

Device Modeling Report

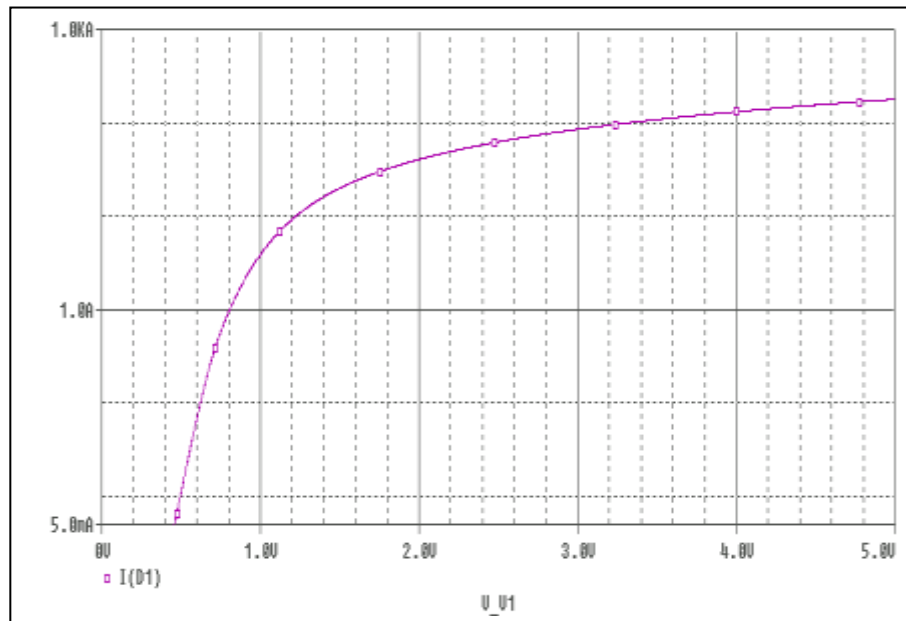
COMPONENTS:
DIODE/GENERAL PURPOSE RECTIFIER/PROFESSIONAL
PART NUMBER: FML-G14S
MANUFACTURER: SANKEN
REMARK: TC=25C



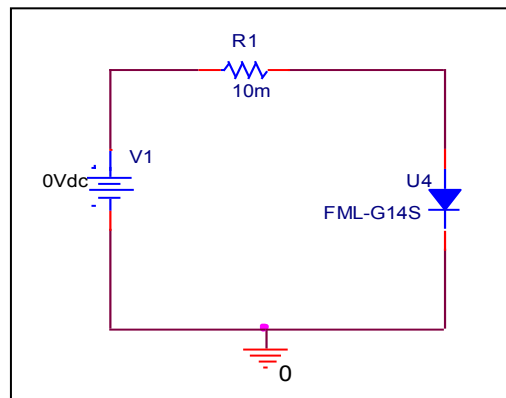
Bee Technologies Inc.

Forward Current Characteristic

Circuit Simulation Result

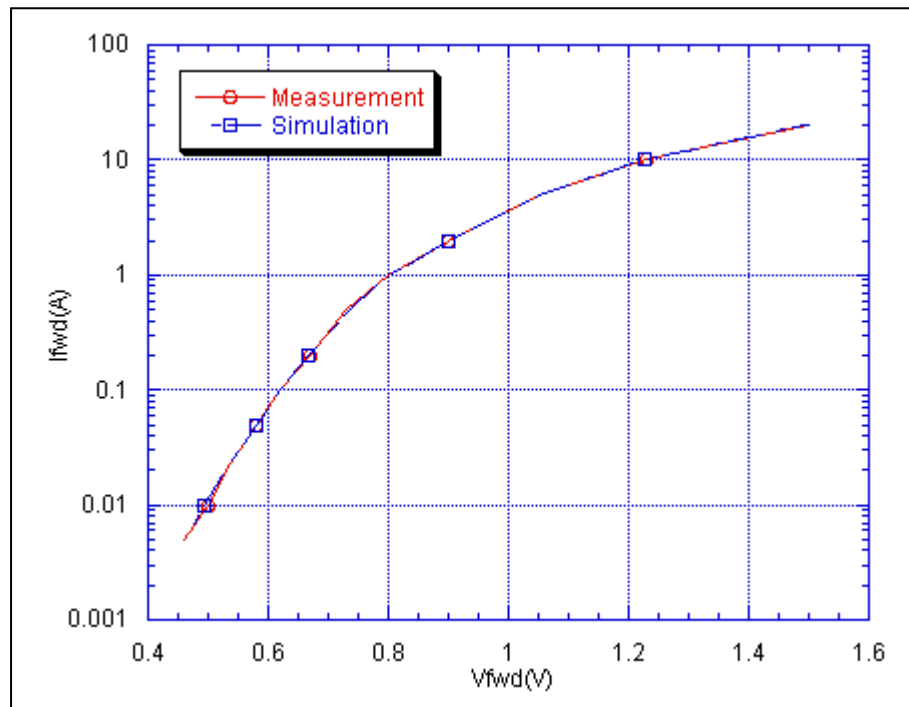


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

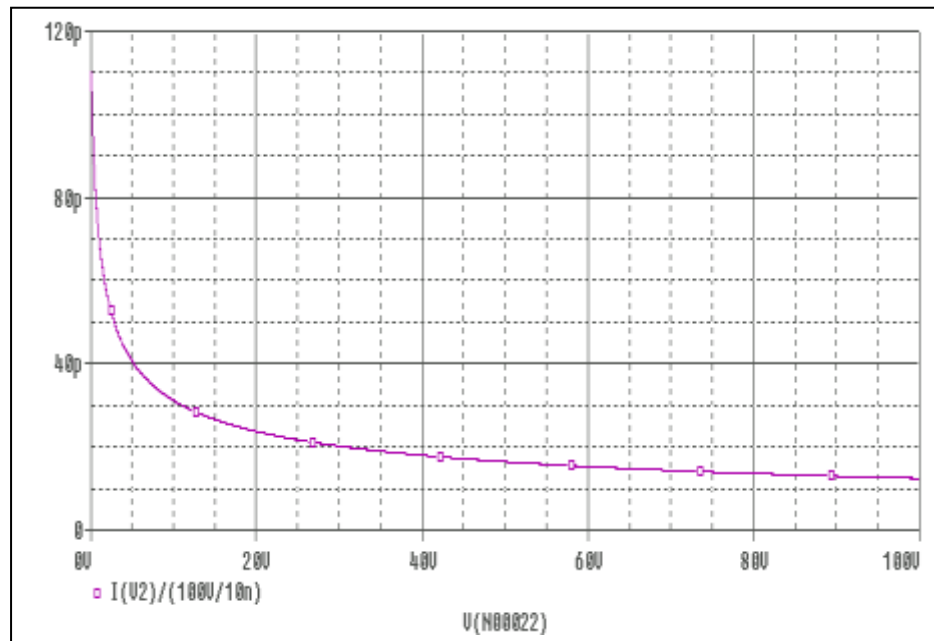


Simulation Result

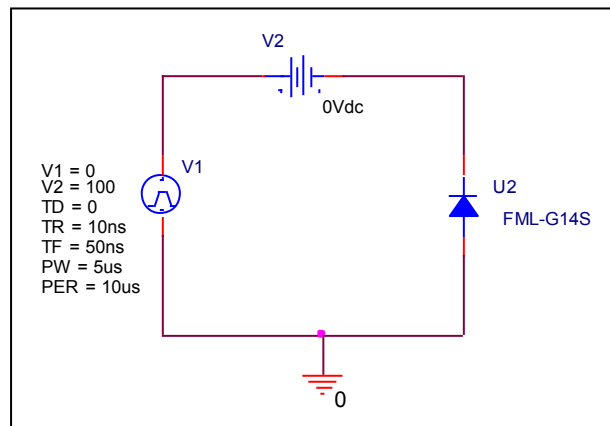
Ifwd(A)	Vfwd(V) Measurement	Vfwd(V) Simulation	%Error
0.005	0.460	0.459	0.22
0.01	0.500	0.495	1.00
0.02	0.530	0.530	0.00
0.05	0.580	0.581	-0.17
0.1	0.620	0.620	0.00
0.2	0.670	0.666	0.60
0.5	0.730	0.736	-0.82
1	0.800	0.800	0.00
2	0.900	0.900	0.00
5	1.050	1.050	0.00
10	1.230	1.226	0.33
20	1.500	1.500	0.00

Junction Capacitance Characteristic

Circuit Simulation Result

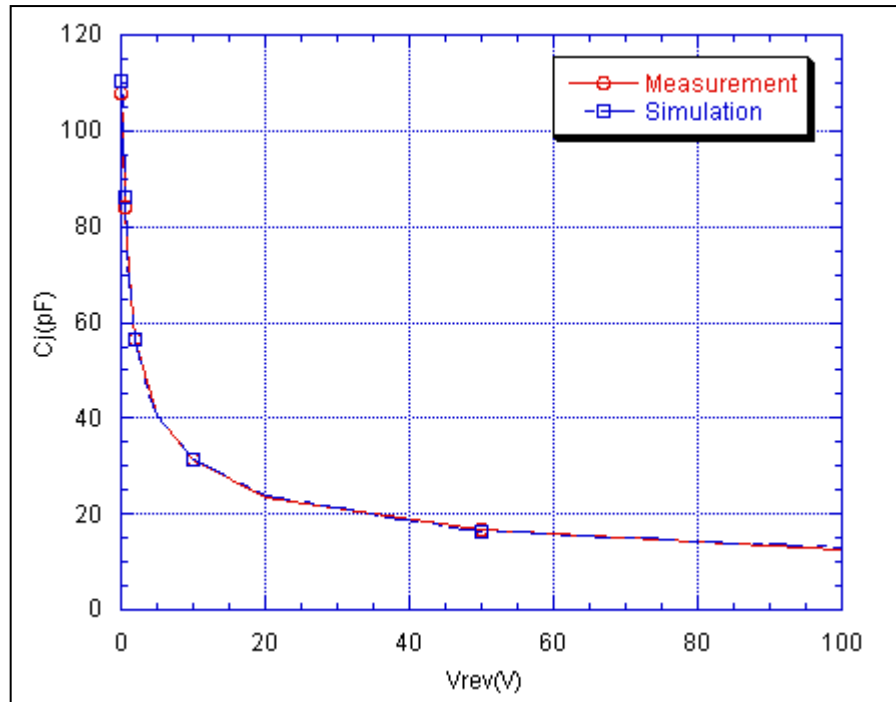


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

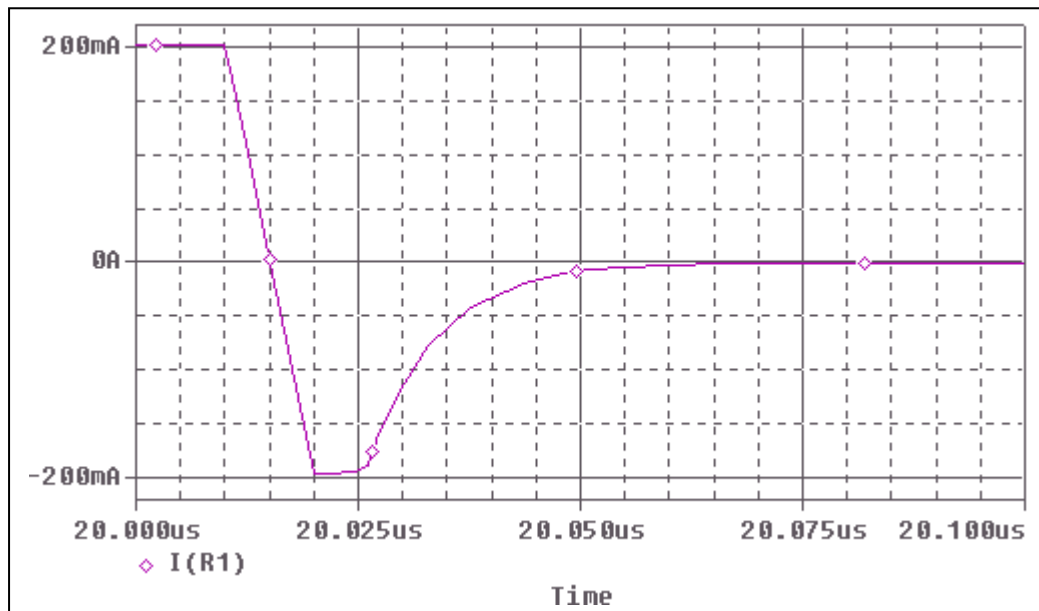


Simulation Result

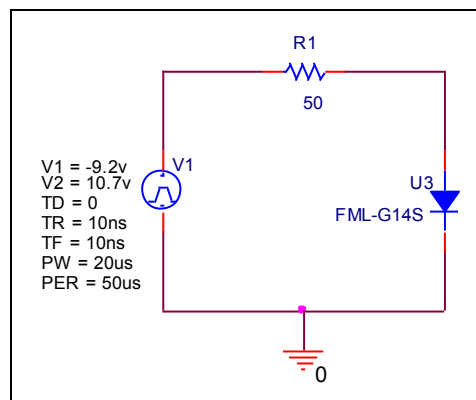
V_{rev} (V)	C_j (pF) Measurement	C_j (pF) Simulation	%Error
0	118.310	118.310	0.00
0.1	107.870	110.510	-2.45
0.2	100.250	103.163	-2.91
0.5	83.970	86.020	-2.44
1	70.110	69.260	1.21
2	56.280	56.669	-0.69
5	40.730	40.773	-0.11
10	31.220	31.192	0.09
20	23.630	23.786	-0.66
50	16.860	16.455	2.40
100	12.180	12.542	-2.97

Reverse Recovery Characteristic

Circuit Simulation Result



Evaluation Circuit

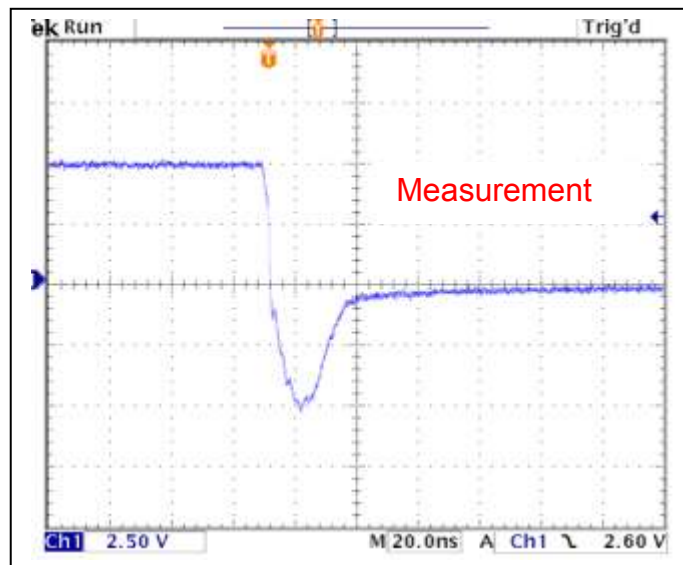


Compare Measurement vs. Simulation

	Measurement		Simulation		Error (%)
trj	9.60	ns	9.63	ns	0.36
trb	18.00	ns	17.96	ns	0.17

Reverse Recovery Characteristic

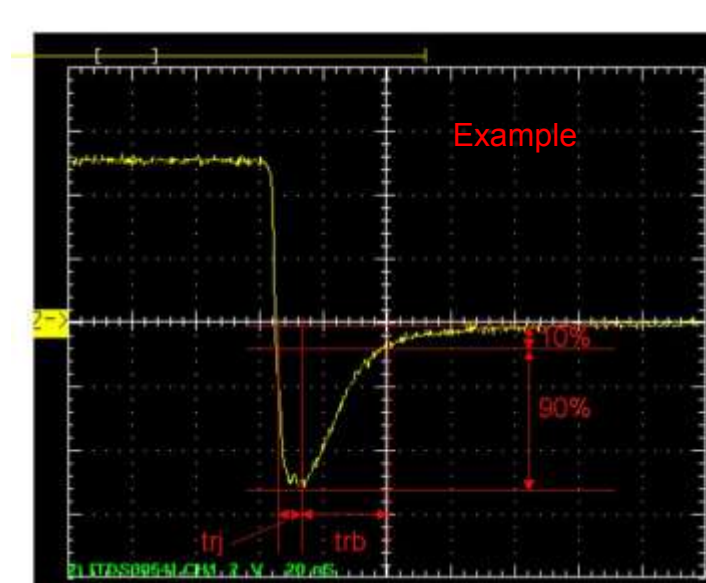
Reference



$Trj=9.60(ns)$

$Trb=18.0(ns)$

Conditions: $I_{fwd}=I_{rev}=0.2(A)$, $R_I=50$



Relation between trj and trb