

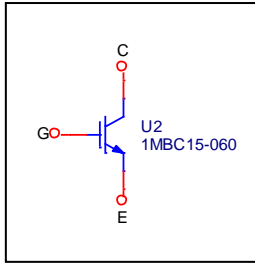
# Device Modeling Report

COMPONENTS: Insulated Gate Bipolar Transistor (IGBT)  
PART NUMBER: 1MBC15-060  
MANUFACTURER: FUJI ELECTRIC



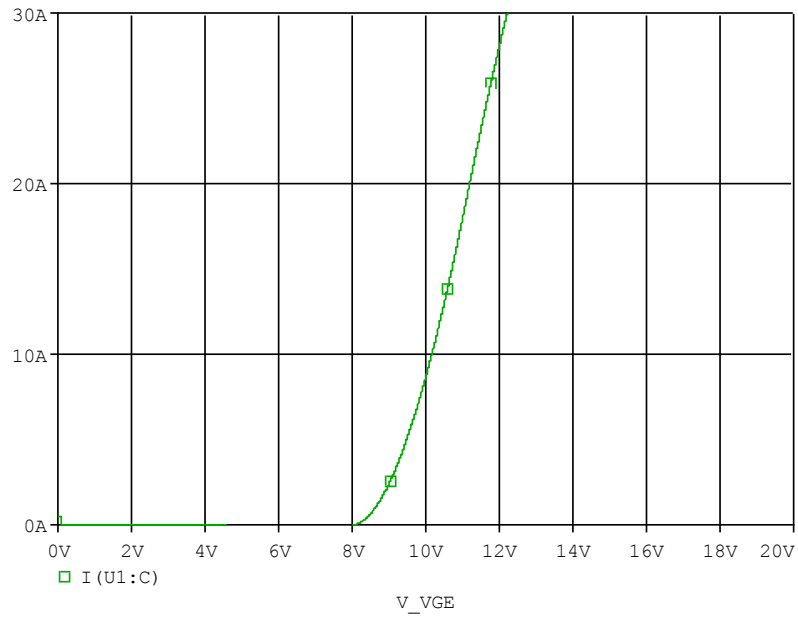
**Bee Technologies Inc.**

## Circuit Configuration

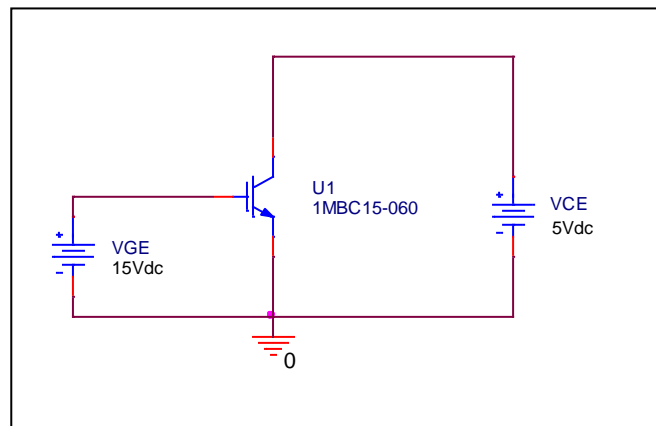


# Transfer Characteristics

## Circuit Simulation result

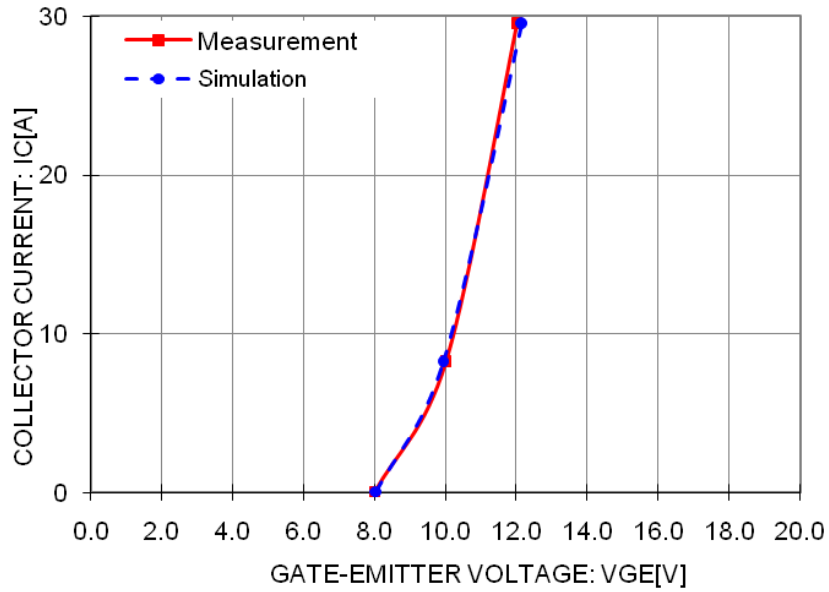


## Evaluation circuit



## Comparison Graph

Simulation result



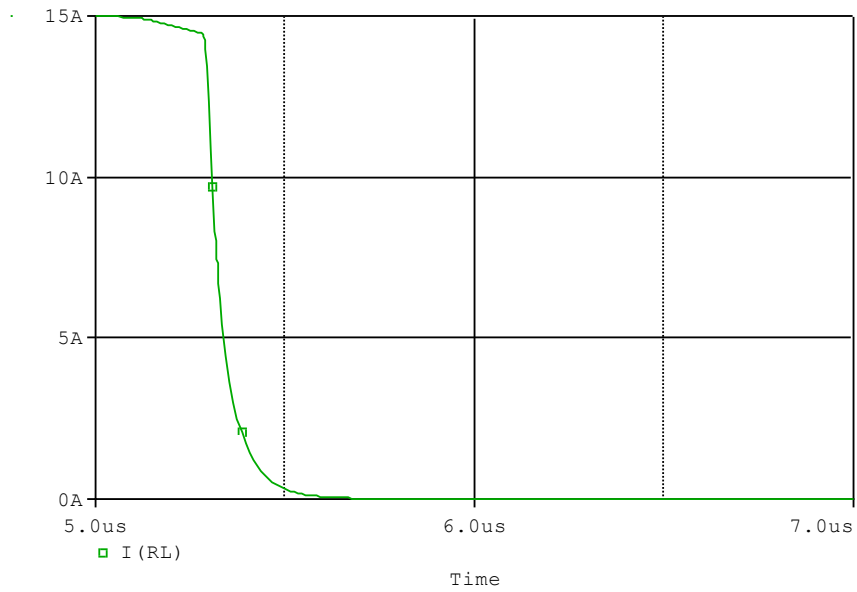
Comparison table

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

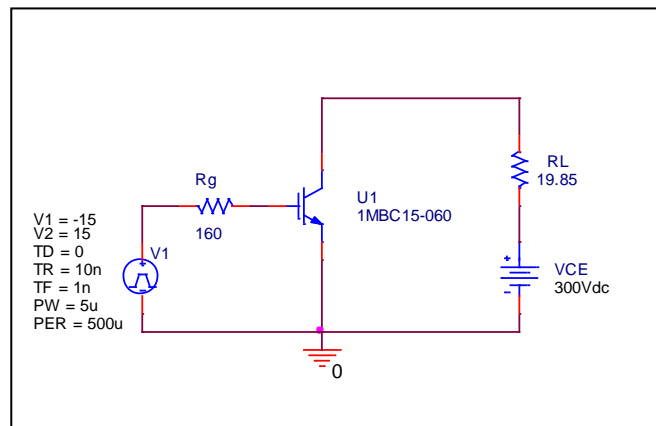
IC (A)	VGE (V)		%Error
	Measurement	Simulation	
0.050	8.000	8.045	0.56
8.200	10.000	9.941	-0.59
29.500	12.000	12.157	1.31

# Fall Time Characteristics

## Circuit Simulation result



## Evaluation circuit

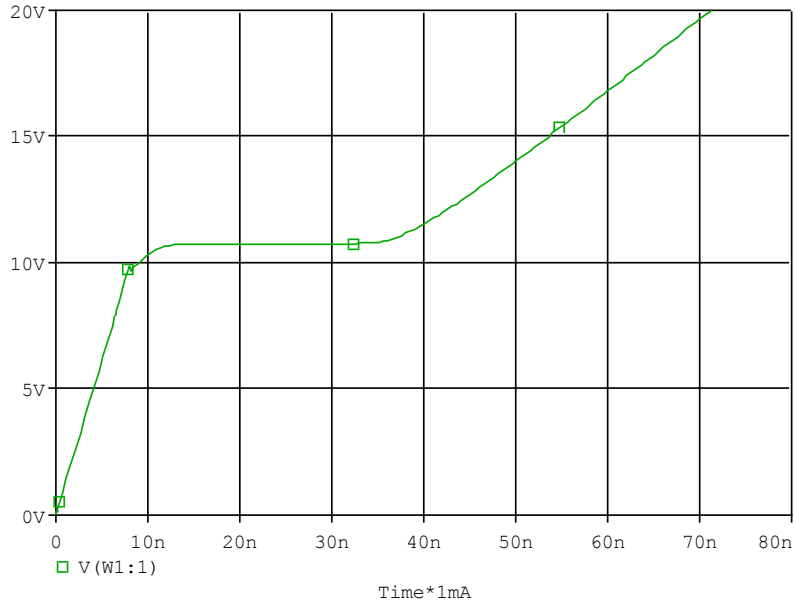


Test condition:  $I_C=15$  (A),  $V_{CC}=300$  (V)

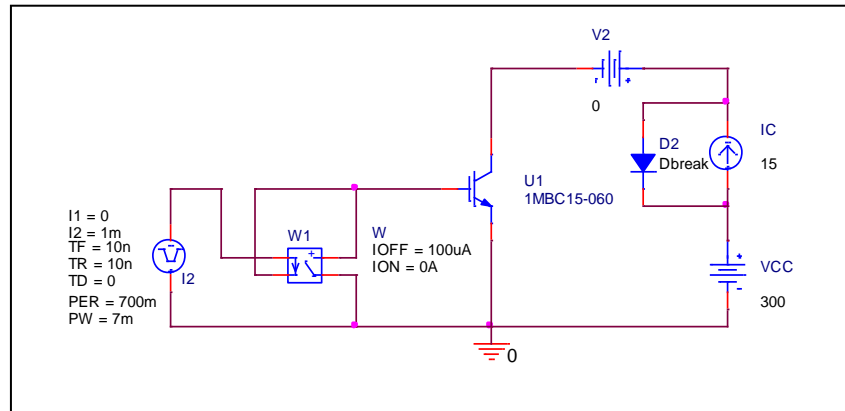
Parameter	Unit	Measurement	Simulation	%Error
tf	us	0.110	0.110	0

# Gate Charge Characteristics

## Circuit Simulation result



## Evaluation circuit

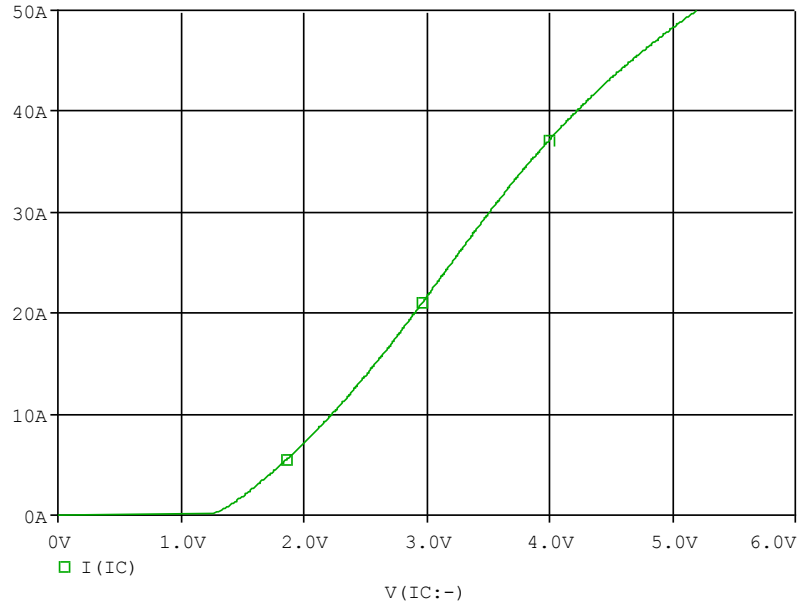


Test condition: VCC=300 (V), IC=15 (A), VGE=15 (V)

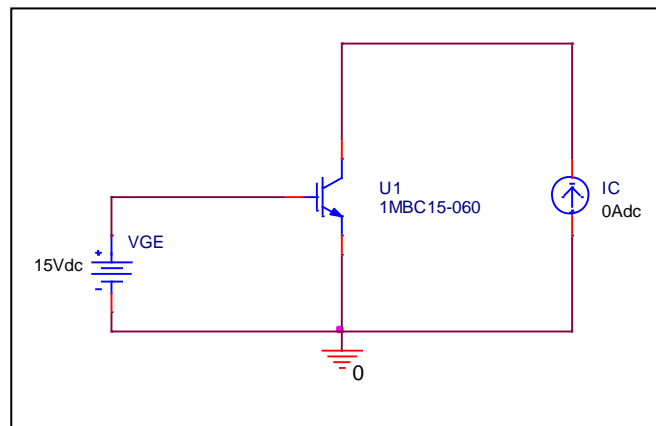
Parameter	Unit	Measurement	Simulation	%Error
Qge	nc	9.000	8.848	-1.69
Qgc	nc	26.000	25.971	-0.11
Qg	nc	53.000	53.587	1.11

# Saturation Characteristics

## Circuit Simulation result

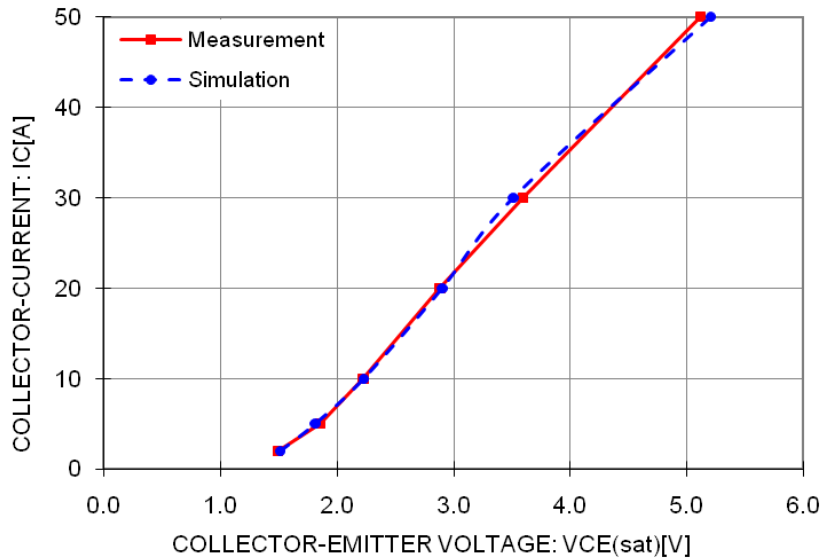


## Evaluation circuit



## Comparison Graph

Simulation result



Comparison table

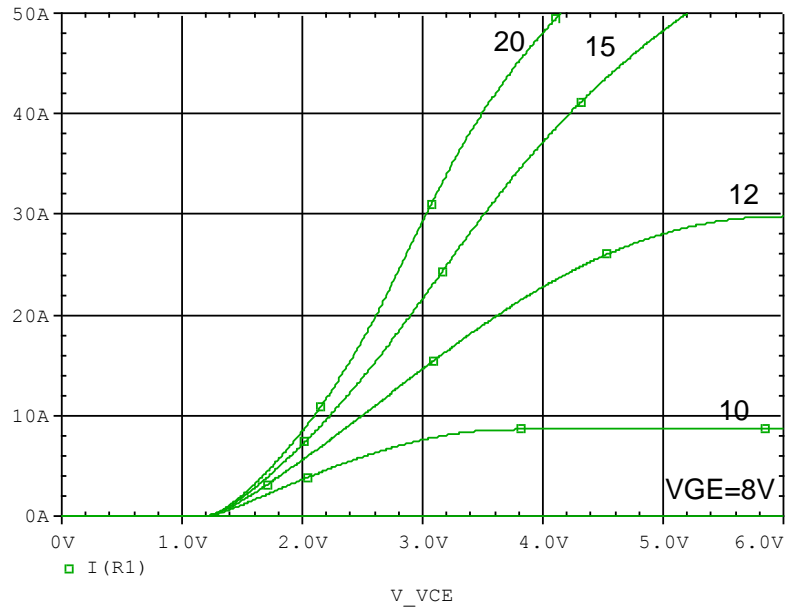
Test condition:  $V_{GE} = 15$  (V)

Ic(A)	VCE (V)		%Error
	Measurement	Simulation	
2	1.500	1.517	1.15
5	1.860	1.815	-2.44
10	2.230	2.230	0.00
20	2.887	2.902	0.52
30	3.590	3.511	-2.21
50	5.120	5.201	1.59



# Output Characteristics

## Circuit Simulation result



## Evaluation circuit

