Device Modeling Report

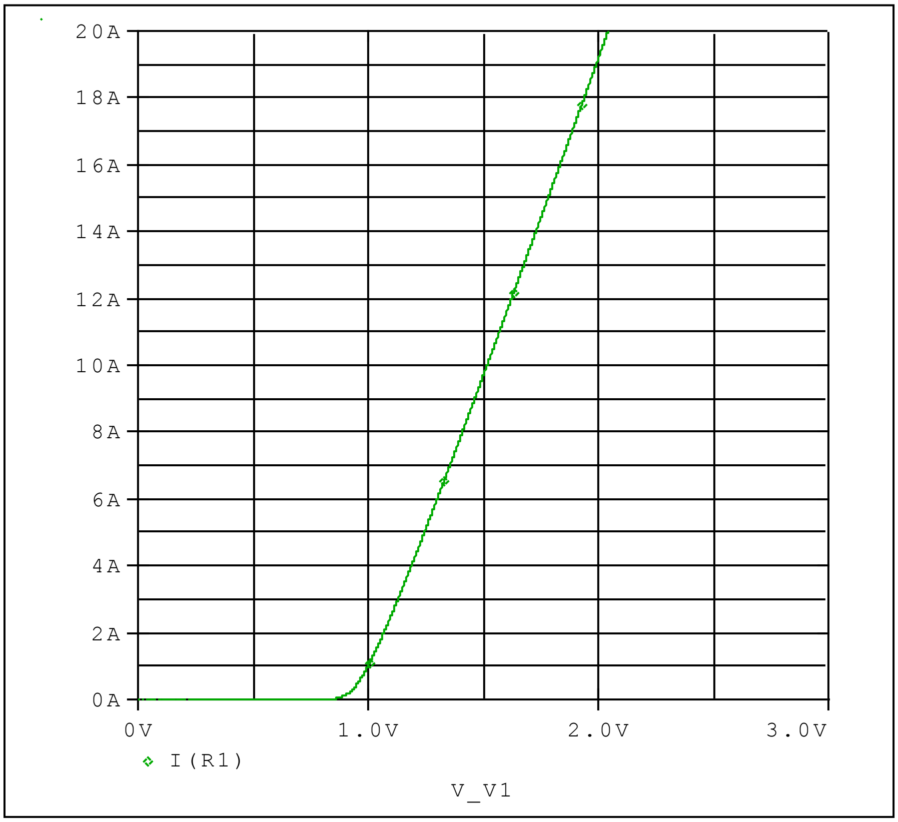
COMPONENTS: Silicon Carbide Schottky Diode
PART NUMBER: CSD10060G
MANUFACTURER: Cree, Inc.
REMARK: Professional Model

Bee Technologies Inc.

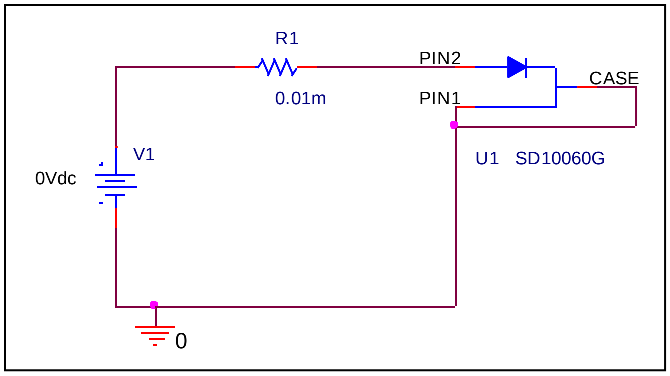
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

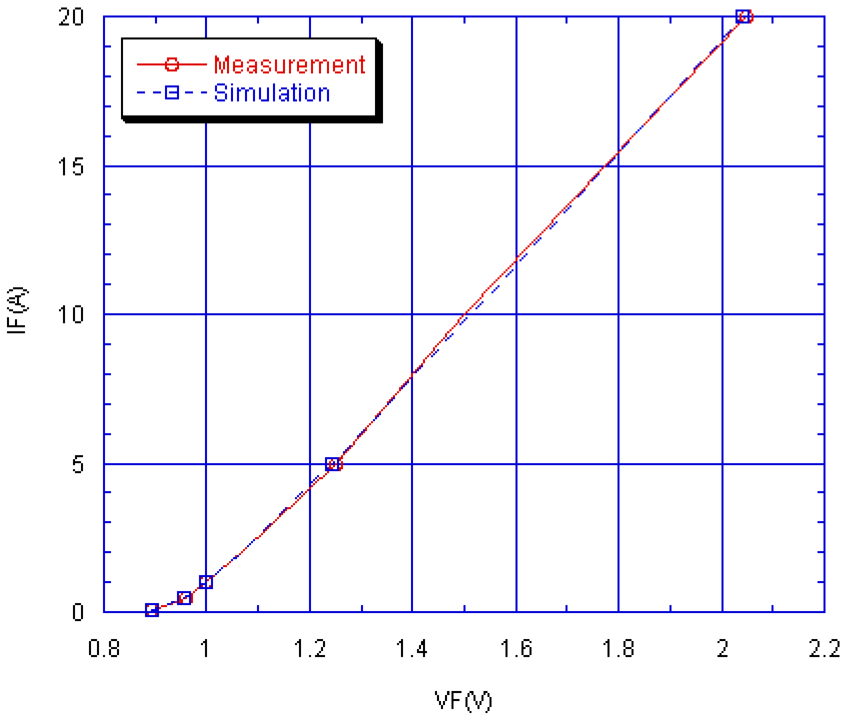


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

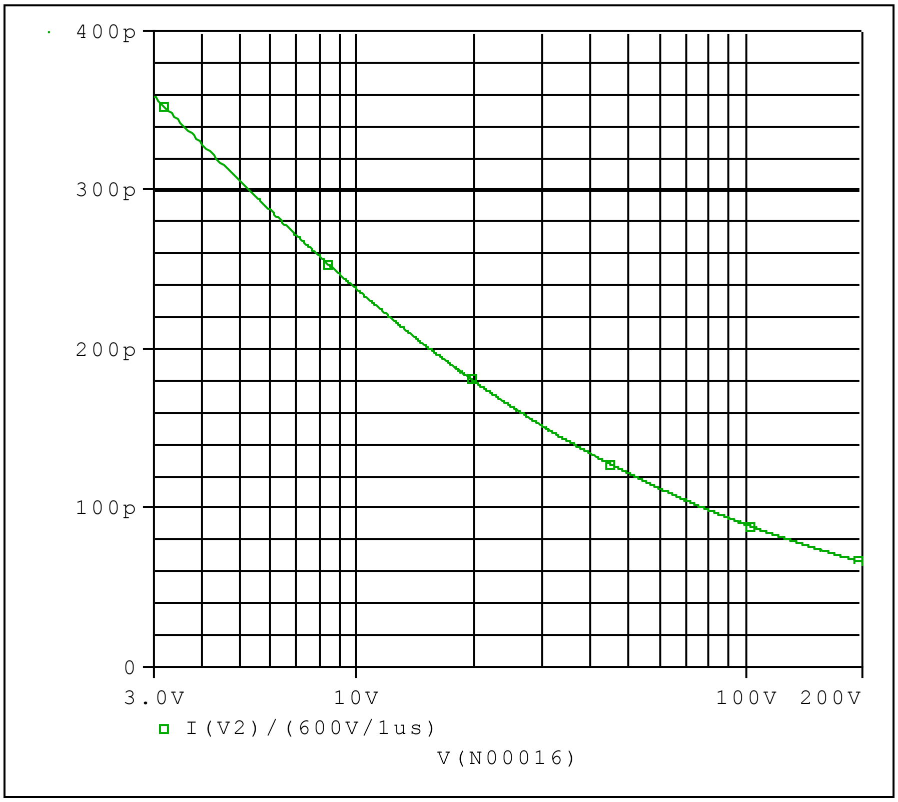


Simulation Result

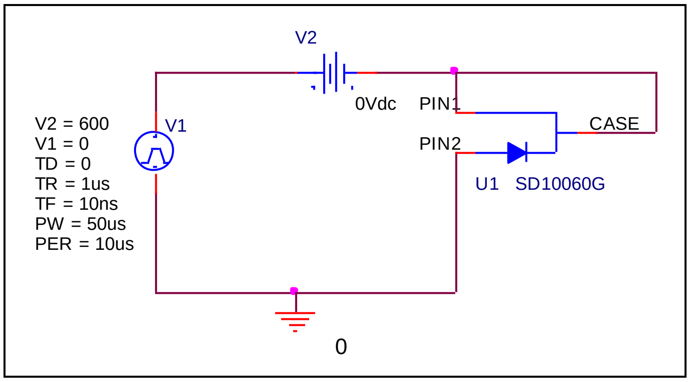
I_F(A)	V_F(V)		Error(%)
	Measurement	Simulation	
0.1	0.895	0.894	-0.112
0.2	0.915	0.916	0.109
0.5	0.960	0.957	-0.313
1	1.000	0.989	-1.112
2	1.070	1.065	-0.469
5	1.250	1.245	-0.402
10	1.500	1.510	0.662
20	2.050	2.040	-0.490

Junction Capacitance Characteristic

Circuit Simulation Result

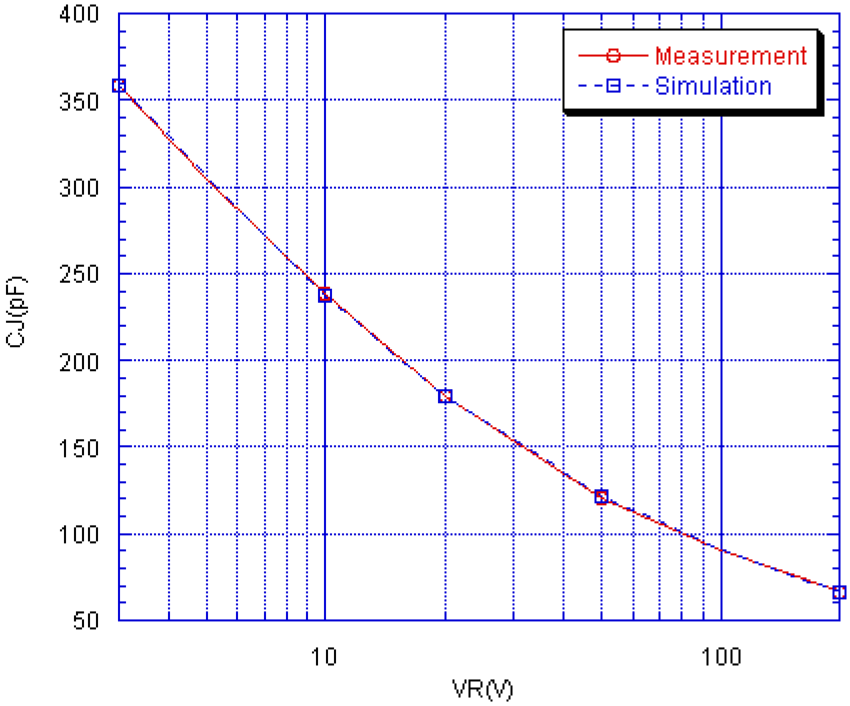


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

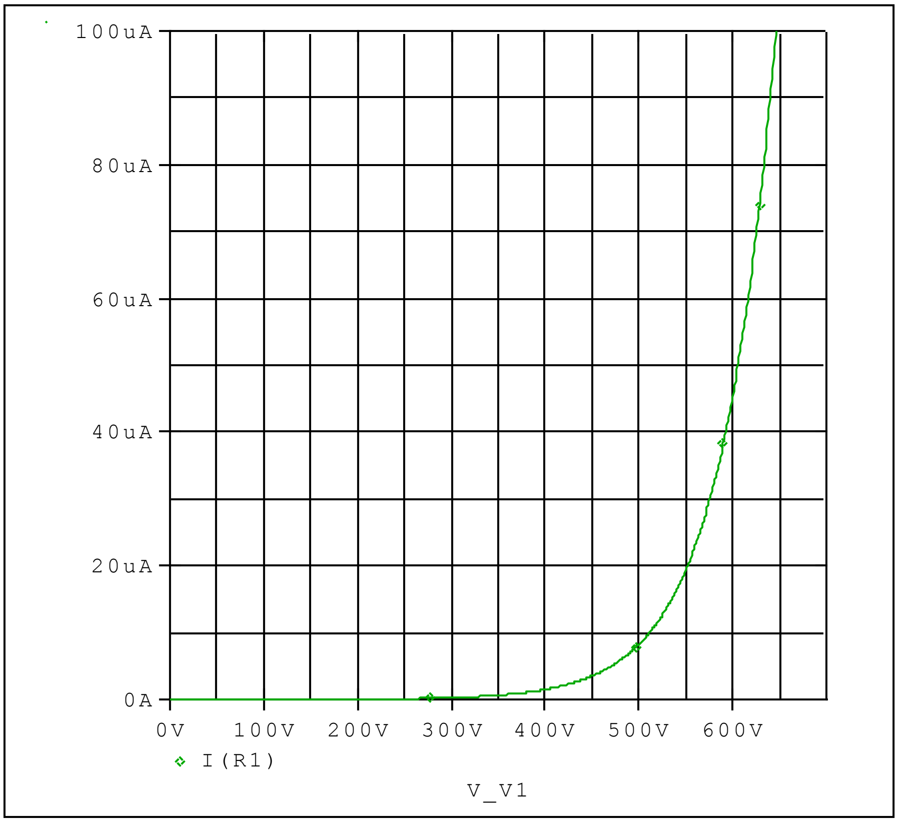


Simulation Result

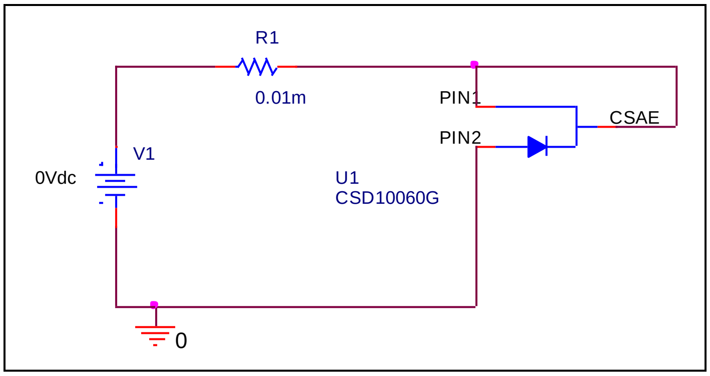
V_R(V)	Cj (pF)		Error(%)
	Measurement	Simulation	
5	304.000	305.500	0.491
10	238.000	237.500	-0.211
20	180.000	179.900	-0.056
50	121.000	121.500	0.412
100	90.000	90.000	0.000
200	66.000	66.200	0.302

Reverse Characteristic

Circuit Simulation Result

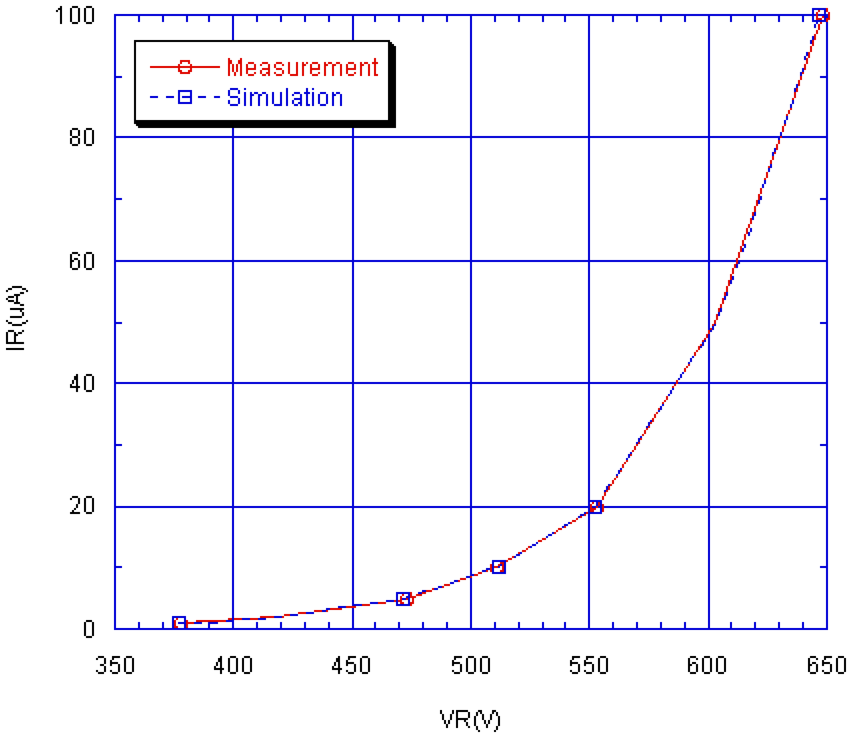


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

I_R(uA)	V_R(V)		Error(%)
	Measurement	Simulation	
1	378.000	376.700	-0.345
2	418.000	417.200	-0.192
5	473.000	471.000	-0.425
10	511.000	511.500	0.098
20	553.000	552.000	-0.181
50	607.000	606.000	-0.165
100	648.000	647.000	-0.155