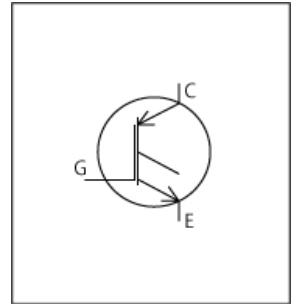


PSpice Model

Nch IGBT

Infineon

IKW40N65F5A



Model Information

Model An original macro model based on BSIM3 and Gummel-Poon model
Call Name MDC_IKW40N65F5A_PS
Pin Assign 1:G 2:C 3:E
File List Model Library MDC_IKW40N65F5A_PS01.lib
 Model Report MDC_IKW40N65F5A_PS.pdf (this file)

Verified Simulator Version PSpice version 16.6
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version Rev 1.2
- Product name IKW40N65F5A
- Company name Infineon Technologies AG
- Characteristics IcVge[Temp],IcVce[Vge],Vce(sat)Temp[Ic],VthTemp[Ic], Cies,Coes,Cres,VgeQg[Vcc],IfVf[Temp],Transient

Simulation Range

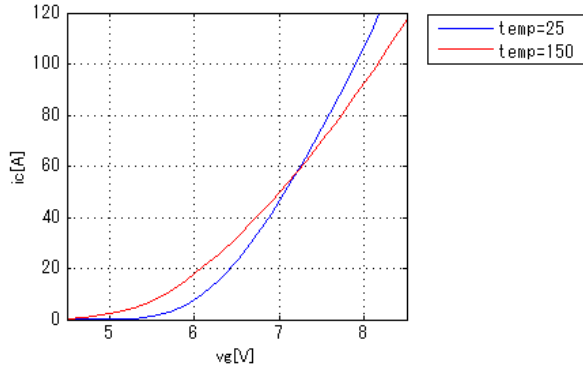
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Collector-emitter voltage (DC)	0	to	650	V
Gate-emitter voltage (DC)	0	to	20	V
Temperature	-55	to	150	deg C

Simulation results are following.
 Explanatory notes — : simulated

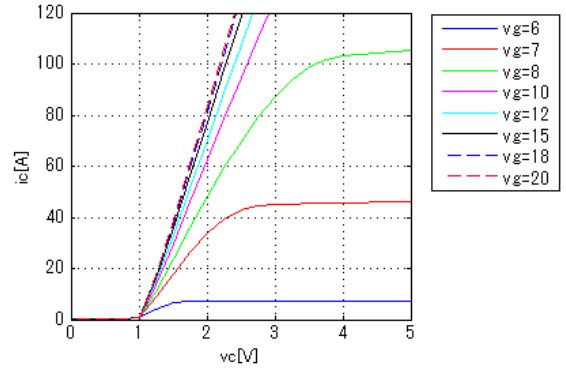
IcVge[Temp]

Vce = 20V



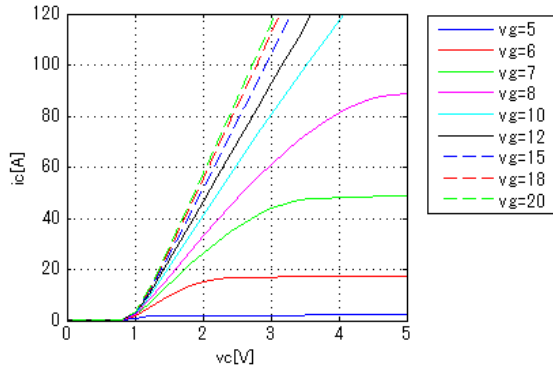
IcVce[Vge]

Temp. = 25deg C



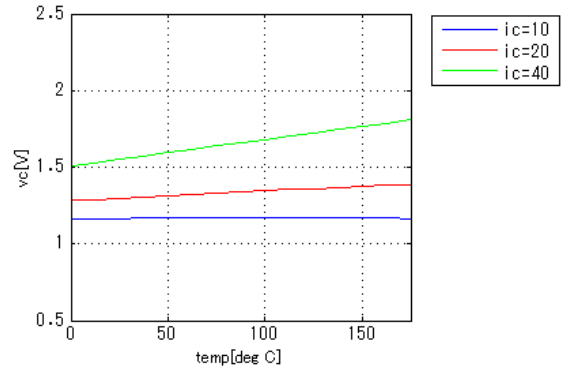
IcVce[Vge]

Temp. = 150deg C

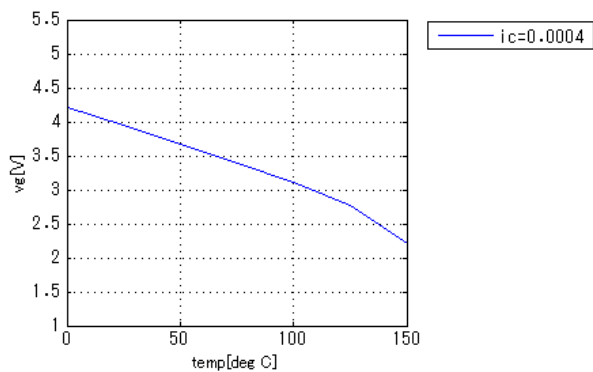


Vce(sat)Temp[Ic]

Vge = 15V

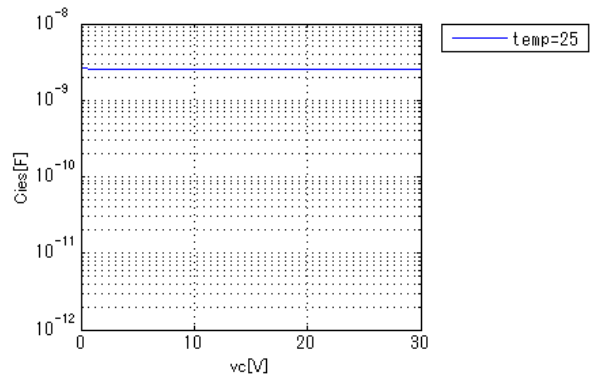


VthTemp[Ic]



Cies

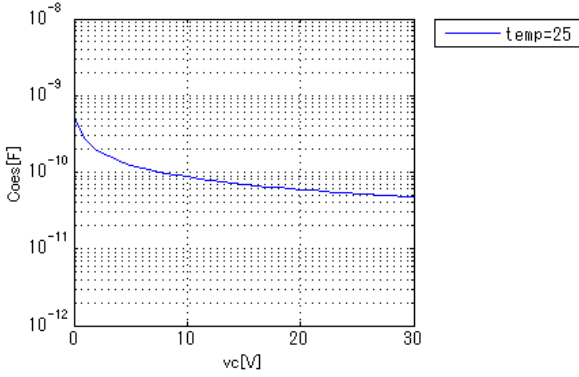
Freq. = 1MHz



Simulation results are following.
 Explanatory notes — : simulated

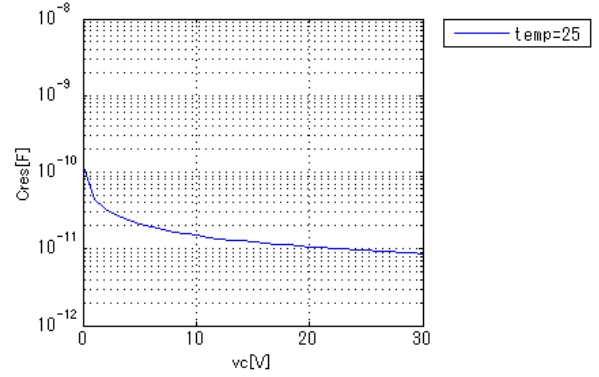
Coes

Freq. = 1MHz



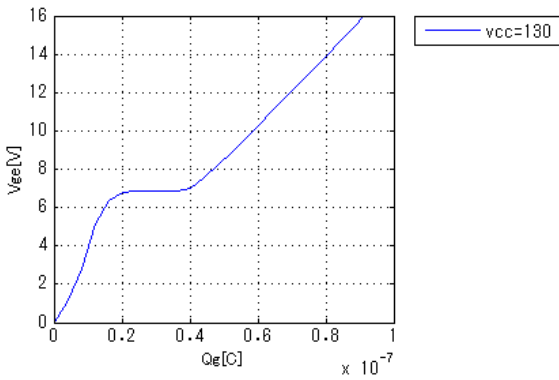
Cres

Freq. = 1MHz



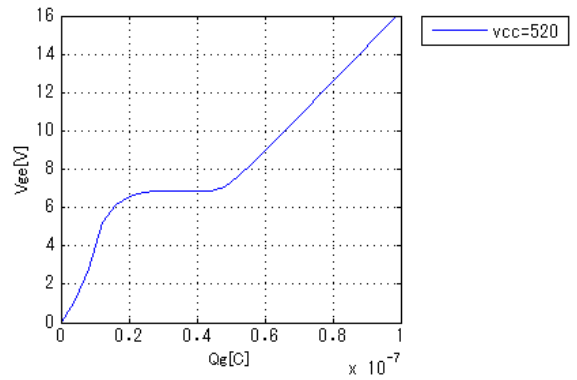
VgeQg[Vcc]

Ic = 40A

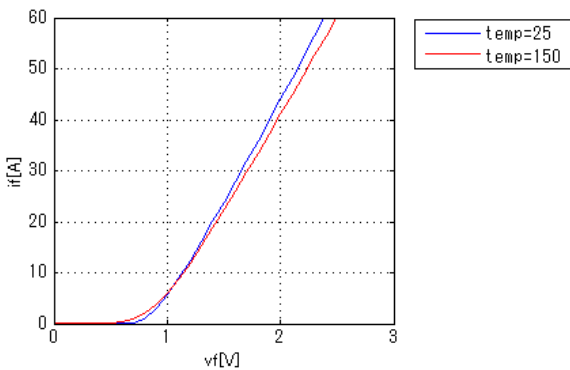


VgeQg[Vcc]

Ic = 40A

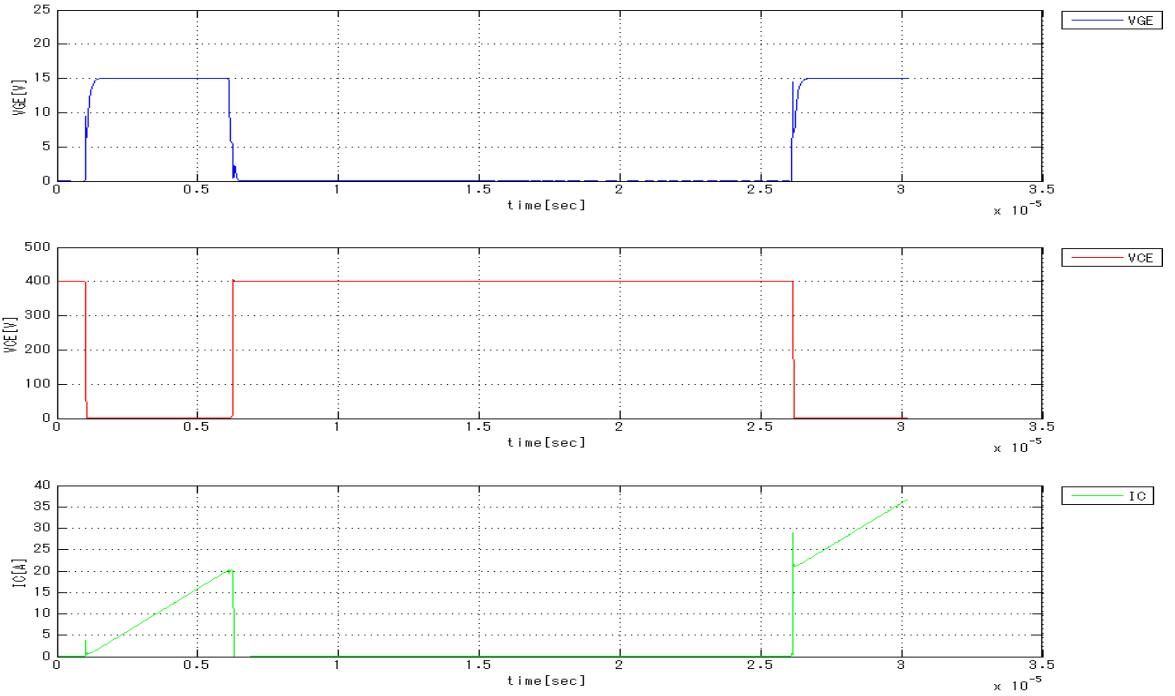


IfVf[Temp]



Simulation results are following.
Explanatory notes — : simulated

Transient



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