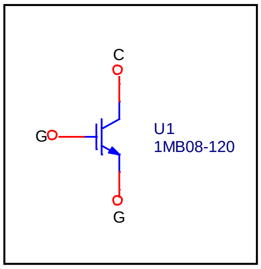
Device Modeling Report

COMPONENTS: Insulated Gate Bipolar Transistor (IGBT)
PART NUMBER: 1MB08-120
MANUFACTURER: FUJI ELECTRIC

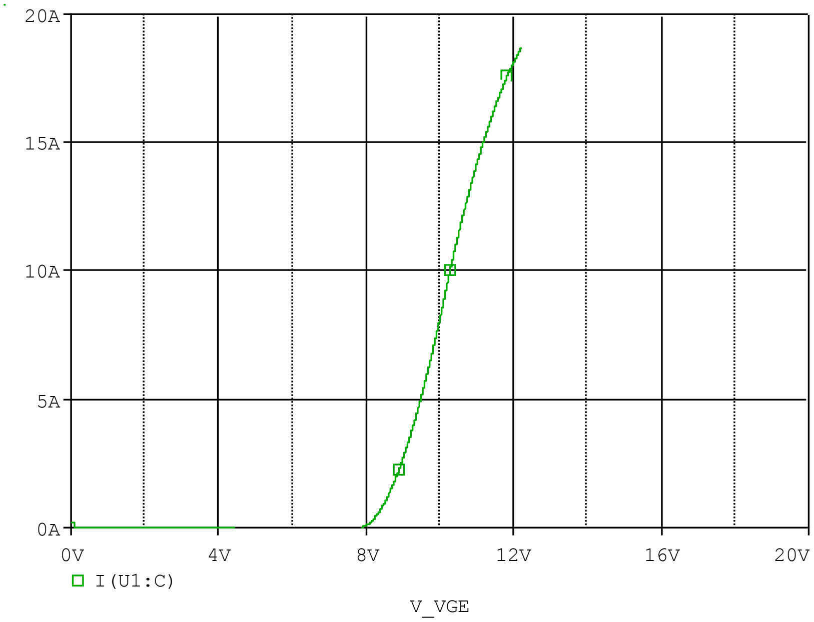
Bee Technologies Inc.

Circuit Configuration

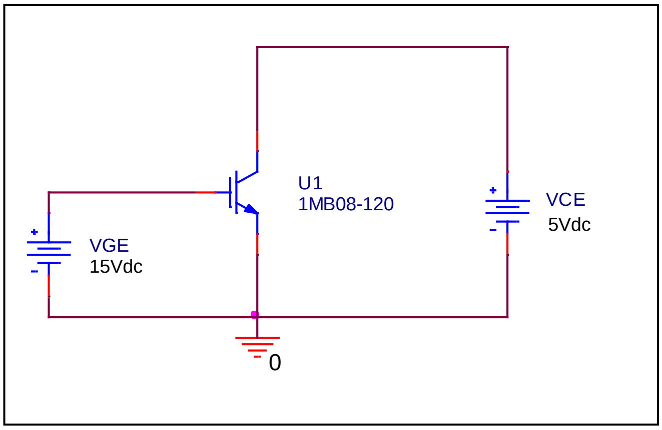


Transfer Characteristics

Circuit Simulation result

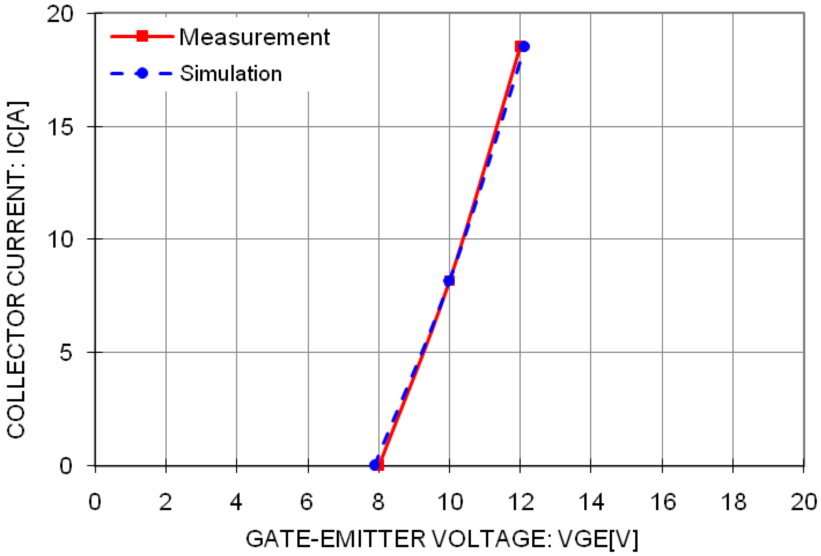


Evaluation circuit



Comparison Graph

Simulation result



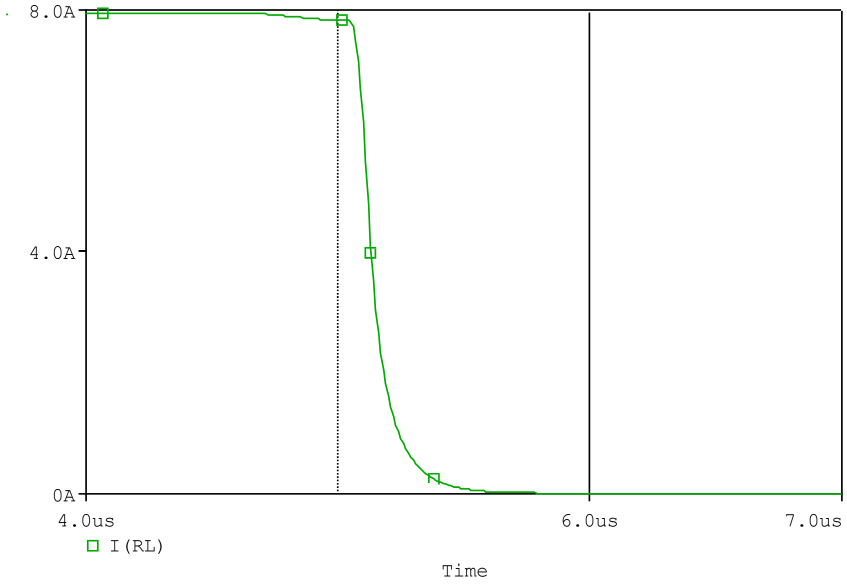
Comparison table

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

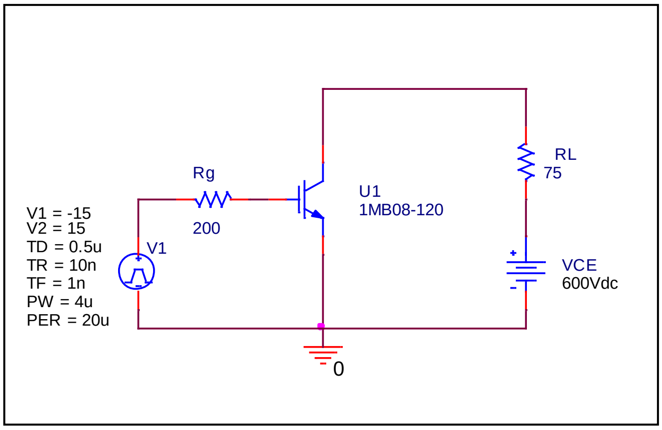
IC (A)	VGE (V)		%Error
	Measurement	Simulation	
0.000	8.000	7.866	-1.68
8.200	10.000	10.011	0.11
18.500	12.000	12.138	1.15

Fall Time Characteristics

Circuit Simulation result



Evaluation circuit

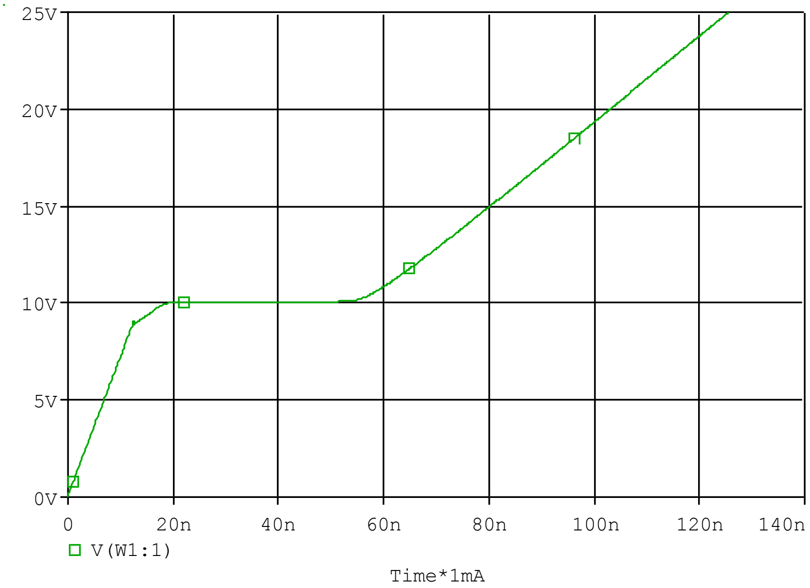


Test condition: Ic=8 (A), Vcc=600 (V)

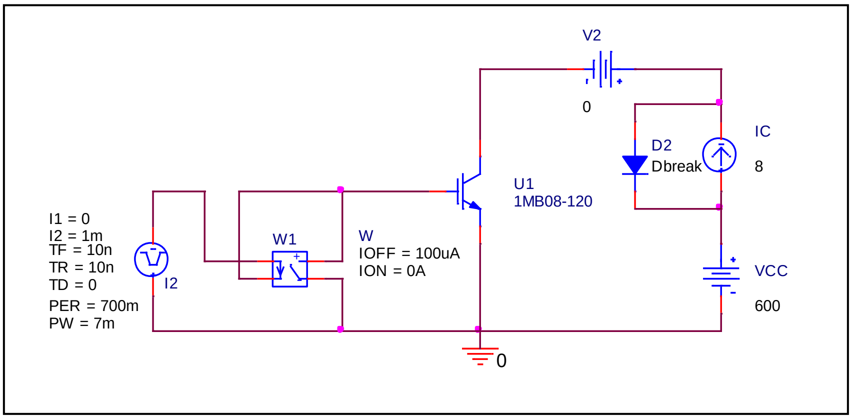
Parameter	Unit	Measurement	Simulation	%Error
tf	us	0.180	0.184	2.22

Gate Charge Characteristics

Circuit Simulation result



Evaluation circuit

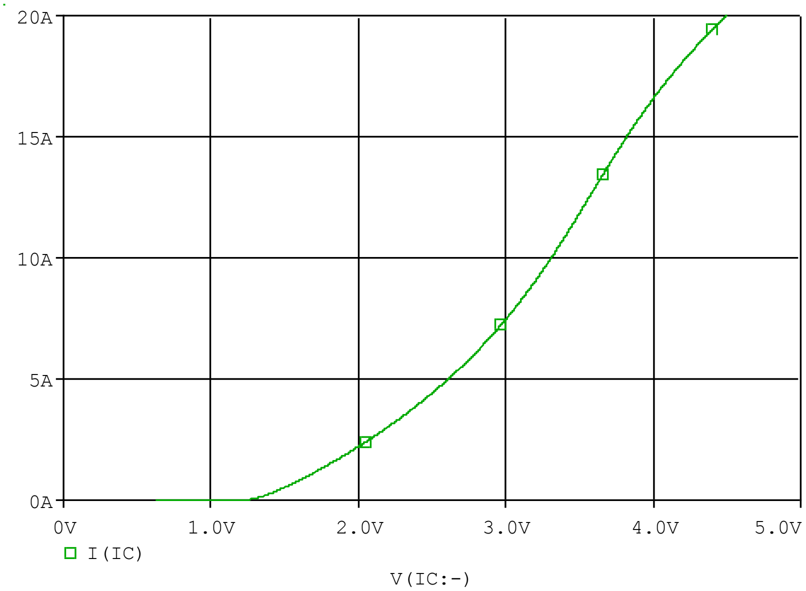


Test condition: VCC=600 (V), IC=8 (A), VGE=15 (V)

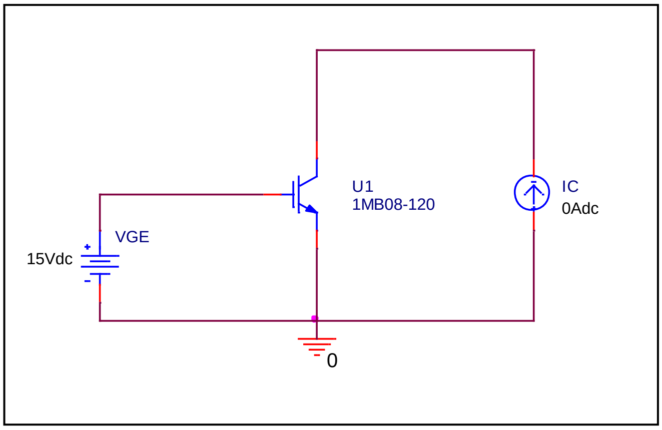
Parameter	Unit	Measurement	Simulation	%Error
Qge	nc	15.000	15.366	2.44
Qgc	nc	42.000	40.366	-3.89
Qg	nc	80.000	80.231	0.29

Saturation Characteristics

Circuit Simulation result



Evaluation circuit



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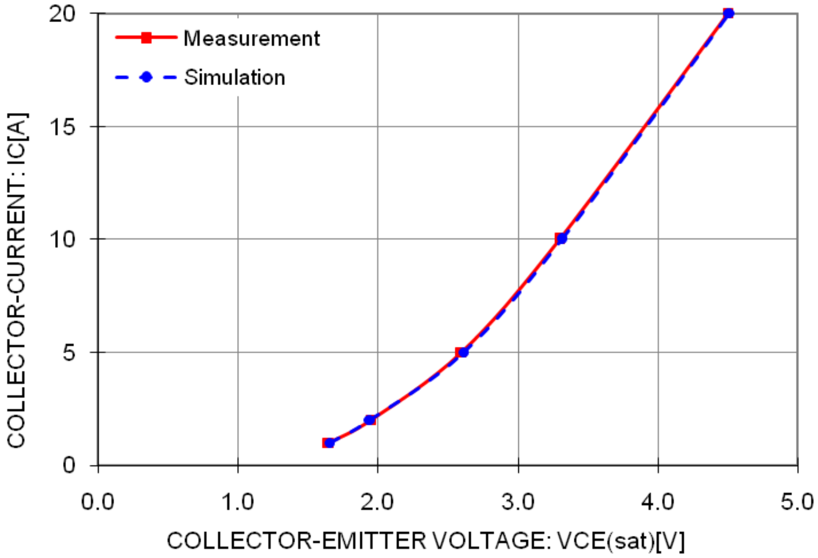
Comparison Graph

Simulation result



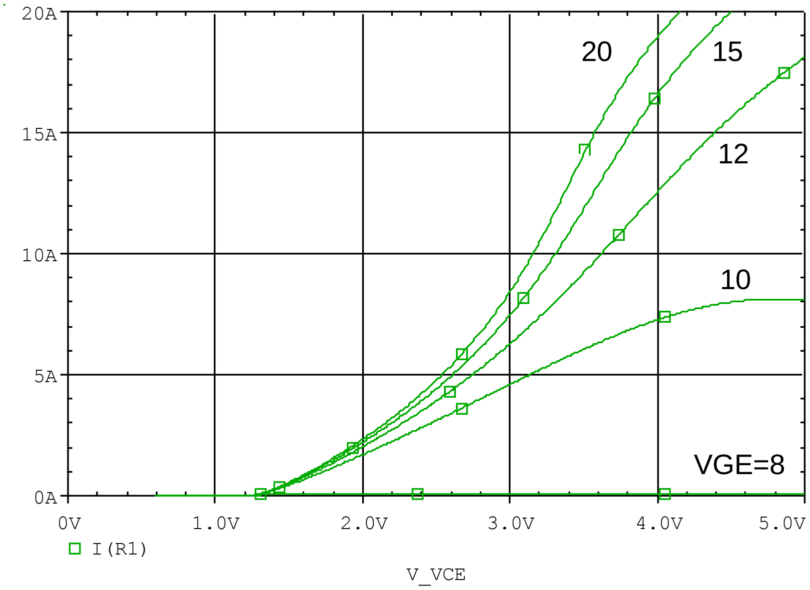
Comparison table

Test condition: VGE =15 (V)

IC(A)	VCE (V)		%Error
	Measurement	Simulation	
1	1.650	1.657	0.41
2	1.950	1.946	-0.21
5	2.600	2.612	0.47
10	3.300	3.313	0.40
20	4.500	4.512	0.27

Output Characteristics

Circuit Simulation result



Evaluation circuit