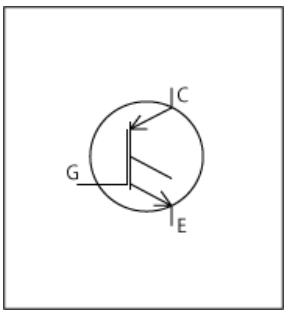
PSpice Model
Nch IGBT
Infineon
IHW30N60T



Model Information

Model	An original macro model based on BSIM3 and Gummel-Poon model	
Call Name	MDC_IHW30N60T_PS	
Pin Assign	1:C 2:G 3:E	
File List	Model Library	MDC_IHW30N60T_PS01.lib
	Model Report	MDC_IHW30N60T_PS.pdf (this file)
Verified Simulator Version		PSpice version 17.2
Note		

References

The information which was used for modeling is as follow:

[Data Sheet]

- ●Date/Version: Rev. 2.3 20.09.2013
- ●Product name: IHW30N60T
- ●Company name: Infineon Technologies AG
- ●Characteristics: IcVce[Vge],IcVce[Vge]2,IcVge[Temp],VcesatTemp[Ic],SwitchingIcc[Tname],SwitchingRg[Tname],SwitchingTemp[Tname],VthTemp[Ic],VgeQg[Vcc],CapacitanceVce[Cname],IfVf[Temp],VfTemp[If],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	600	V
Gate-emitter voltage (DC)	-20	to	20	V
Temperature	-55	to	150	deg C

IGBT

○ : Implemented
× : Not Implemented
— : Not applicable

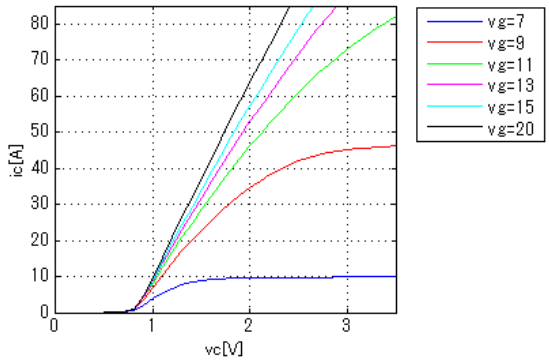
Model Functions Table

	RANK=1	
Functions	RANK	Implemented
IC-VCE-VGE	1	○
IC-VGE(Temp)	1	○
Vce(sat)	1	○
Capacitance	1	○
Gate Charge	1	○
IE-VEC(Diode Forward)	1	○
Reverse recovery	1	—
Switching(Typ.)	1	○
Vth	1	○

Simulation results are following.
Explanatory notes — : simulated

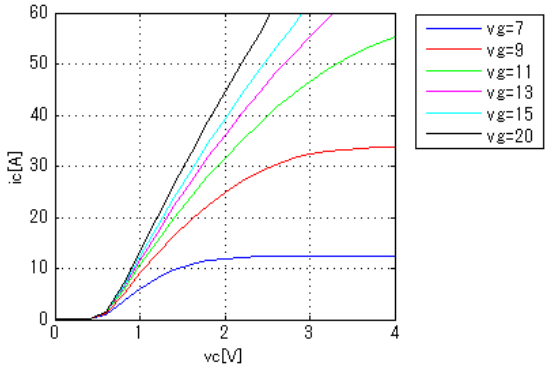
IcVce[Vge]

Temp. = 25deg C



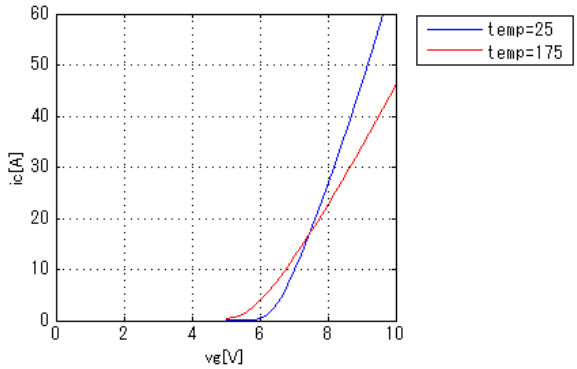
IcVce[Vge]2

Temp. = 175deg C



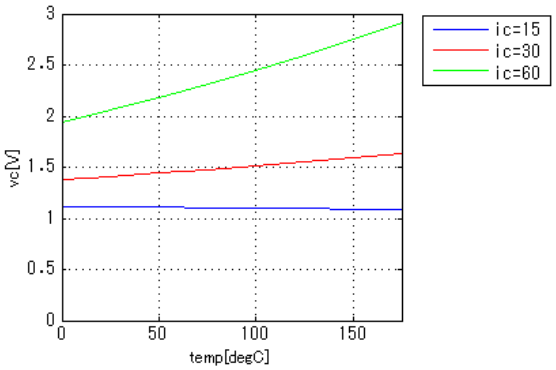
IcVge[Temp]

Vce = 10V



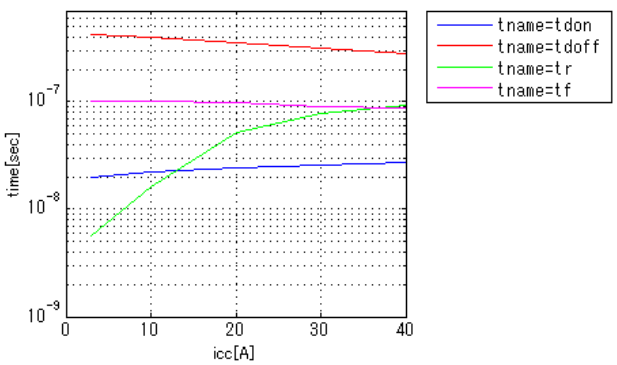
VcesatTemp[Ic]

vg = 15V



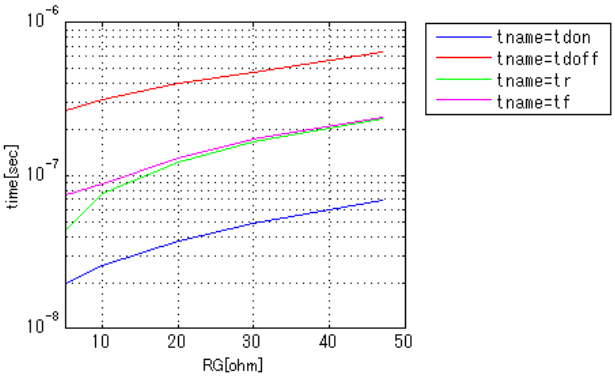
SwitchingIcc[Tname]

vgg = 15V, vcc = 400V, RGG = 10ohm, Temp = 175degC



SwitchingRg[Tname]

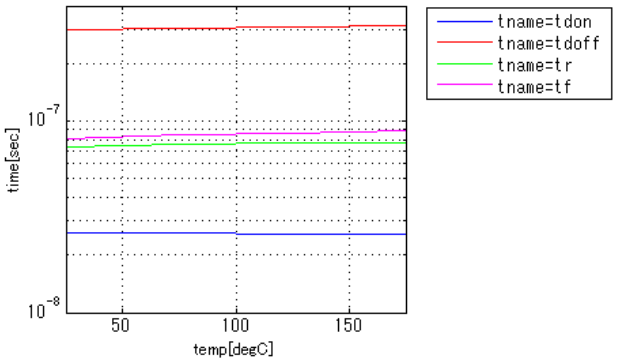
vgg = 15V, vcc = 400V, icc = 30A, Temp = 175degC



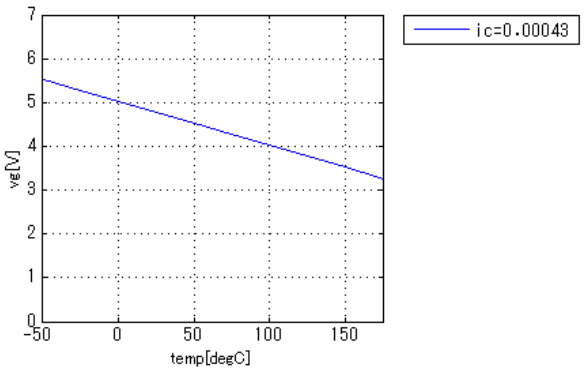
Simulation results are following.
Explanatory notes — : simulated

SwitchingTemp[Tname]

vgg = 15V, vcc = 400V, RGG = 10ohm, icc = 30A

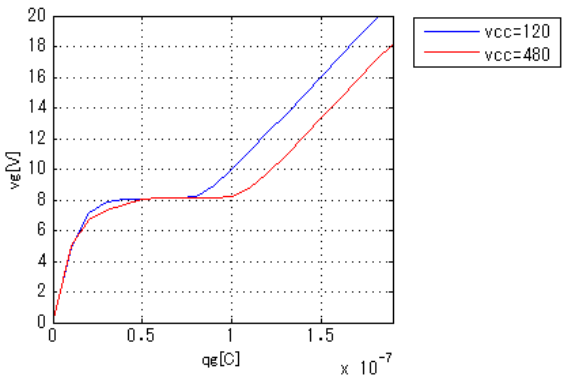


VthTemp[Ic]



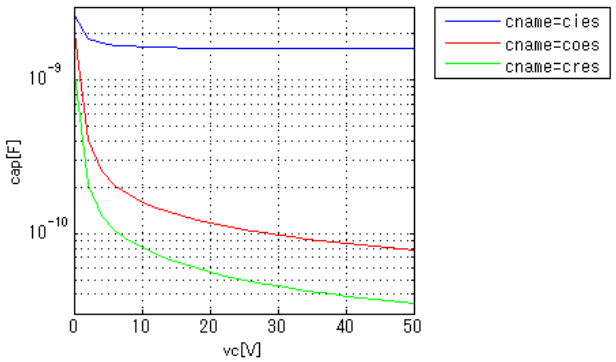
VgeQg[Vcc]

Ic = 30A

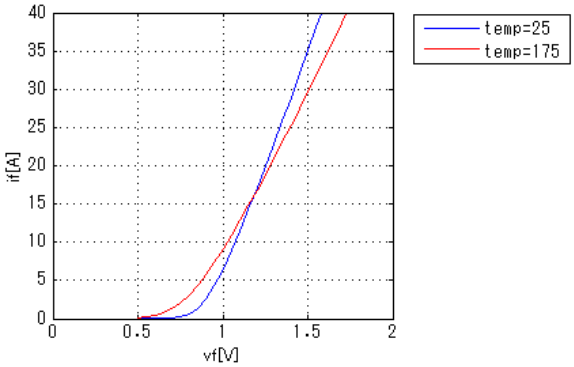


CapacitanceVce[Cname]

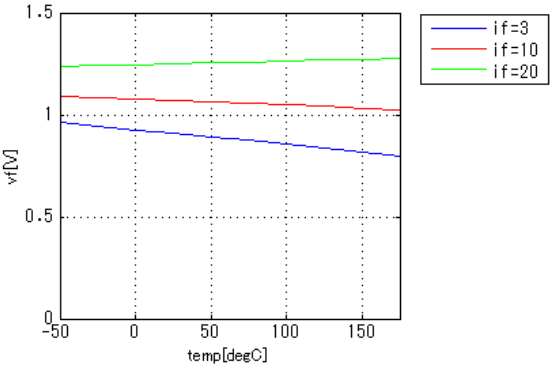
freq = 1000000Hz



IfVf[Temp]



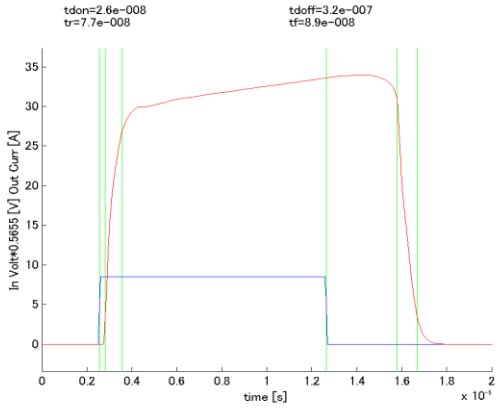
VfTemp[If]



Simulation results are following.
Explanatory notes — : simulated

Switching Waveform (Blue : INPUT Red : OUTPUT)

vgg = 15V, vcc = 400V, RGG = 10ohm, Temp = 175degC, Ic = 30A



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