

PSpice Model

NPN

ROHM

2SC4081FRA



Model Information

Model Mextram model
Call Name MDC_2SC4081FRA_PS
Pin Assign 1:C 2:B 3:E
File List Model Library MDC_2SC4081FRA_PS01.lib
 Model Report MDC_2SC4081FRA_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 20151009
- Product name 2SC4081FRA
- Company name ROHM Co., Ltd.
- Characteristics $I_c V_{be}[Temp]$, $I_c V_{ce}[I_b]$, $hFE I_c[Temp]$, $hFE I_c[V_{ce}]$, $V_{ce}(sat) I_c[Temp]$, $V_{ce}(sat) I_c[hFE]$, $V_{be}(sat) I_c[Temp]$, $fT I_c[V_{ce}]$, C_{ob} , C_{ib}

Simulation Range

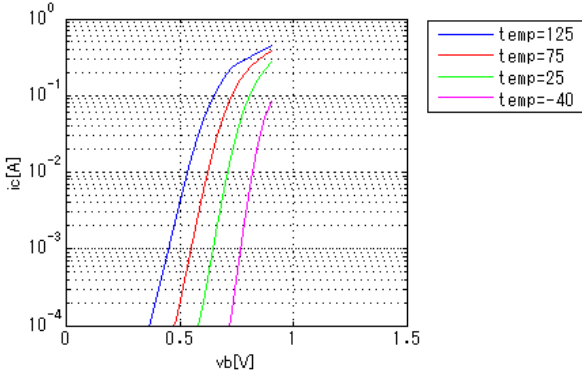
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Collector-emitter voltage (DC)	0	to	50	V
Base current (DC)	0	to	15	A
Temperature	-55	to	150	deg C

Simulation results are following.
 Explanatory notes — : simulated

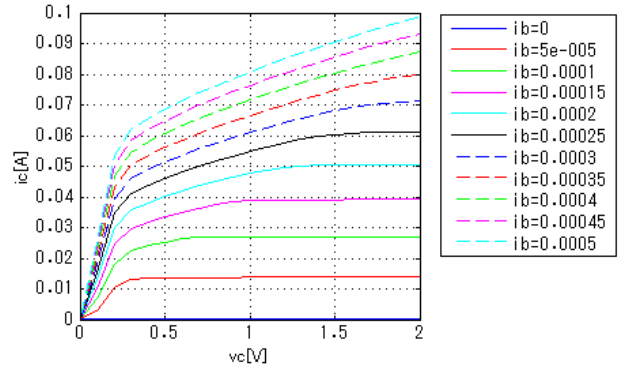
IcVbe[Temp]

Vce = 6V



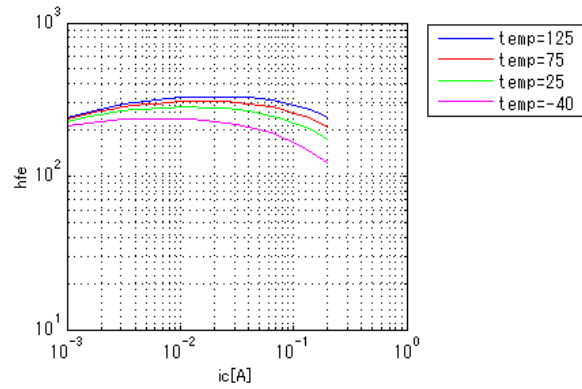
IcVce[ib]

Temp. = 25deg C

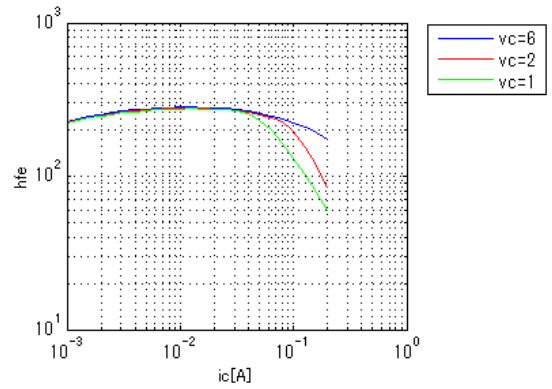


hFEIc[Temp]

Vce = 6V

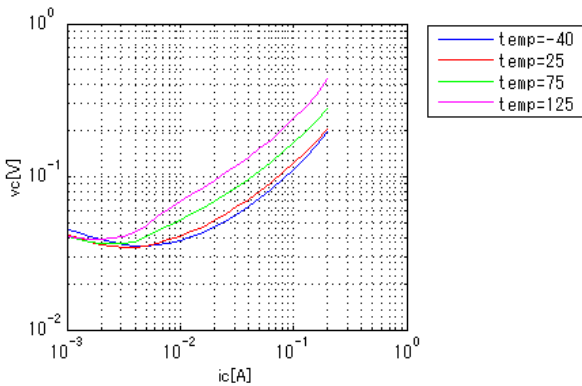


hFEIc[Vce]

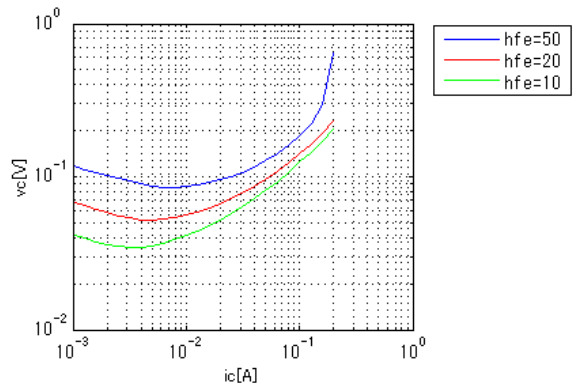


Vce(sat)Ic[Temp]

IC/IB = 10



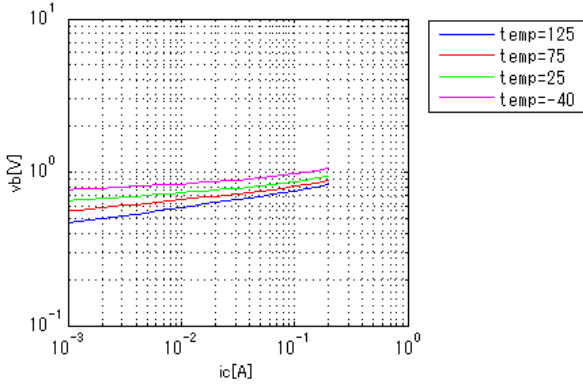
Vce(sat)Ic[hFE]



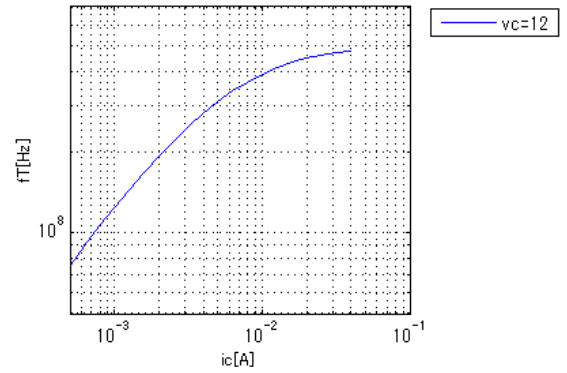
Simulation results are following.
 Explanatory notes — : simulated

Vbe(sat)Ic[Temp]

IC/IB = 10

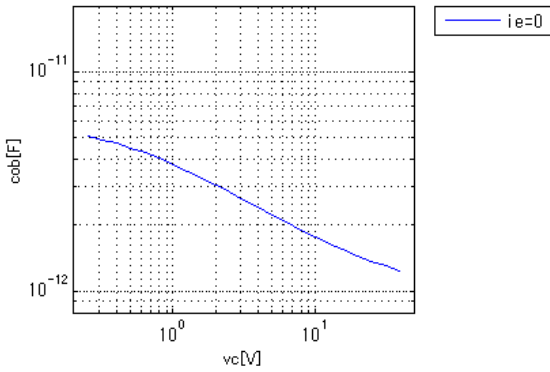


fT(Ic[Vce])



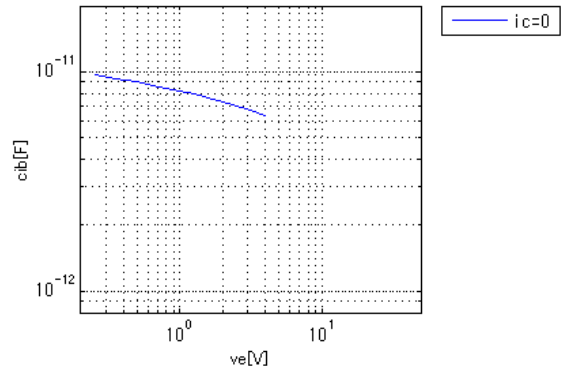
Cob

Freq. = 1MHz



Cib

Freq. = 1MHz



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