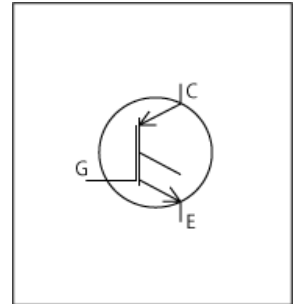


LTspice Model

Nch IGBT

APEC

AP28G40GEM-HF



Model Information

Model An original macro model based on BSIM3 and Gummel-Poon model
Call Name MDC_AP28G40GEM-HF_LT
Pin Assign 1:C 2:G 3:E
File List Model Library MDC_AP28G40GEM-HF_LT01.lib
 Model Report MDC_AP28G40GEM-HF_LT.pdf (this file)

Verified Simulator Version LTspice version XVII
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version 20121213
- Product name AP28G40GEM-HF
- Company name Advanced Power Electronics Corp.
- Characteristics IcVce[Vge], IcVce[Vge]2, IcVge[Temp], VceVge[Ic], CapacitanceVce[Gname], VgeQg[Vcc], SwitchingIcc[Tname], SwitchingWaveform

Simulation Range

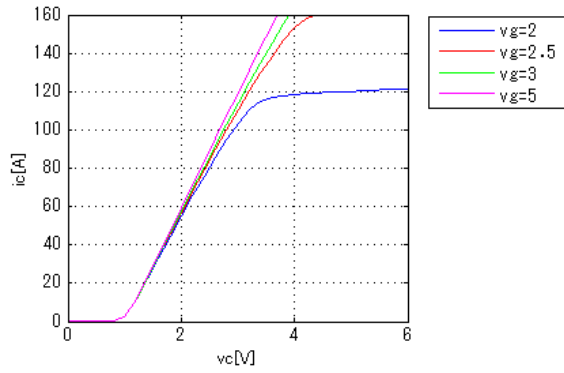
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Collector-emitter voltage (DC)	0	to	400	V
Gate-emitter voltage (DC)	-6	to	6	V
Temperature	-55	to	150	deg C

Simulation results are following.
 Explanatory notes — : simulated

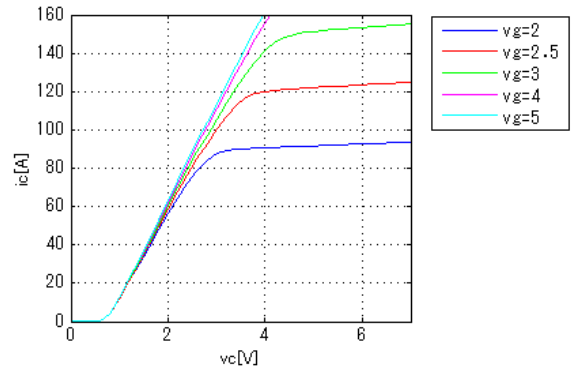
IcVce[Vge]

Temp. = 25deg C



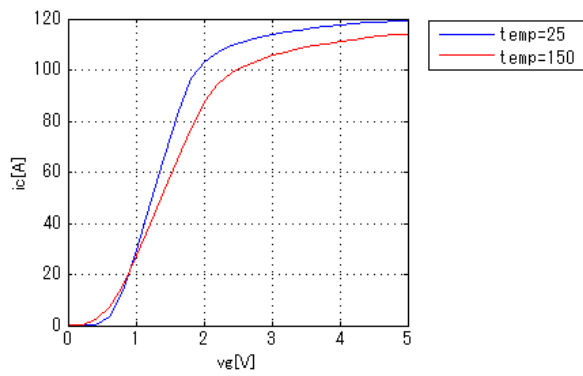
IcVce[Vge]2

Temp. = 150deg C



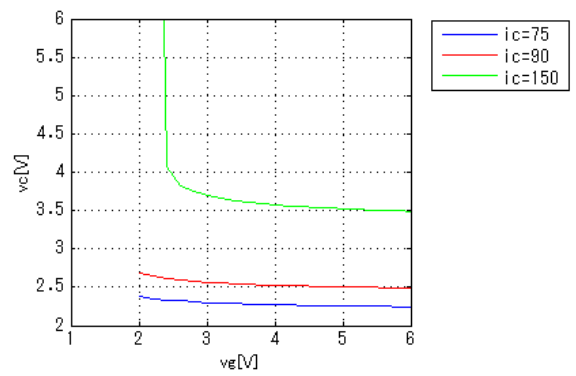
IcVge[Temp]

Vce = 3V



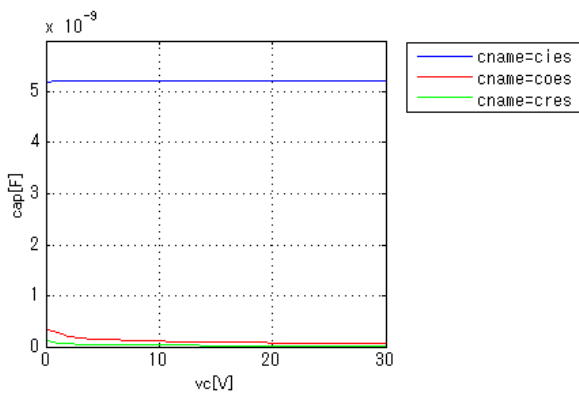
VceVge[Ic]

Temp. = 25deg C



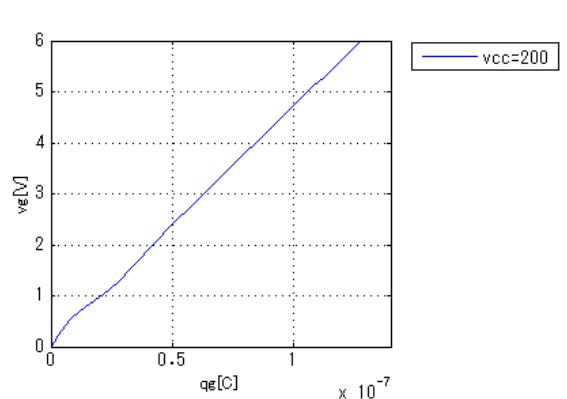
CapacitanceVce[Cname]

freq = 1000000Hz



VgeQg[Vcc]

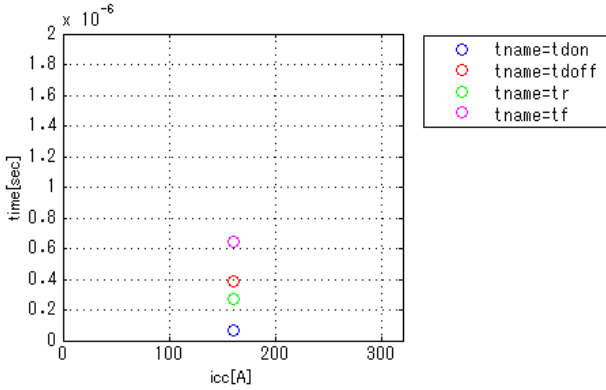
Ic = 40A



Simulation results are following.
 Explanatory notes — : simulated

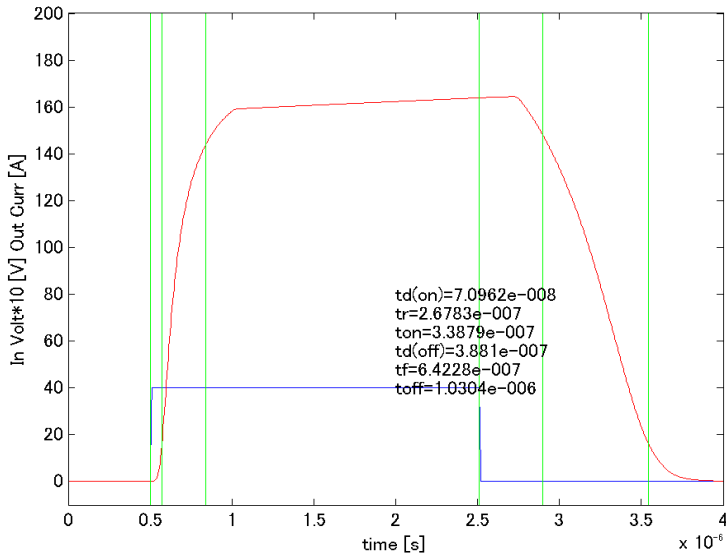
SwitchingIcc[Tname]

v_{gg} = 4V, v_{cc} = 320V, R_{GG} = 10ohm, Temp = 25degC



Switching Waveform (Blue : INPUT * 10 Red : OUTPUT)

v_{gg} = 4V, v_{cc} = 320V, R_{GG} = 10ohm, Temp = 25degC icc = 150A



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