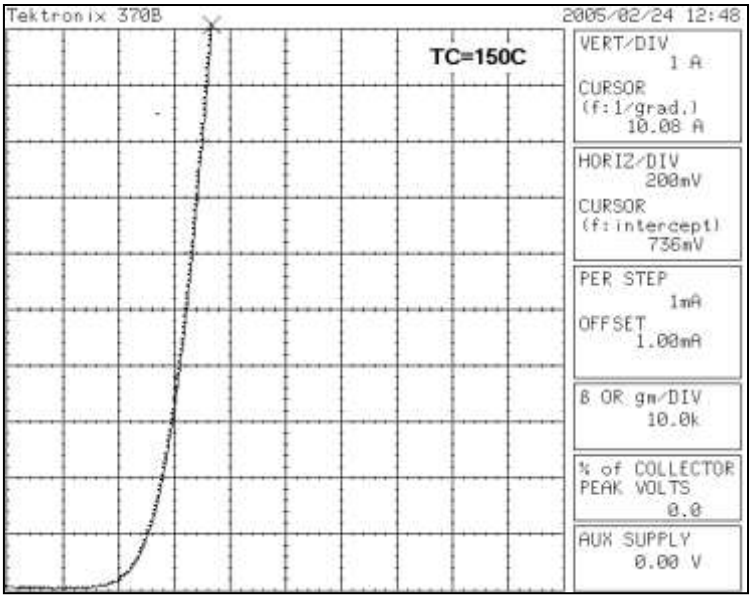
Device Modeling Report

COMPONENTS:
DIODE/ GENERAL PURPOSE RECTIFIER / STANDARD
PART NUMBER: RURG8060
MANUFACTURER: INTERSIL
REMARK: TC=150C

Bee Technologies Inc.

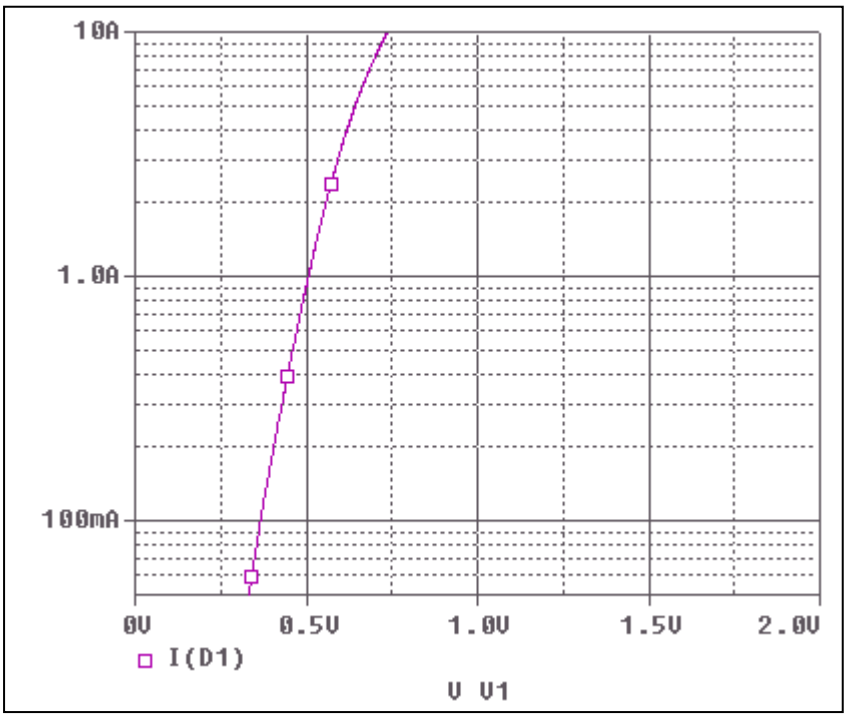
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic Reference

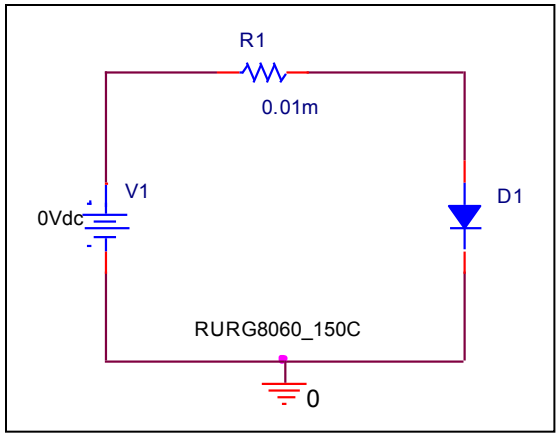


Forward Current Characteristic

Circuit Simulation Result

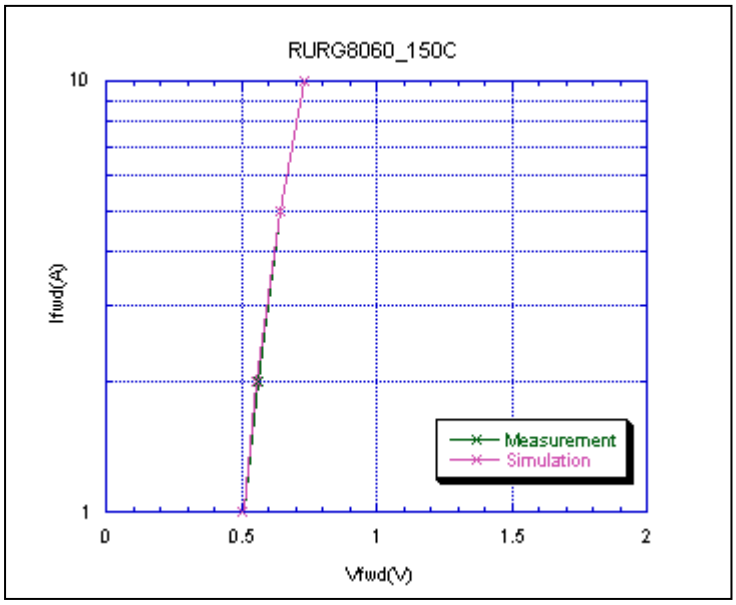


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

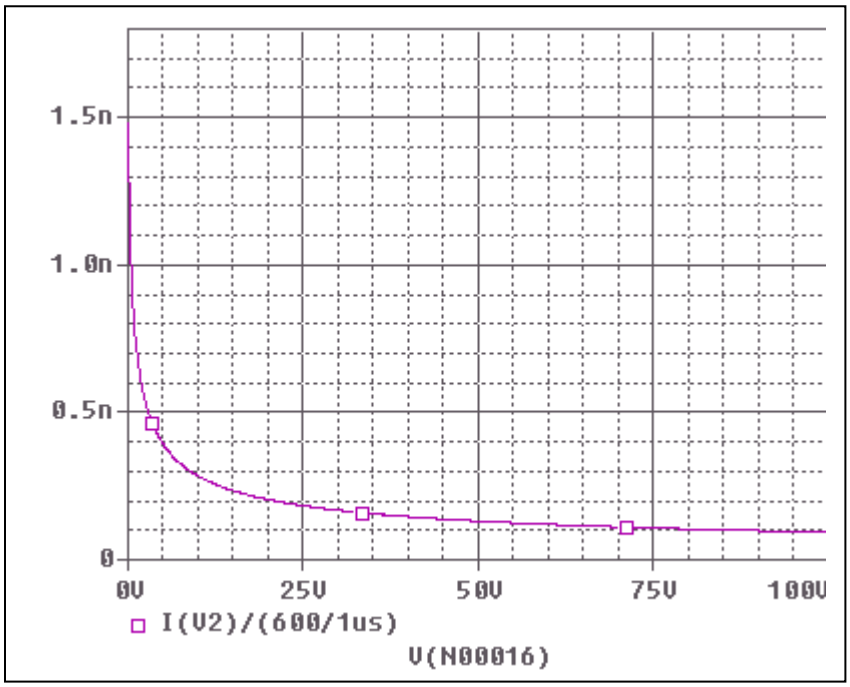


Simulation Result

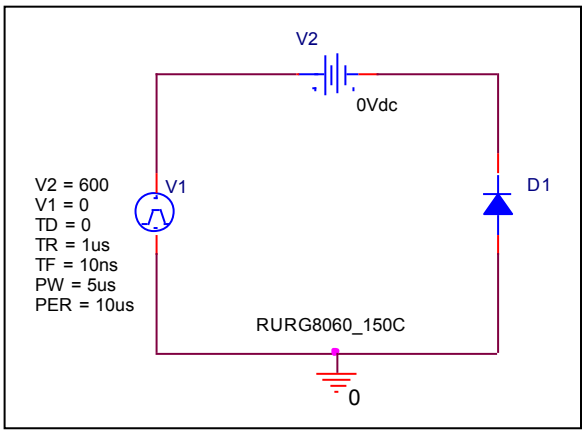
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.1	0.358	0.365	-1.96
0.2	0.404	0.404	0.00
0.5	0.464	0.460	0.86
1	0.506	0.505	0.20
2	0.560	0.557	0.54
5	0.644	0.643	0.16
10	0.736	0.737	-0.14

Capacitance Characteristic

Circuit Simulation Result

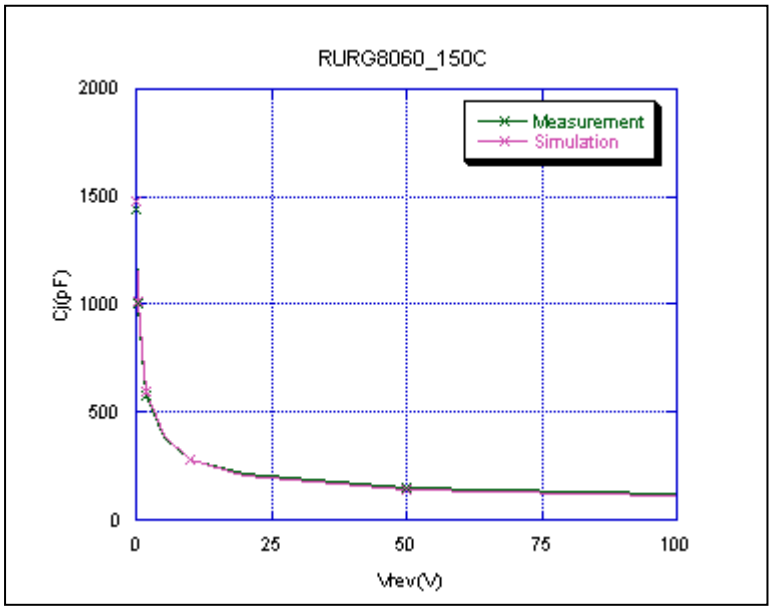


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

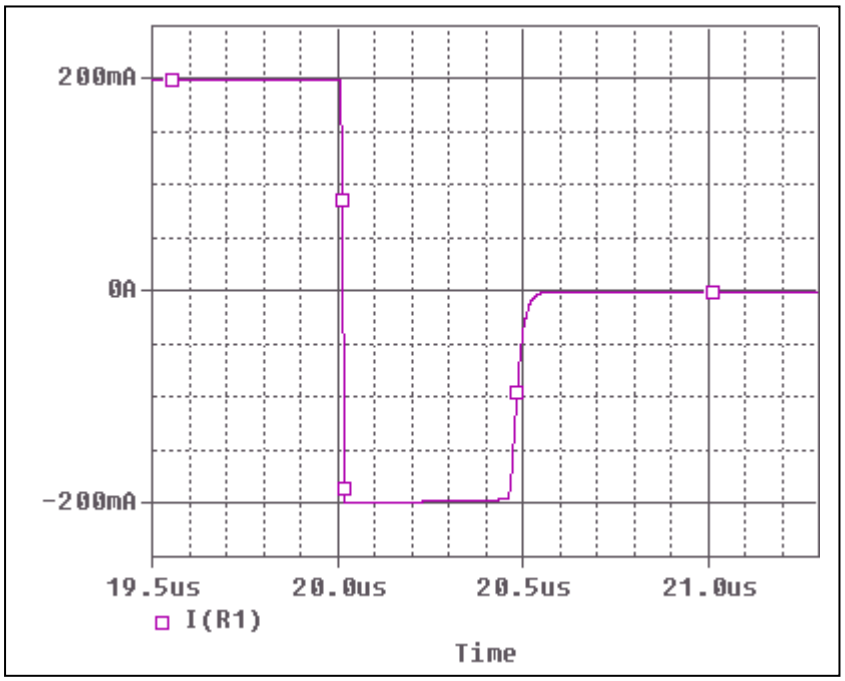


Simulation Result

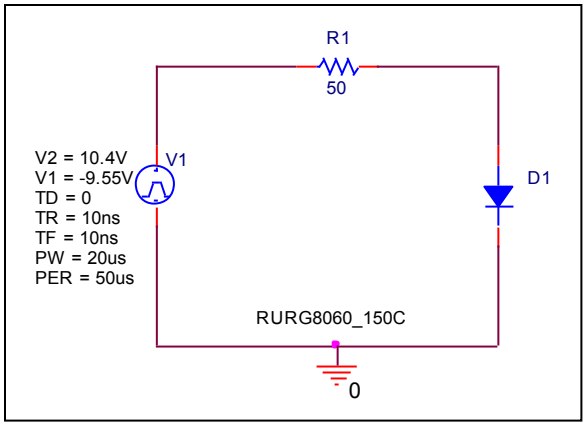
Vrev(V)	Cj(pF) Measurement	Cj(pF) Simulation	%Error
0	1660.000	1660.000	0.00
0.1	1441.000	1480.400	-2.73
0.2	1315.000	1304.700	0.78
0.5	1002.000	1016.500	-1.45
1	776.380	794.041	-2.27
2	577.680	596.982	-3.34
5	385.640	395.216	-2.48
10	282.730	284.730	-0.71
20	213.710	204.300	4.40
50	150.200	143.206	4.66
100	115.670	109.981	4.92

Reverse Recovery Characteristic

Circuit Simulation Result



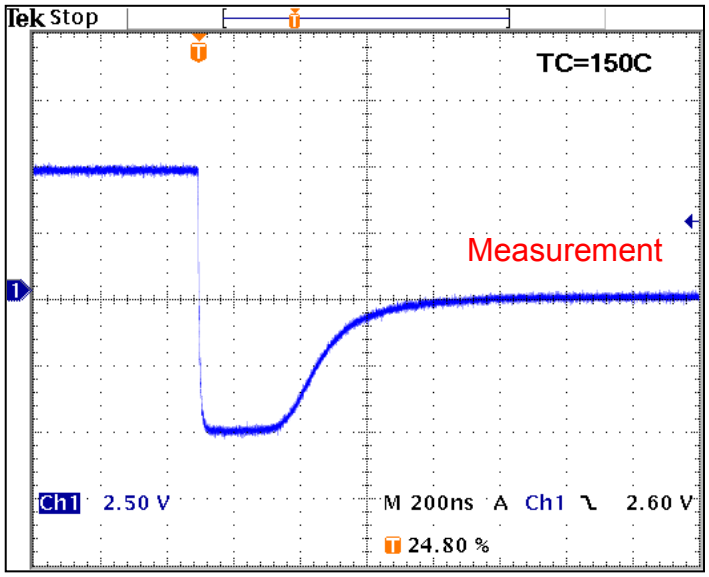
Evaluation Circuit



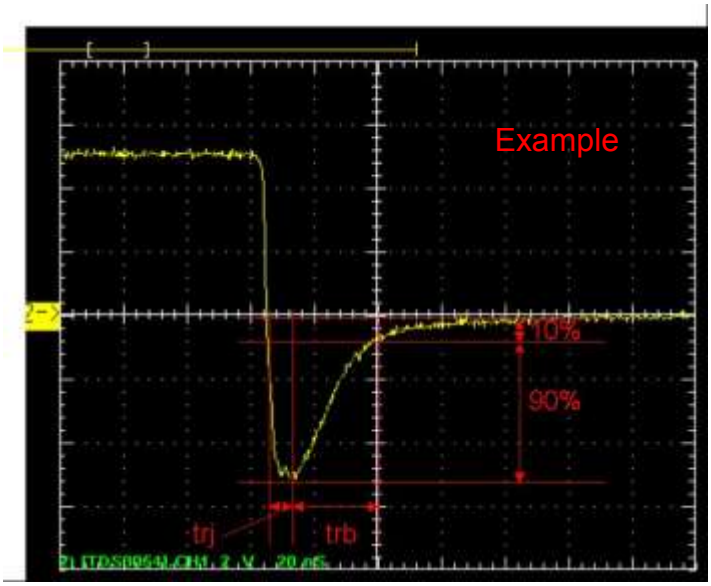
Compare Measurement vs. Simulation

	Measurement		Simulation		%Error
trr	**496.0**	**ns**	**495.3**	**ns**	**0.141**

Reverse Recovery Characteristic Reference



Trj =232(ns)
Trb=264(ns)
Conditions: Ifwd=Irev=0.2(A), Rl=50



Relation between trj and trb