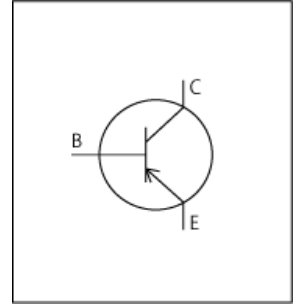


PSpice Model

PNP

ROHM

2SB1198K



Model Information

Model Gummel-Poon model
Call Name MDC_2SB1198K_PS
Pin Assign 1:E 2:B 3:C
File List Model Library MDC_2SB1198K_PS01.lib
 Model Report MDC_2SB1198K_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 Unknown
- Product name 2SB1198K
- Company name ROHM Co., Ltd.
- Characteristics $I_c V_{be}[Temp], I_c V_{ce}[ib], hFE I_c[Temp], V_{ce}(sat) I_c[hFE], V_{ce}(sat) I_c[Temp], V_{ce}(sat) I_c[Temp]_2, V_{ce}(sat) I_c[Temp]_3, f_T I_e[V_{ce}], C_o, b V_{cb}, C_{ib} V_{eb}$

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	-80	V
Temperature	-55	to	150	deg C

BJT

○ : Implemented
 × : Not Implemented
 — : Not applicable

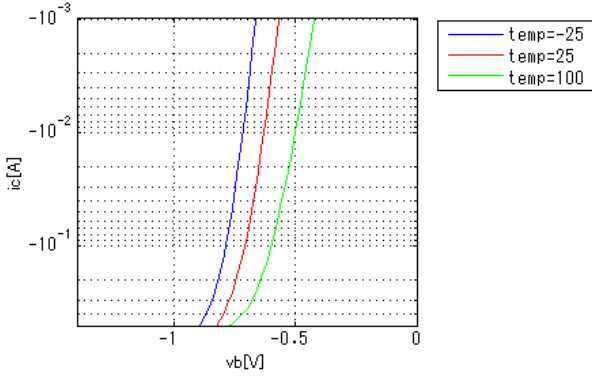
Model Functions Table
RANK=1

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

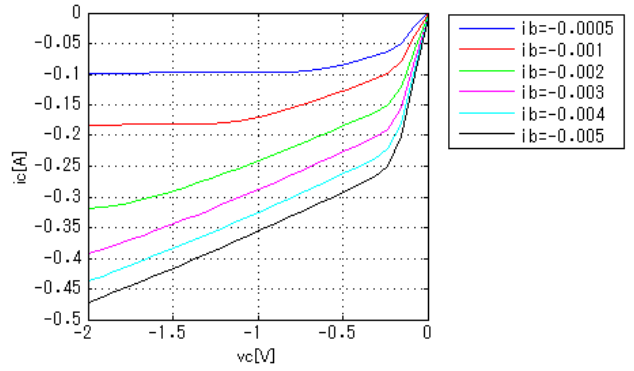
IcVbe[Temp]

Vce = -3V



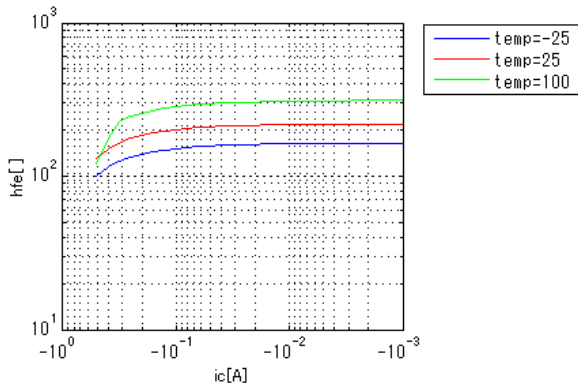
IcVce[ib]

Temp = 25degC

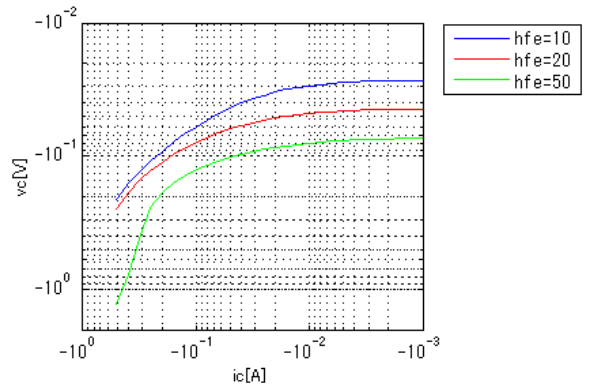


hFEIc[Temp]

Vce = -3V

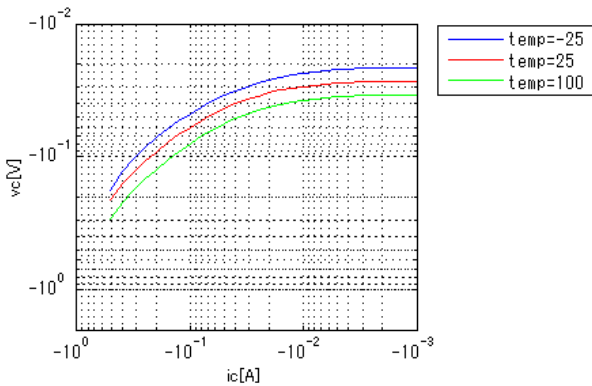


Vce(sat)Ic[hFE]



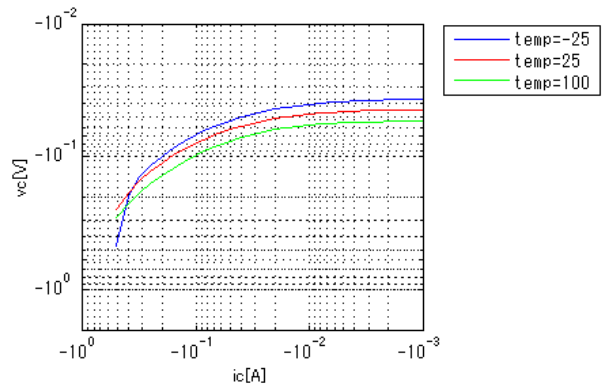
Vce(sat)Ic[Temp]

IC/IB = 10



Vce(sat)Ic[Temp]2

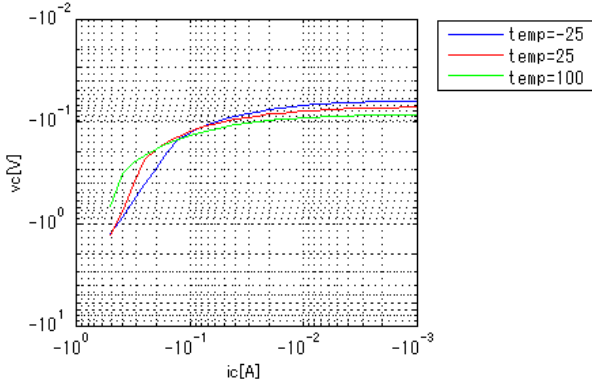
IC/IB = 20



Simulation results are following.
 Explanatory notes — : simulated

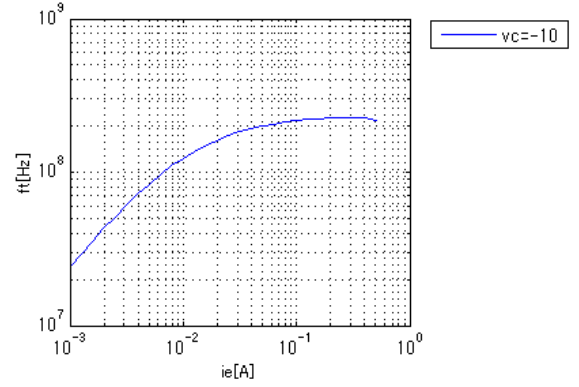
Vce(sat)Ic[Temp]3

IC/IB = 50



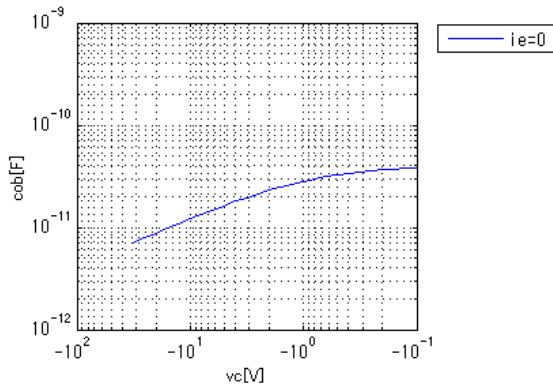
fTle[Vce]

Freq = 50000000Hz



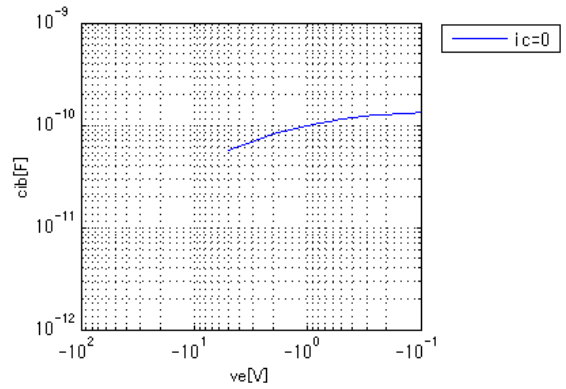
CobVcb

Freq = 1000000Hz



CibVeb

Freq = 1000000Hz



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