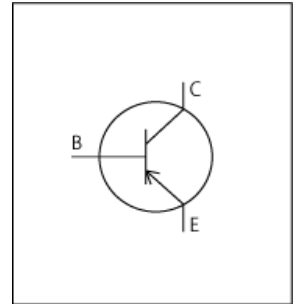


PSpice Model

PNP

RENESAS

2SA1330



Model Information

Model	Gummel-Poon model		
Call Name	MDC_2SA1330_PS		
Pin Assign	1:E 2:B 3:C		
File List	Model Library	MDC_2SA1330_PS03.lib	
	Model Report	MDC_2SA1330_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 April 1st, 2010
- Product name 2SA1330
- Company name Renesas Electronics Corporation
- Characteristics IcVce[ib],IcVbe[Temp],hFEIc[Vce],Vce(sat)Ic[hFE],Vbe(sat)Ic [hFE],fTle[Vce],Cob,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	-200	V
Collector current (DC)	0	to	-100m	A
Temperature	-55	to	150	deg C

BJT

○ : Implemented
 × : Not Implemented
 — : Not applicable

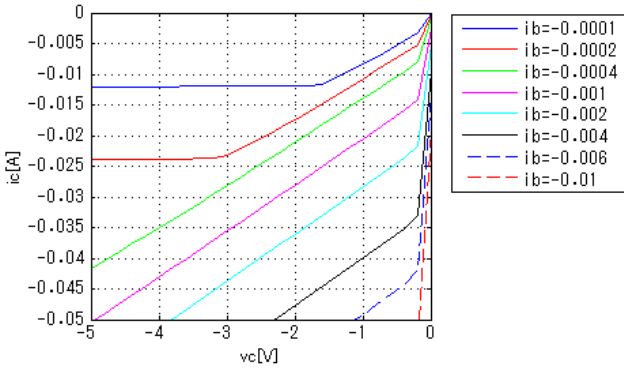
Model Functions Table
RANK=1

Functions	RANK	Implemented
IC-VBE(Temp)	1	○
IC-VCE-IB(Temp)	1	○
IC-hFE(Temp)	1	○
VCE(sat)-IC	1	○
VBE(sat)-IC	1	○
Capacitance	1	○
Transition	1	○
Switching	1	○

Simulation results are following.
 Explanatory notes — : simulated

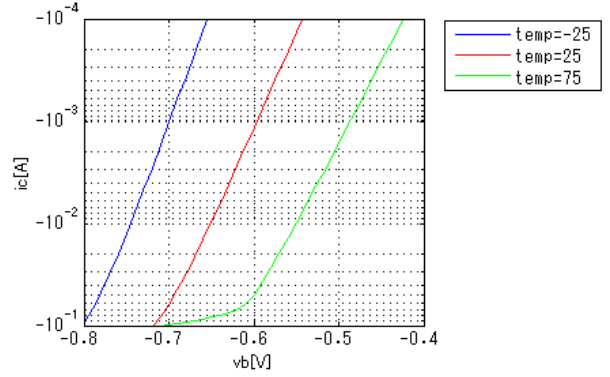
IcVce[ib]

Temp. = 25degC

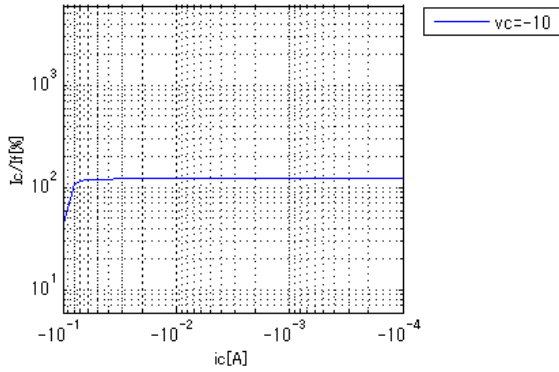


IcVbe[Temp]

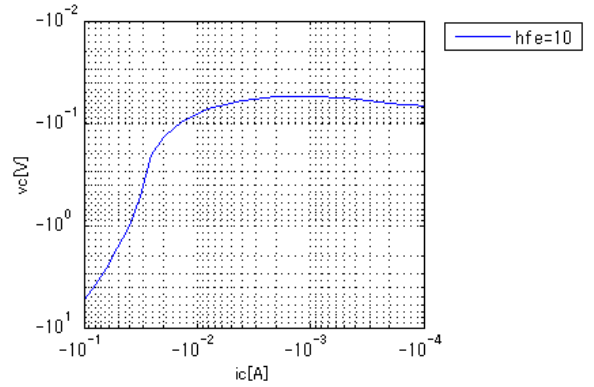
Vce = -10V



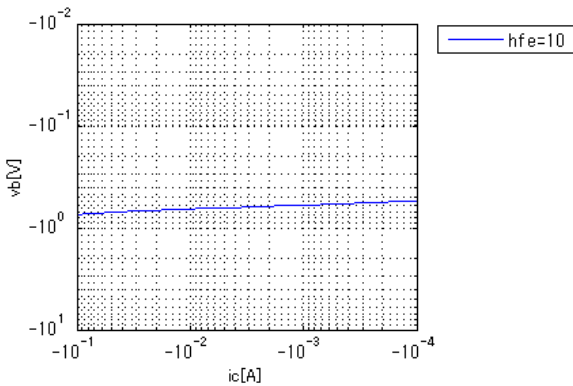
hFEIc[Vce]



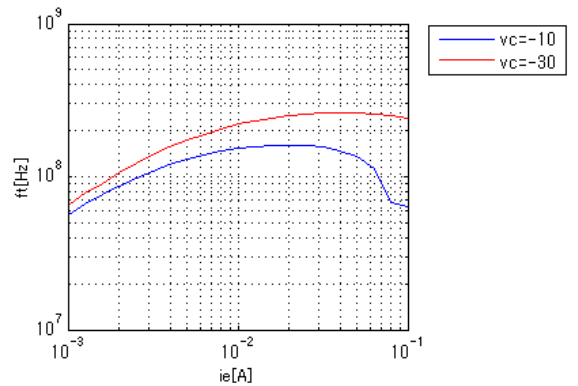
Vce(sat)Ic[hFE]



Vbe(sat)Ic[hFE]



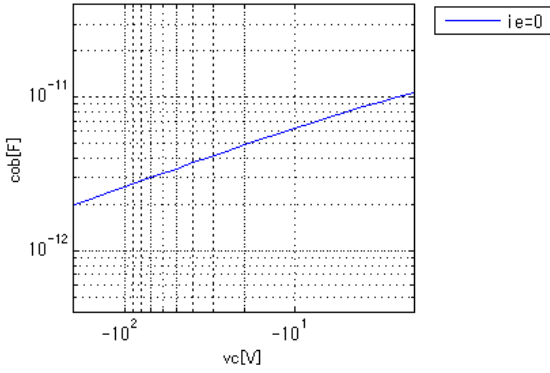
fTle[Vce]



Simulation results are following.
 Explanatory notes — : simulated

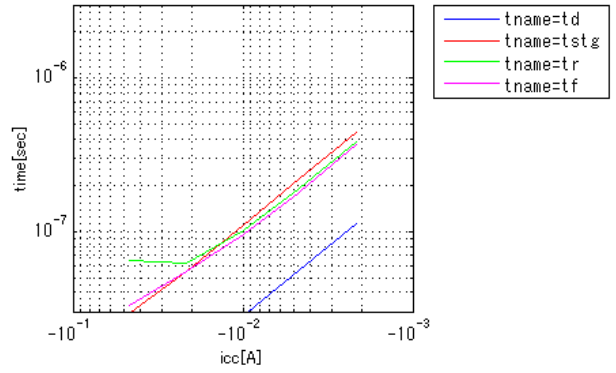
Cob

Freq. = 1MHz



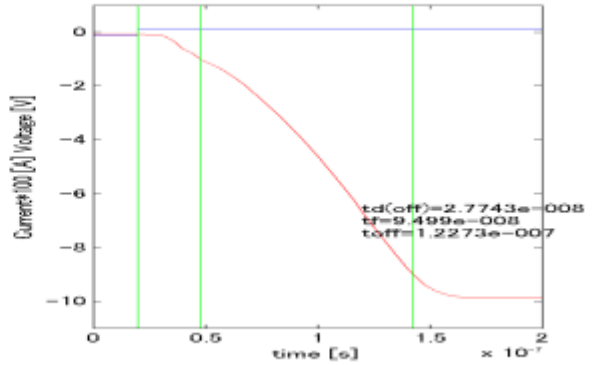
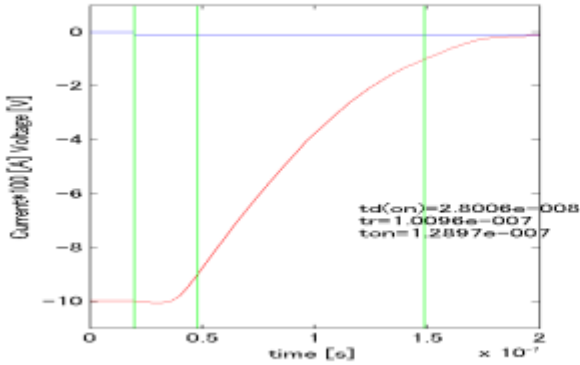
SwitchingIcc[Tname]

ib. = ic/10, vcc. = -10V, Temp. = 25degC



Switching Waveform (Blue : INPUT Red : OUTPUT)

ib. = ic/10, vcc. = -10V, Temp. = 25degC, ic = -0.01A



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