

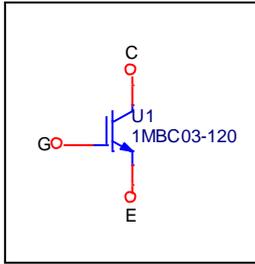
Device Modeling Report

COMPONENTS: Insulated Gate Bipolar Transistor (IGBT)
PART NUMBER: 1MBC03-120
MANUFACTURER: Fuji Electric



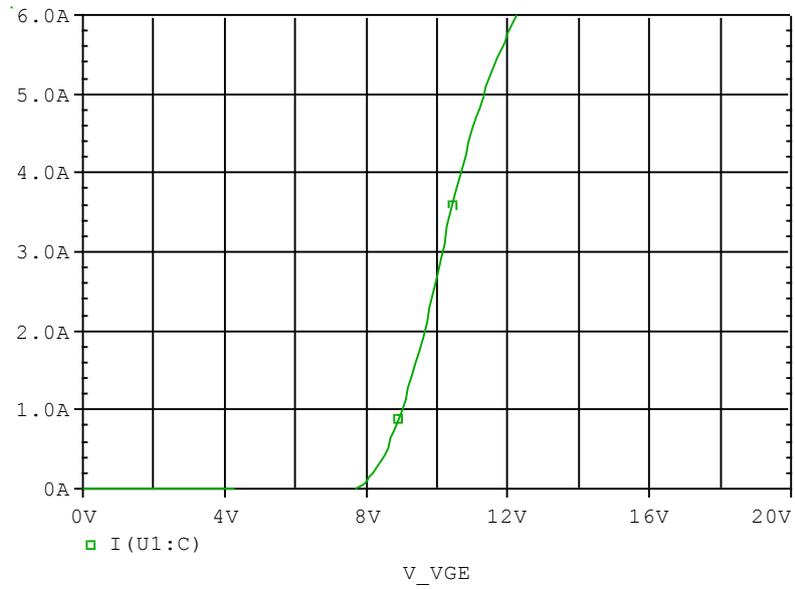
Bee Technologies Inc.

Circuit Configuration

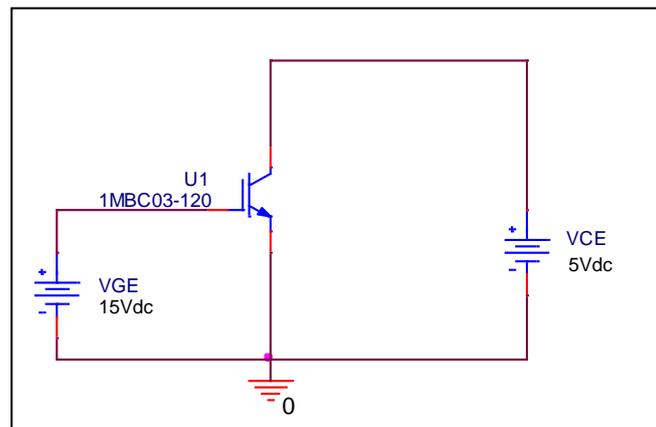


Transfer Characteristics

Circuit Simulation result

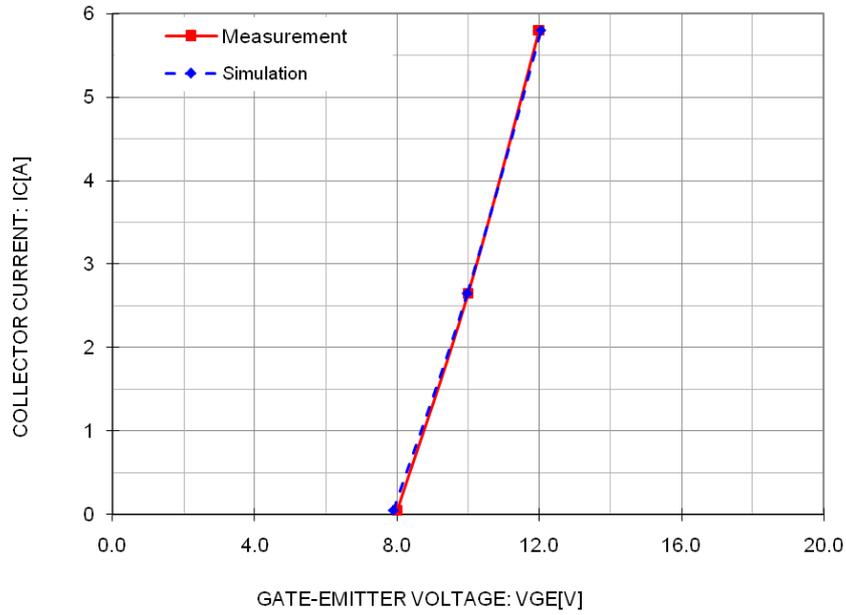


Evaluation circuit



Comparison Graph

Simulation result



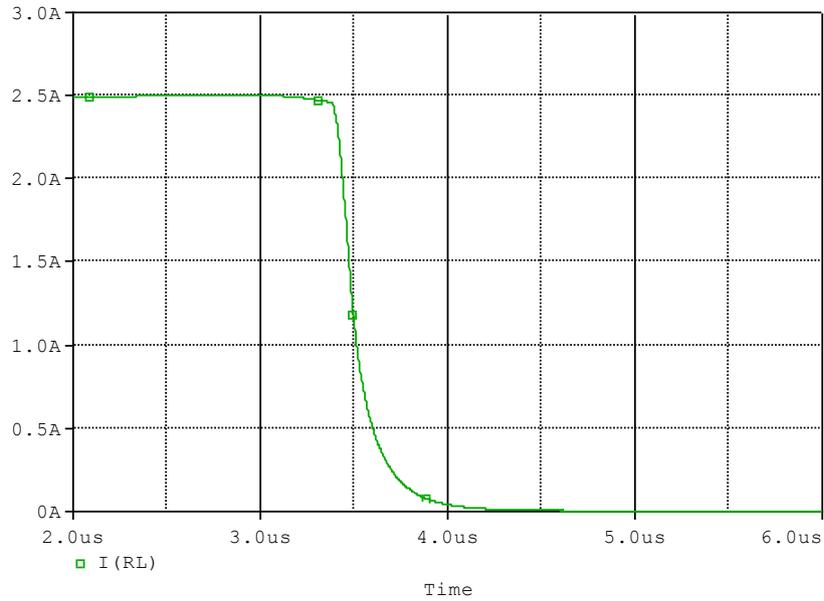
Comparison table

Test condition: $V_{CE} = 5$ (V)

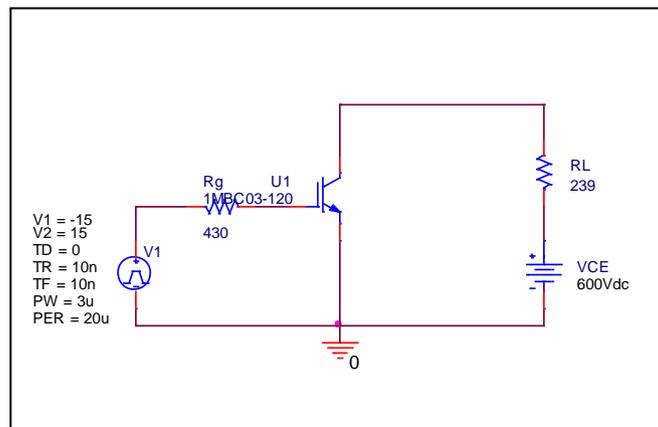
IC (A)	VGE (V)		%Error
	Measurement	Simulation	
0.050	8.000	7.899	-1.26
2.650	10.000	9.981	-0.19
5.800	12.000	12.038	0.32

Fall Time Characteristics

Circuit Simulation result



Evaluation circuit

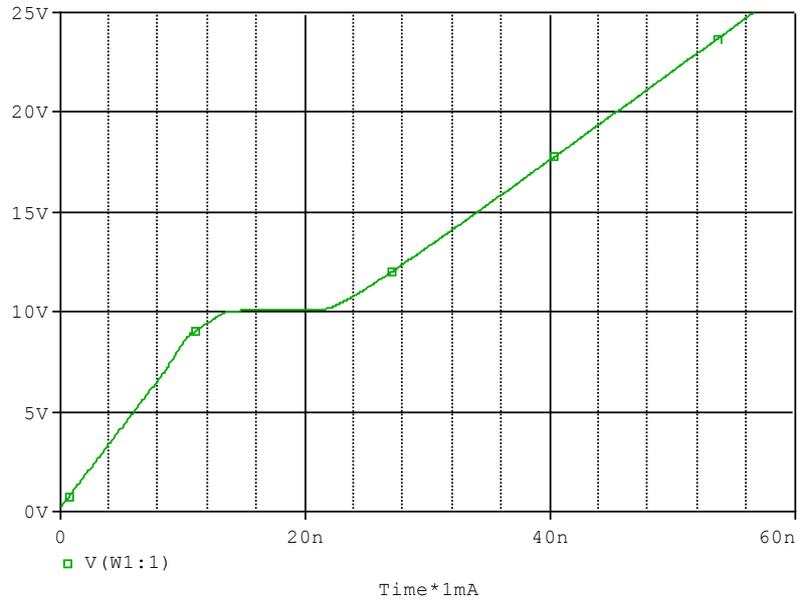


Test condition: $I_C=2.5$ (A), $V_{CC}=600$ (V)

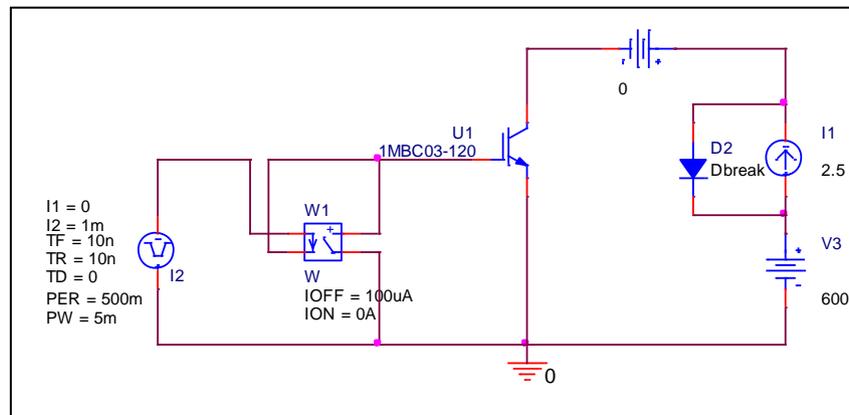
Parameter	Unit	Measurement	Simulation	%Error
tf	us	0.280	0.282	0.565

Gate Charge Characteristics

Circuit Simulation result



Evaluation circuit

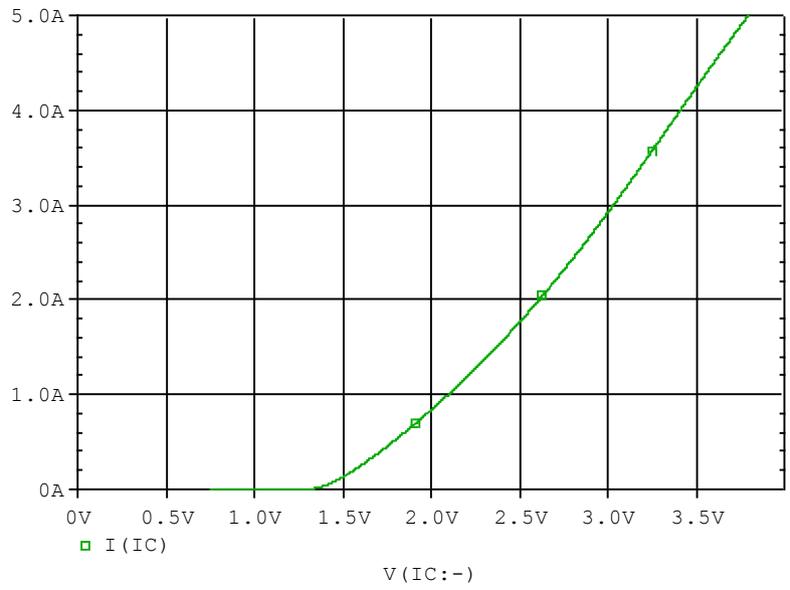


Test condition: $V_{CC}=600$ (V), $I_C=2.5$ (A), $V_{GE}=15$ (V)

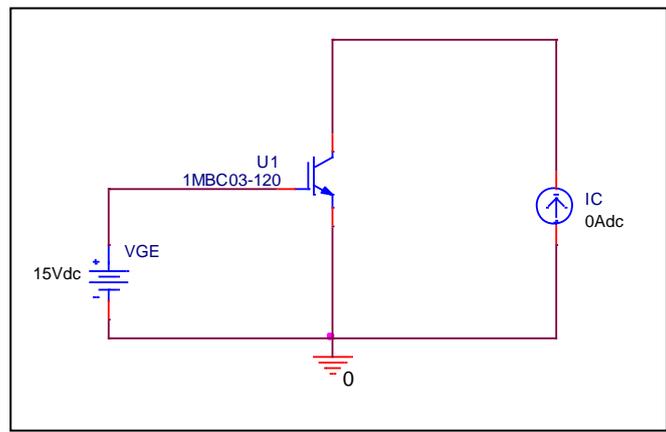
Parameter	Unit	Measurement	Simulation	%Error
Qge	nc	12.000	11.927	-0.608
Qgc	nc	11.000	10.833	-1.518
Qg	nc	33.500	34.034	1.594

Saturation Characteristics

Circuit Simulation result

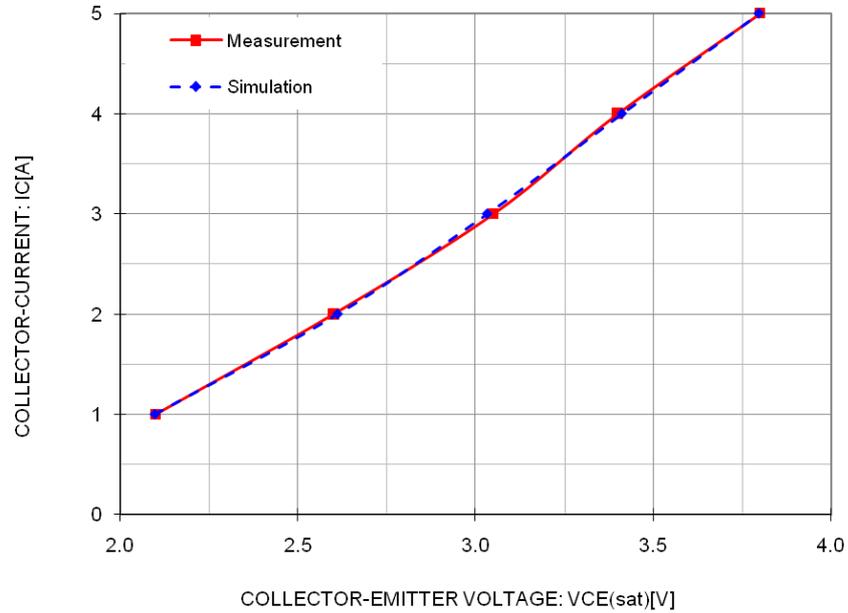


Evaluation circuit



Comparison Graph

Simulation result



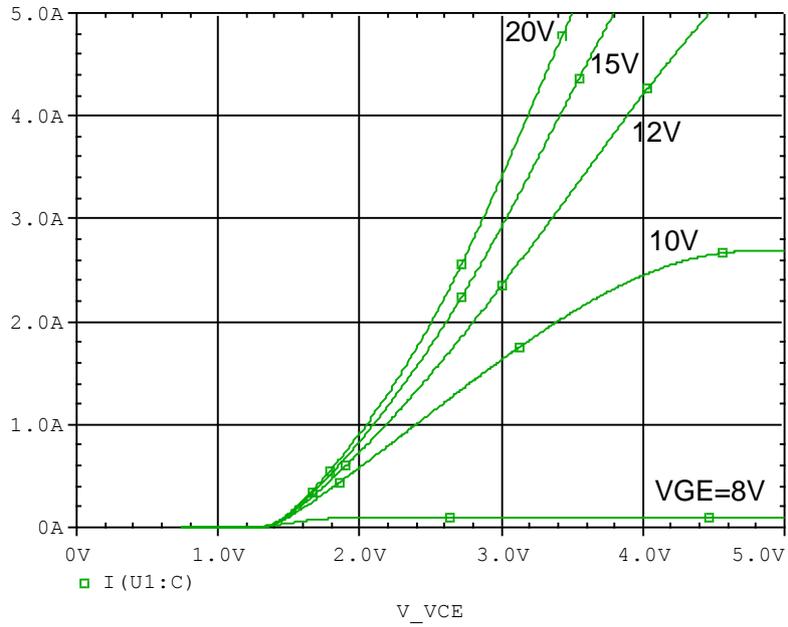
Comparison table

Test condition: $V_{GE} = 15$ (V)

IF(A)	VF (V)		%Error
	Measurement	Simulation	
1.00	2.100	2.098	-0.11
2.00	2.600	2.612	0.46
3.00	3.050	3.033	-0.57
4.00	3.400	3.412	0.34
5.00	3.800	3.797	-0.07

Output Characteristics

Circuit Simulation result



Evaluation circuit

