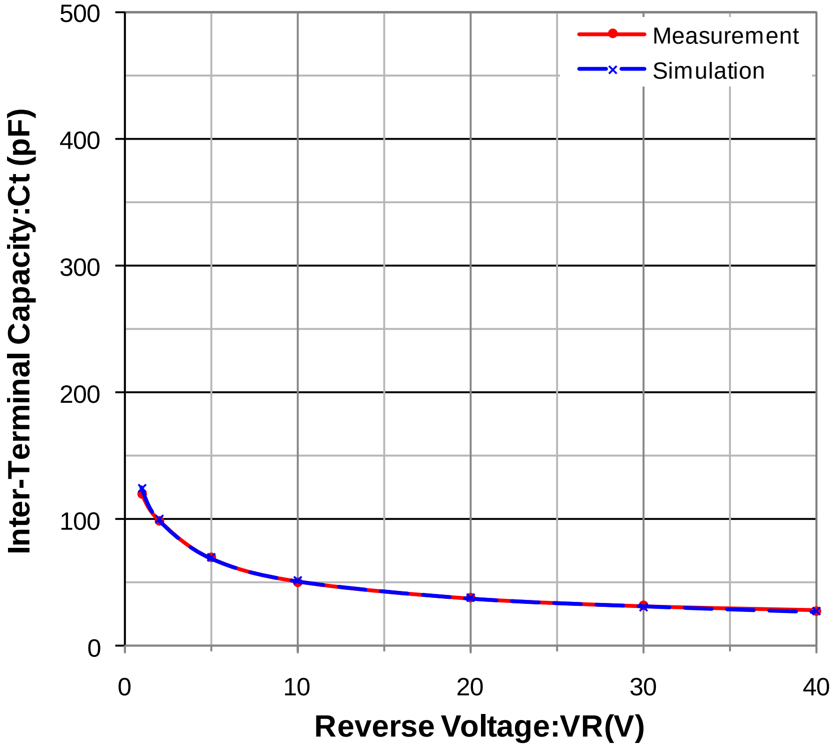


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

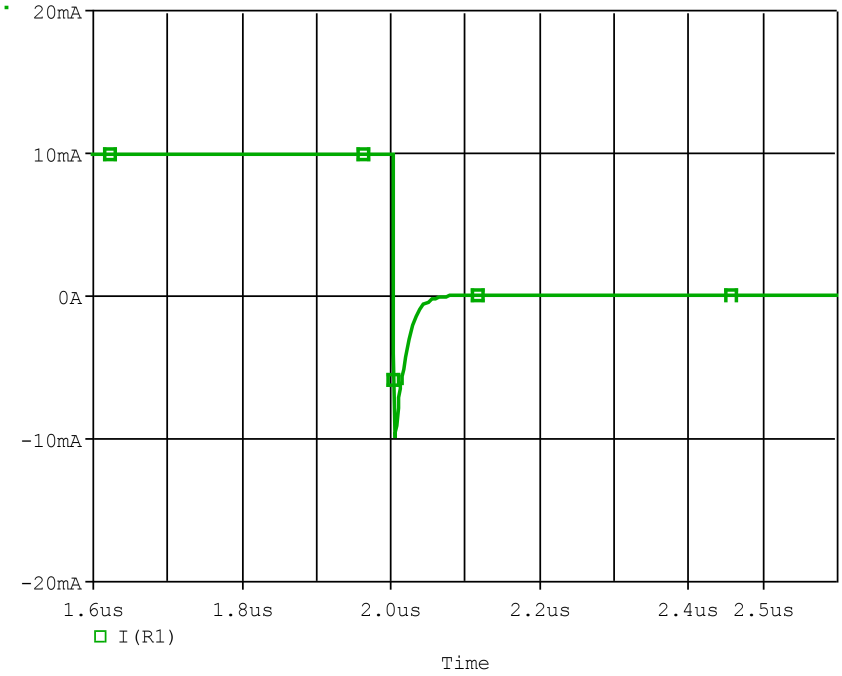


Simulation Result

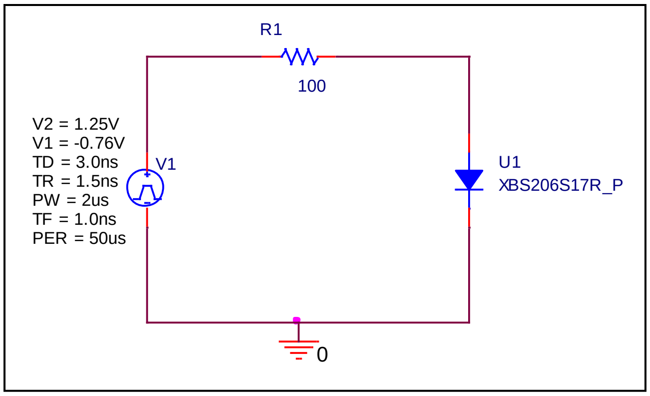
V_R (V)	Ct (pF)		%Error
	Measurement	**Simulation**	
1	**120.000**	**124.599**	**3.83**
2	**98.400**	**99.378**	**0.99**
5	**69.000**	**69.368**	**0.53**
10	**50.000**	**51.257**	**2.51**
20	**37.200**	**37.287**	**0.23**
30	**31.000**	**30.819**	**-0.58**
40	**27.500**	**26.862**	**-2.32**

Reverse Recovery Characteristic

Circuit Simulation Result



Evaluation Circuit

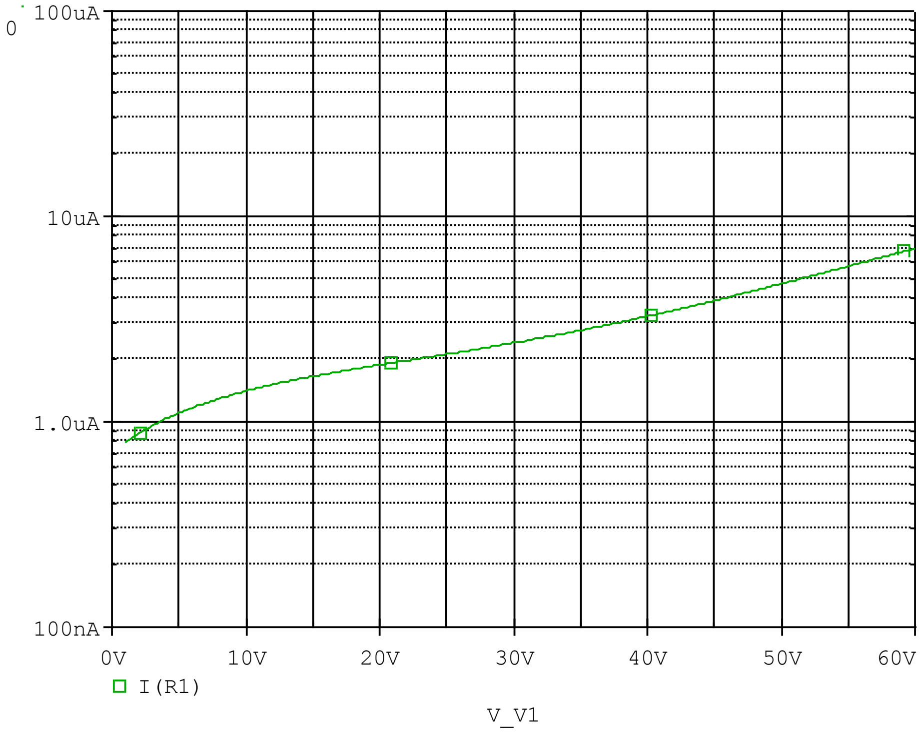


Compare Measurement vs. Simulation

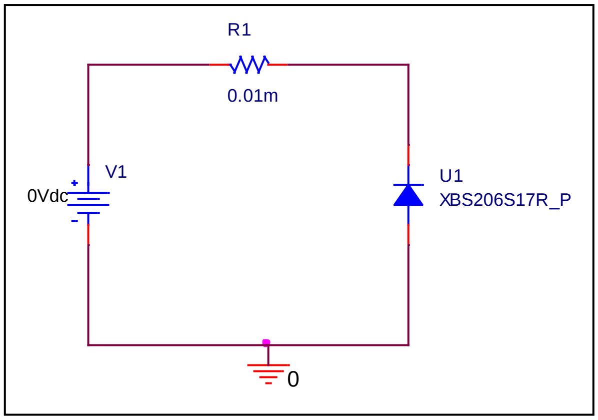
Parameter	Unit	Measurement	Simulation	%Error
trr	ns	35.000	35.107	0.31

Reverse Characteristic

Circuit Simulation Result

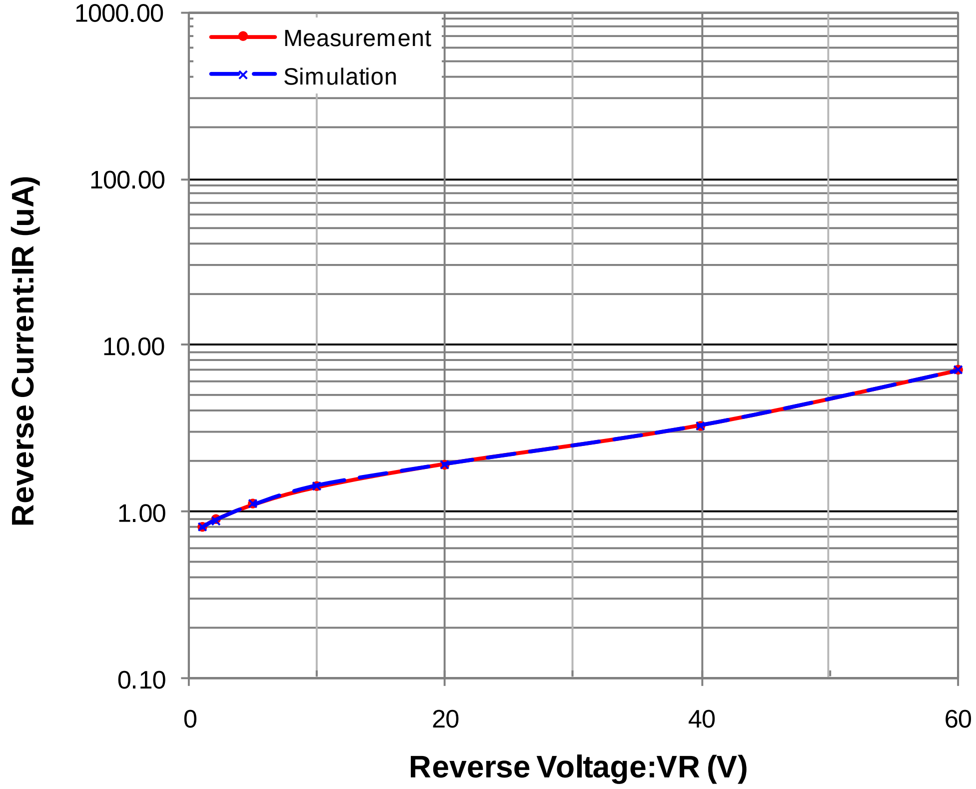


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

VR (V)	IR (uA)		%Error
	Measurement	Simulation	
1	0.800	0.795	-0.66
2	0.890	0.879	-1.28
5	1.100	1.105	0.43
10	1.400	1.413	0.94
20	1.915	1.895	-1.06
40	3.250	3.267	0.53
60	7.000	6.996	-0.06