

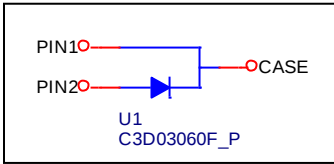
Device Modeling Report

COMPONENTS: Silicon Carbide Schottky Diode
PART NUMBER: C3D03060F
MANUFACTURER: CREE
REMARK: Professional Model



Bee Technologies Inc.

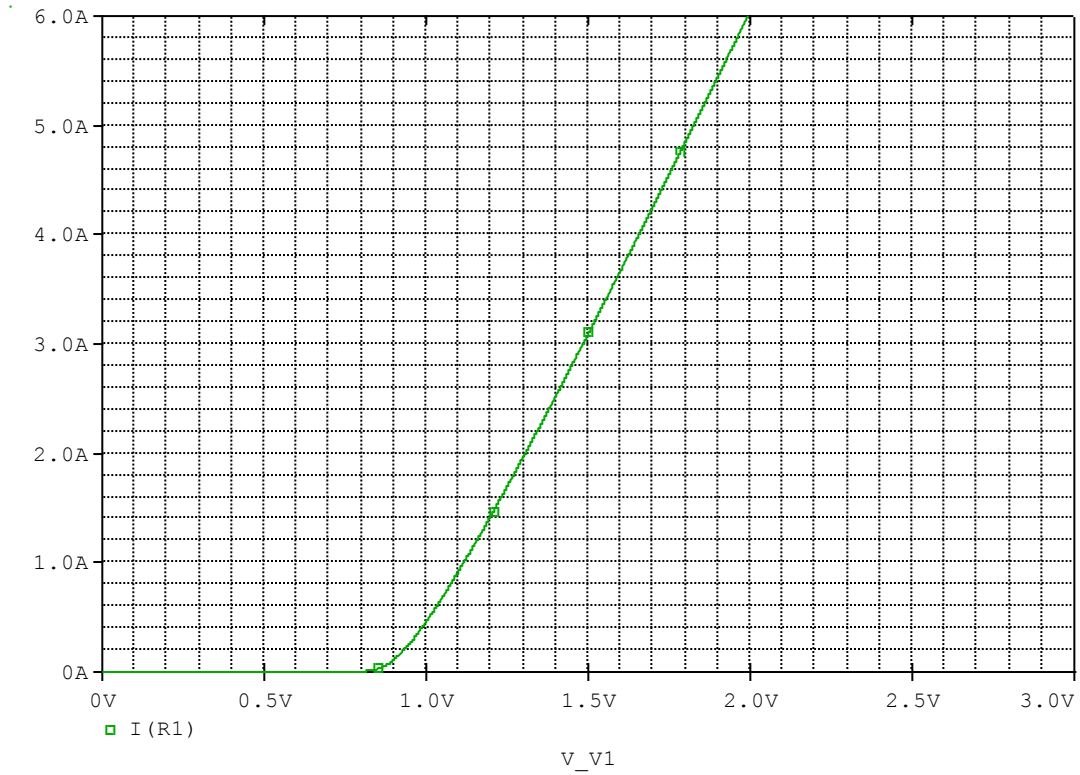
Circuit Configuration



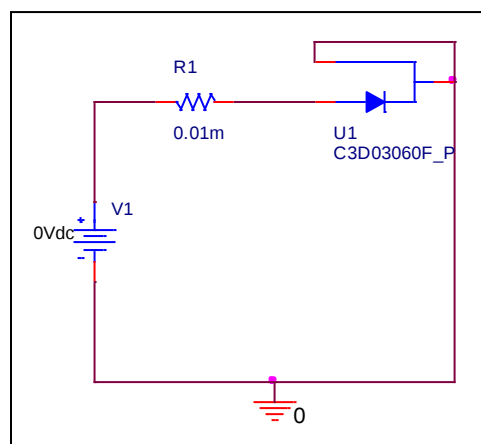
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

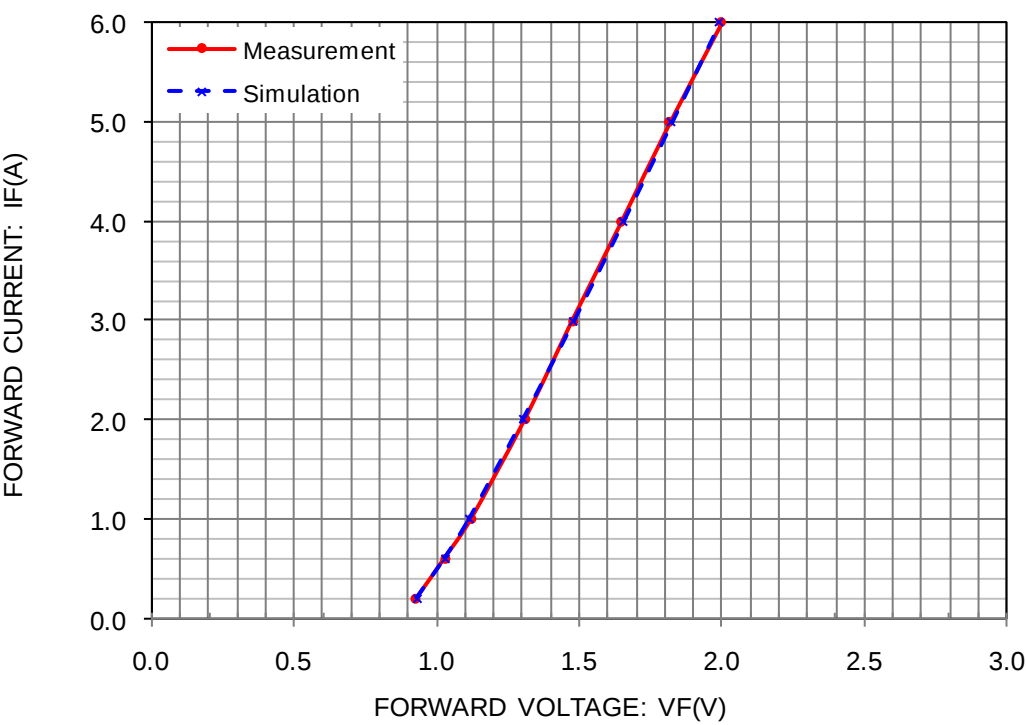


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

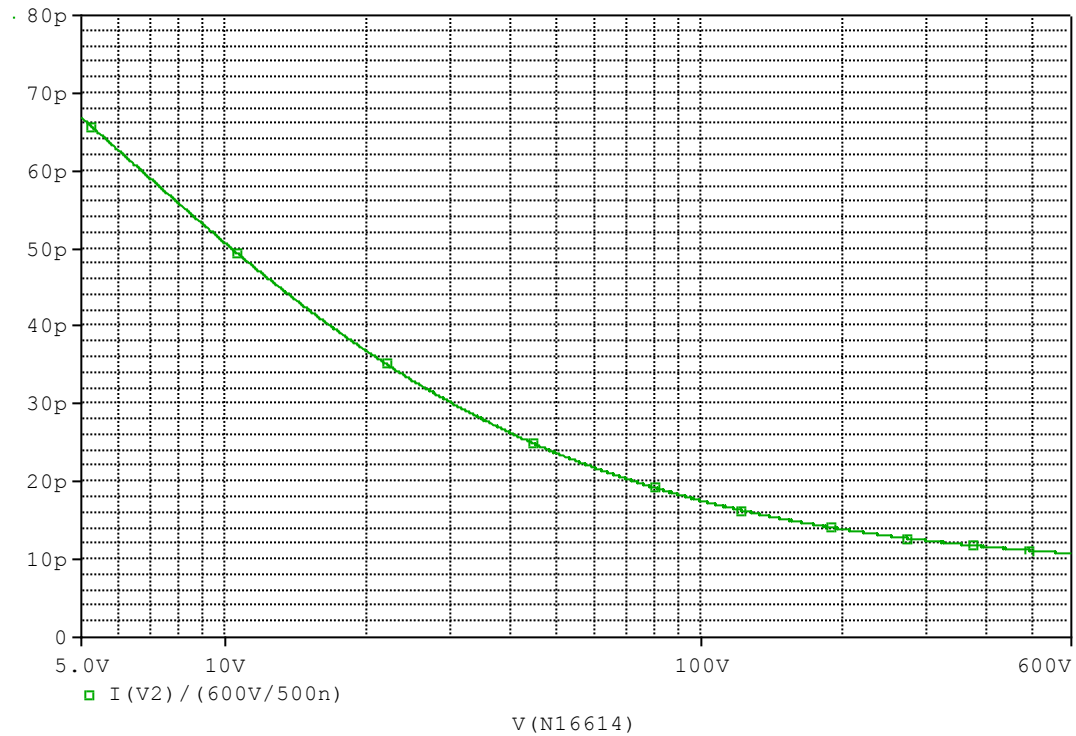


Simulation Result

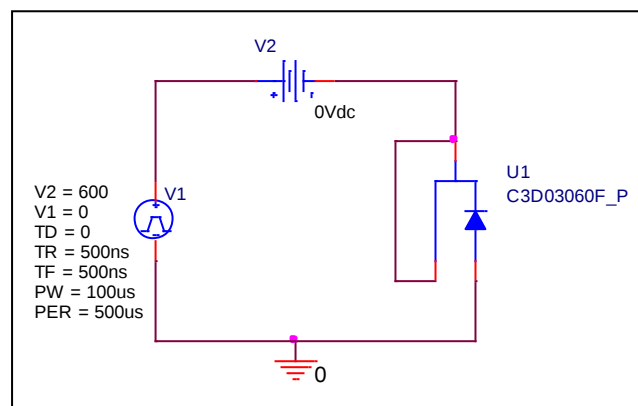
I_F (A)	V_F (V)		Error (%)
	Measurement	Simulation	
0.2	0.9300	0.9310	0.11
0.6	1.0300	1.0315	0.15
1.0	1.1200	1.1155	-0.40
2.0	1.3100	1.3055	-0.34
3.0	1.4800	1.4834	0.23
4.0	1.6500	1.6559	0.36
5.0	1.8200	1.8251	0.28
6.0	2.0000	1.9924	-0.38

Junction Capacitance Characteristic

Circuit Simulation Result

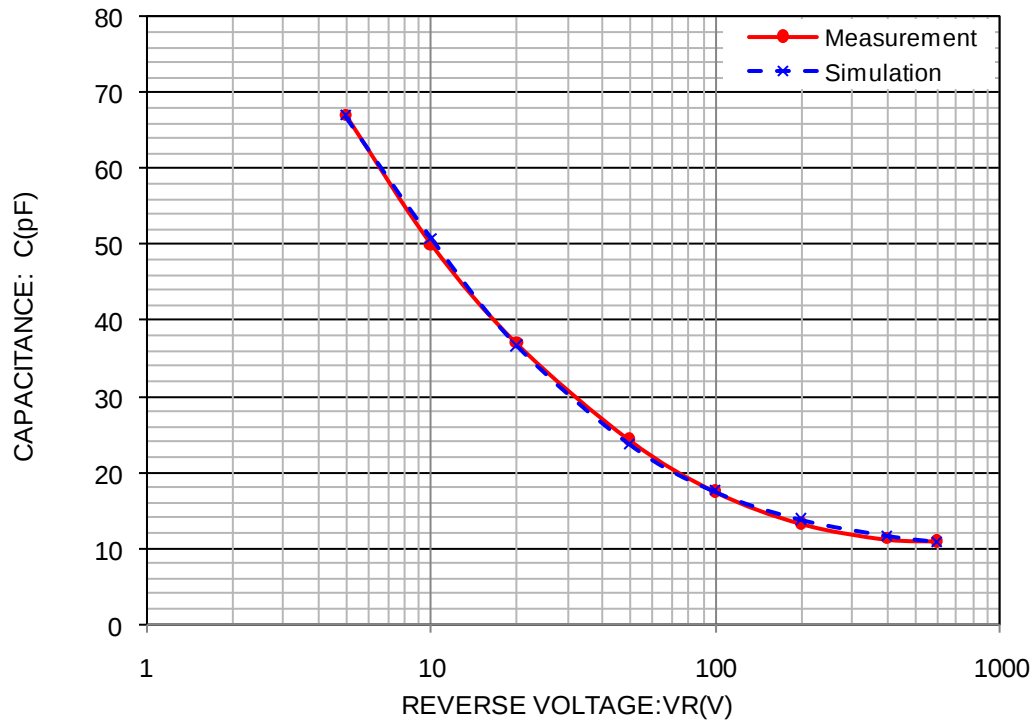


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

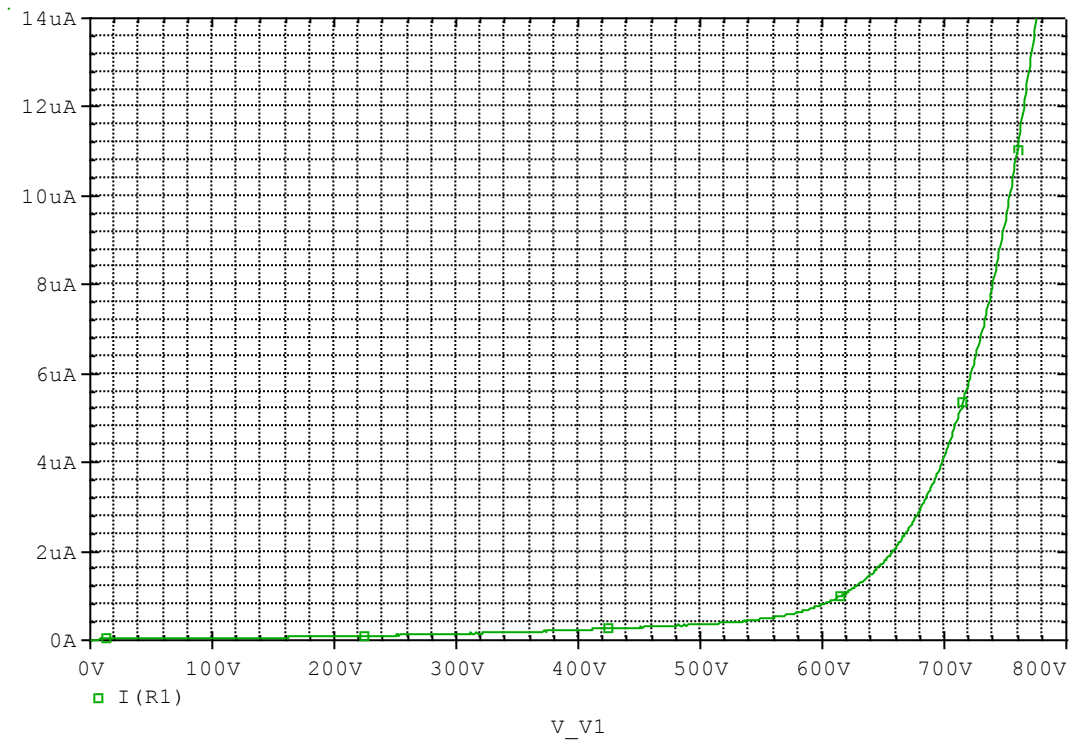


Simulation Result

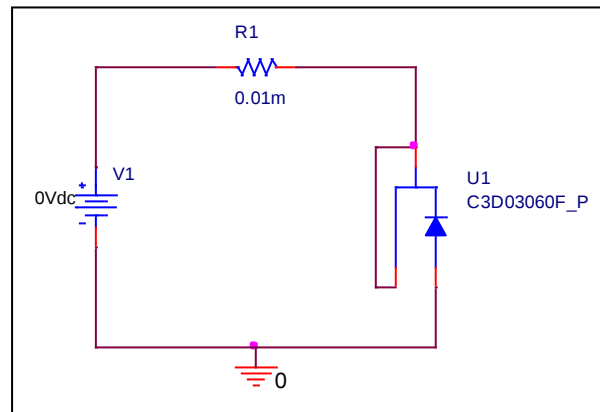
V_R (V)	C (pF)		Error (%)
	Measurement	Simulation	
5	67.000	66.887	-0.17
10	50.000	50.745	1.49
20	37.000	36.710	-0.78
50	24.300	23.644	-2.70
100	17.500	17.590	0.51
200	13.300	13.865	4.25
400	11.300	11.639	3.00
600	11.000	10.787	-1.94

Reverse Characteristic

Circuit Simulation Result

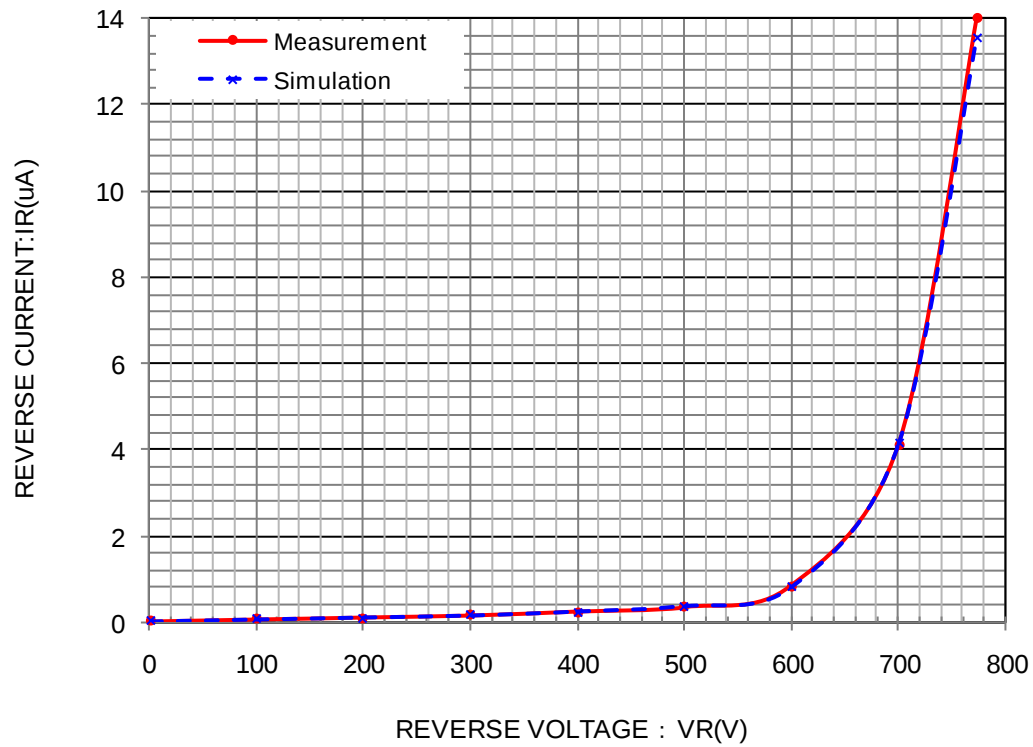


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

$V_R(V)$	$I_R(\mu A)$		Error (%)
	Measurement	Simulation	
1	0.0120	0.0121	1.03
100	0.0485	0.0483	-0.38
200	0.0900	0.0910	1.06
300	0.1450	0.1421	-1.99
400	0.2300	0.2274	-1.14
500	0.3400	0.3524	3.66
600	0.8200	0.8072	-1.56
700	4.1000	4.1382	0.93
773	14.0000	13.5400	-3.29