Device Modeling Report

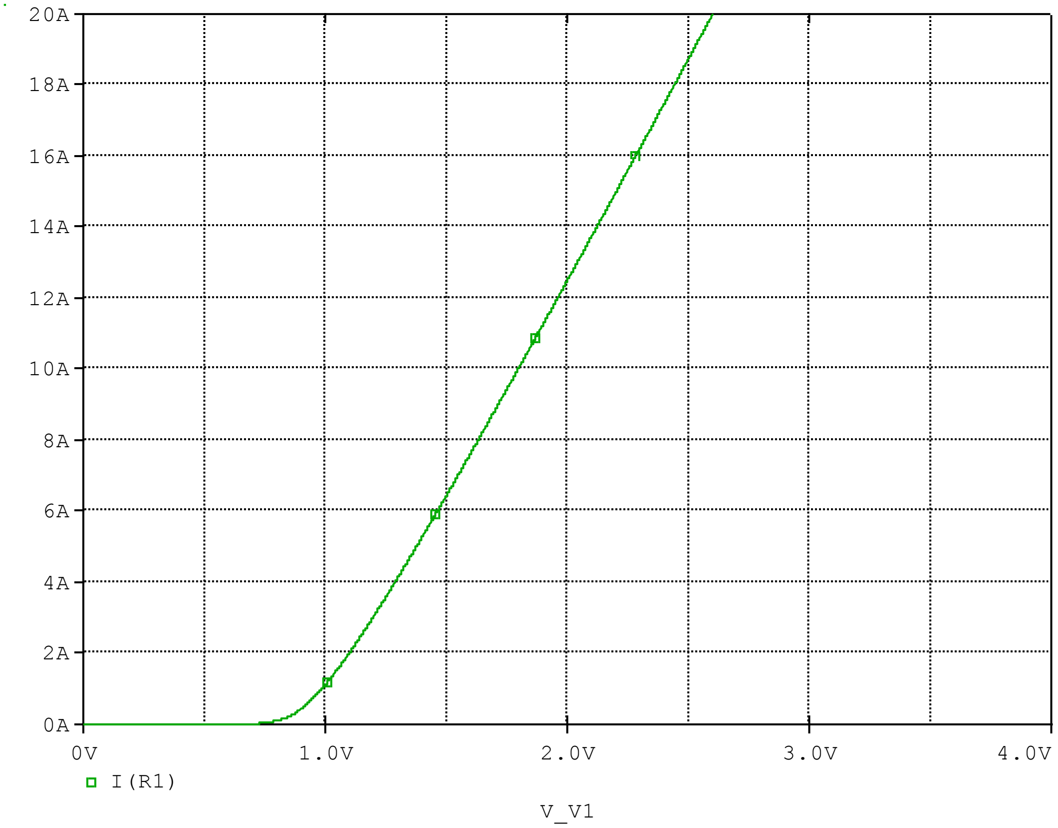
COMPONENTS: Silicon Carbide Schottky Diode
PART NUMBER: IDV06S60C
MANUFACTURER: Infineon
REMARK: Professional Model

Bee Technologies Inc.

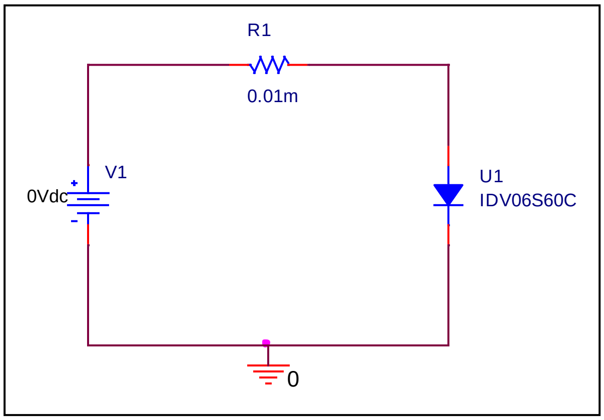
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

Forward Current Characteristic

Circuit Simulation Result

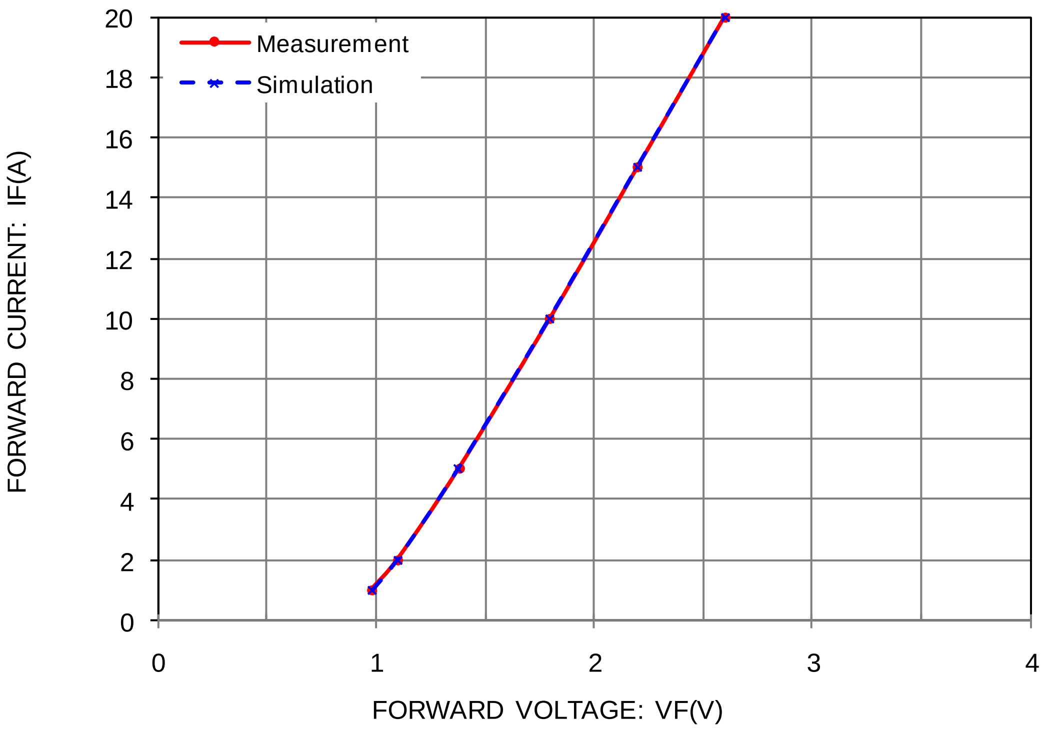


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

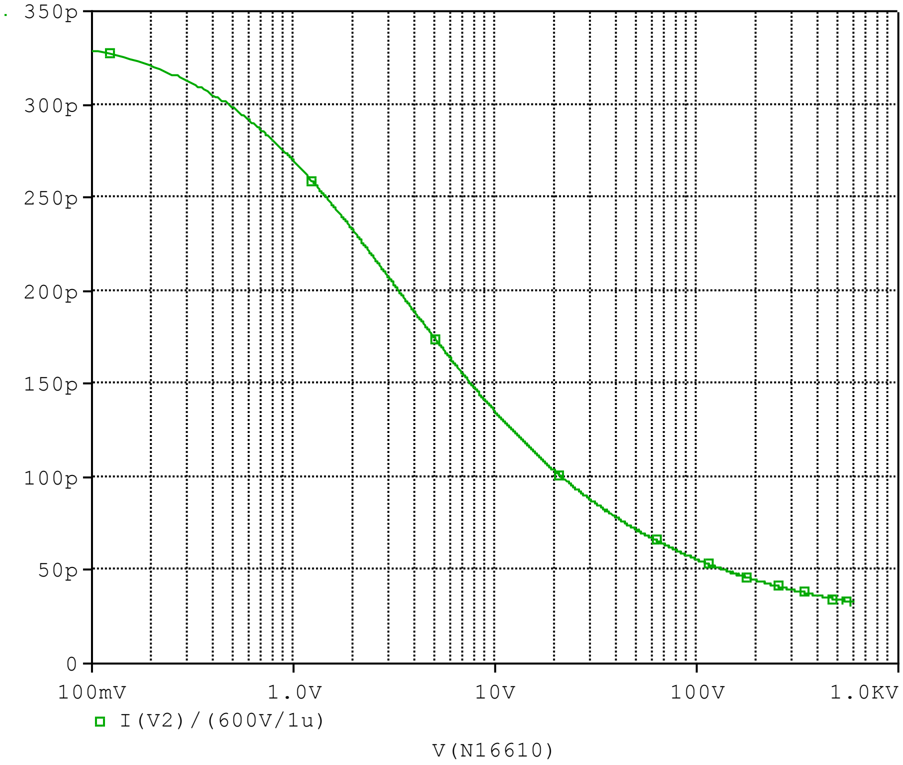


Simulation Result

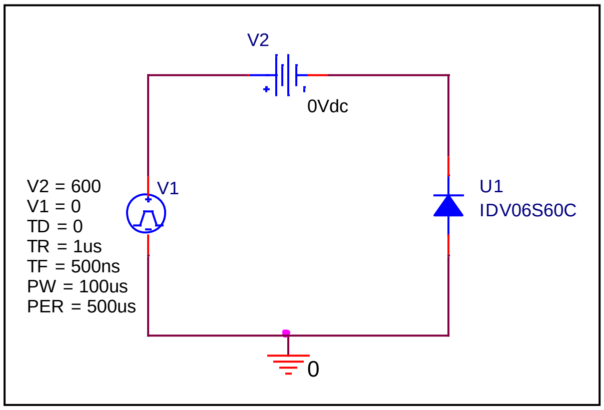
I_F(A)	V_F(V)		Error (%)
	Measurement	Simulation	
1	0.980	0.986	0.58
2	1.100	1.098	-0.15
5	1.380	1.376	-0.26
10	1.800	1.797	-0.18
15	2.200	2.198	-0.07
20	2.600	2.601	0.05

Junction Capacitance Characteristic

Circuit Simulation Result

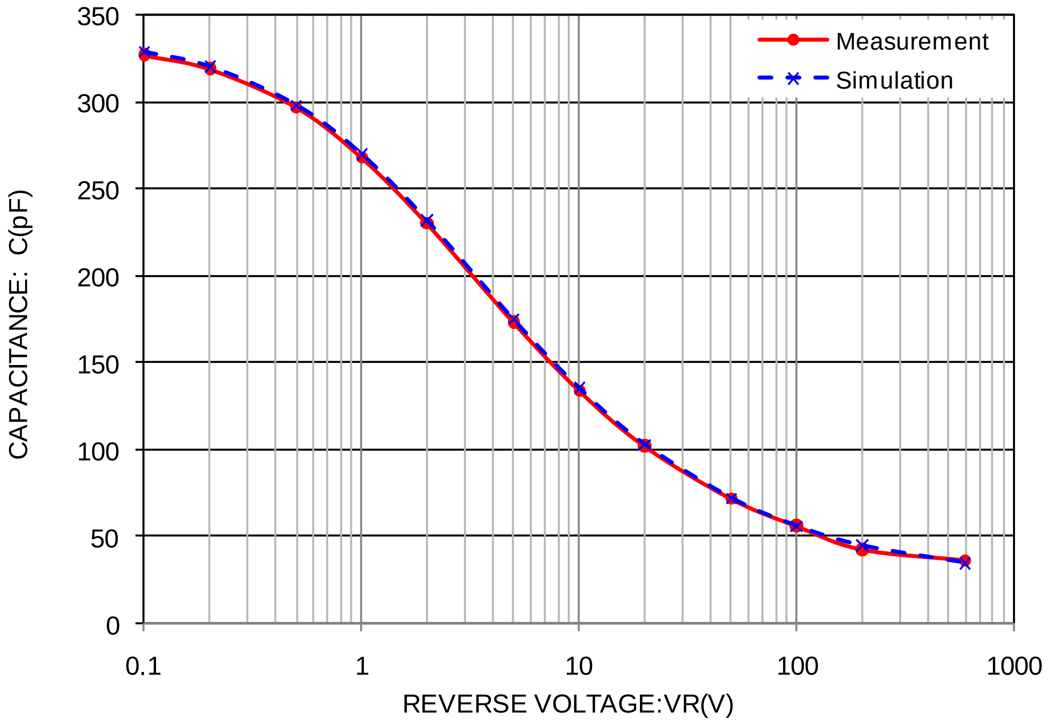


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

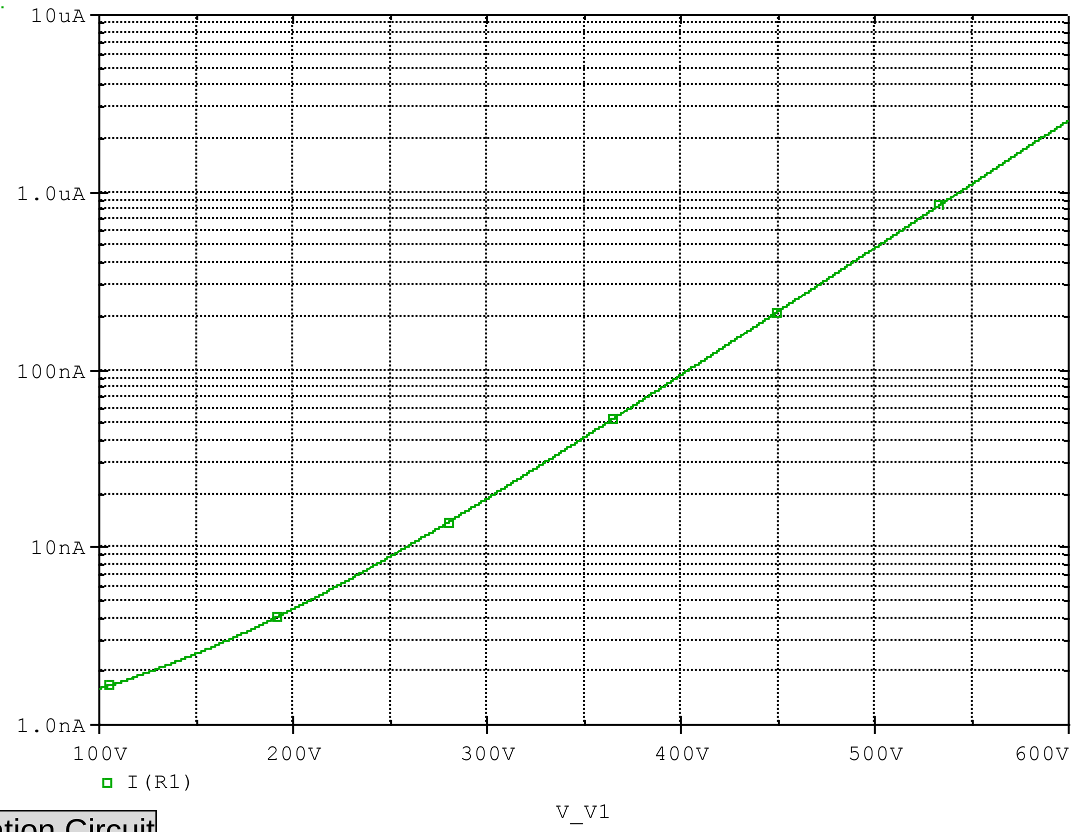


Simulation Result

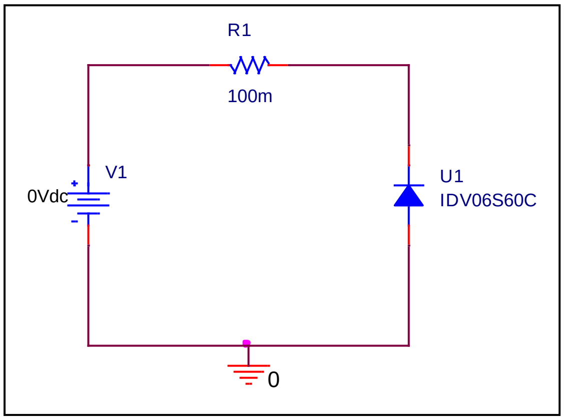
V_R(V)	C (pF)		Error (%)
	Measurement	Simulation	
0.1	327.000	328.885	0.58
0.2	319.000	320.359	0.43
0.5	297.000	298.227	0.41
1	268.000	269.864	0.70
2	230.000	231.672	0.73
5	173.220	174.678	0.84
10	134.000	135.225	0.91
20	102.000	102.879	0.86
50	71.733	71.982	0.35
100	56.000	55.860	-0.25
200	42.500	44.464	4.62
600	36.250	34.461	-4.94

Reverse Characteristic

Circuit Simulation Result

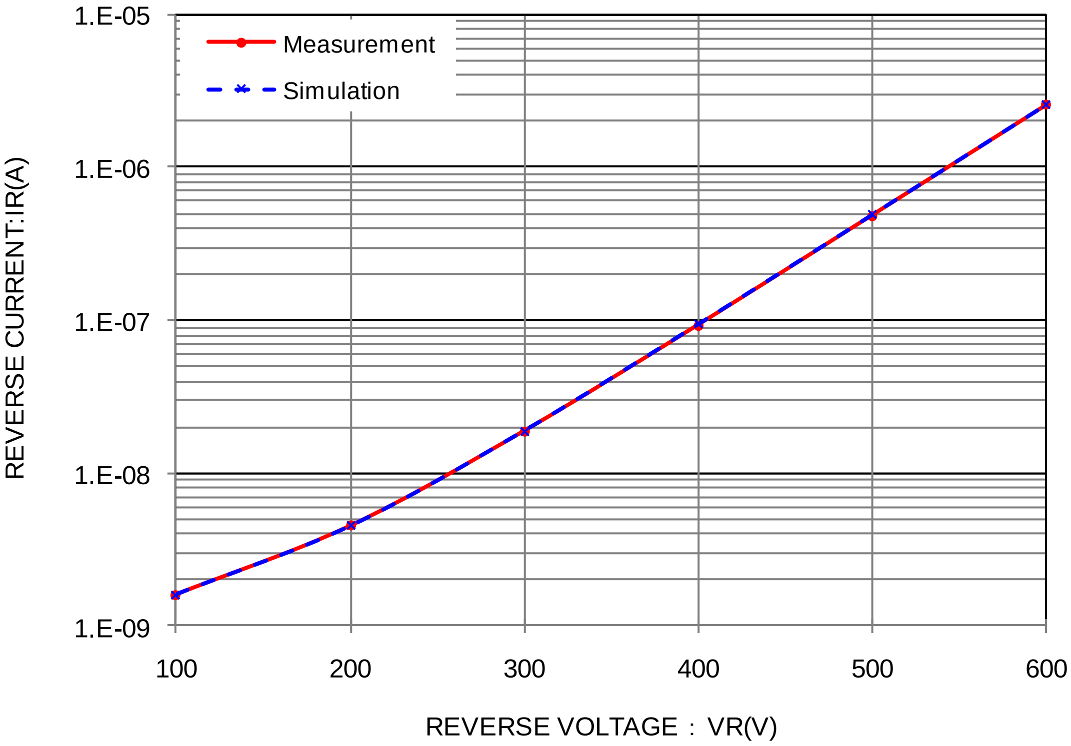


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

V_R(V)	I_R(A)		Error (%)
	Measurement	Simulation	
100	1.600E-09	1.600E-09	0.00
200	4.500E-09	4.488E-09	-0.28
300	1.880E-08	1.884E-08	0.23
400	9.300E-08	9.361E-08	0.66
500	4.850E-07	4.866E-07	0.32
600	2.550E-06	2.555E-06	0.20