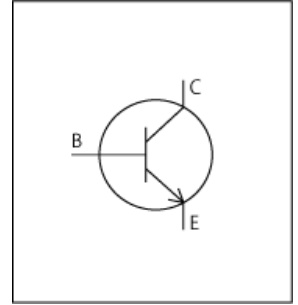


LTspice Model

NPN

ROHM

2SC2412K



Model Information

Model Gummel-Poon model
Call Name MDC_2SC2412K_LT
Pin Assign 1:E 2:B 3:C
File List Model Library MDC_2SC2412K_LT01.lib
 Model Report MDC_2SC2412K_LT.pdf (this file)

Verified Simulator Version LTspice version XVII
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version 20230509 - Rev.006
- Product name 2SC2412K
- Company name ROHM Co., Ltd.
- Characteristics $I_c V_{be}[Temp]$, $I_c V_{ce}[I_b]$, $hFE I_c[Temp]$, $hFE I_c[V_{ce}]$, $V_{ce}(sat) I_c[Temp]$, $V_{ce}(sat) I_c[hFE]$, $V_{be}(sat) I_c[Temp]$, $fT I_e[V_{ce}]$, $C_{ob} V_{cb}$, $C_i b V_{eb}$

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	50	V
Temperature	-55	to	150	deg C

BJT

○ : Implemented
 × : Not Implemented
 — : Not applicable

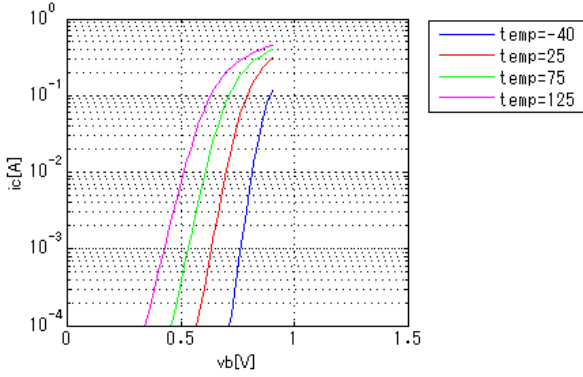
Model Functions Table
RANK=1

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

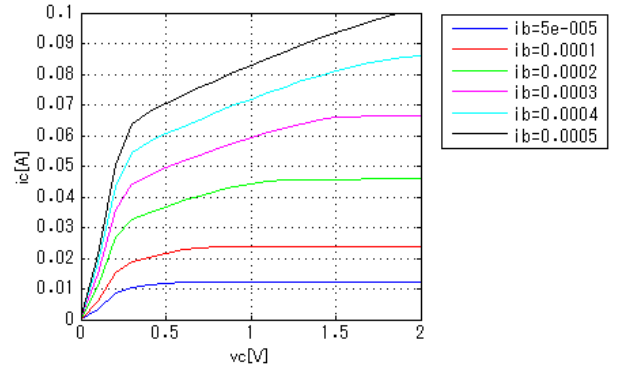
IcVbe[Temp]

Vce = 6V



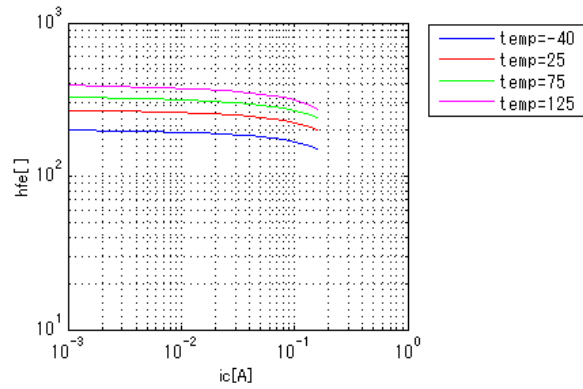
IcVce[ib]

Temp = 25degC

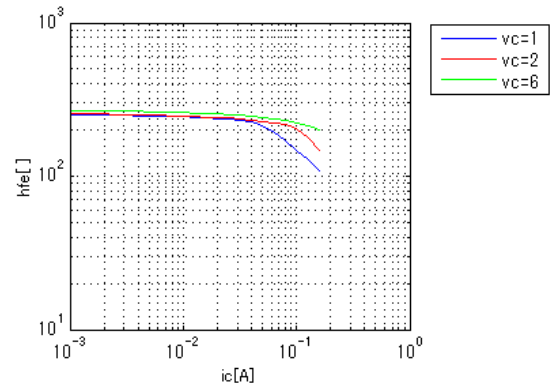


hFEIc[Temp]

Vce = 6V

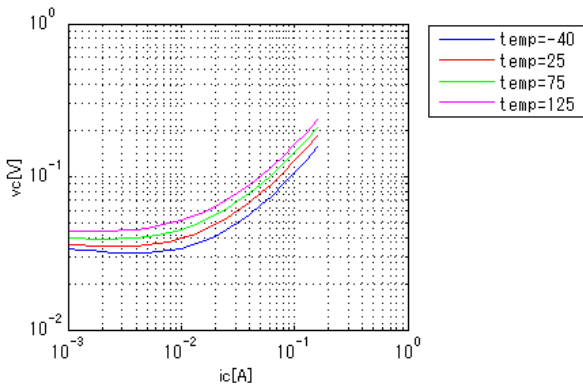


hFEIc[Vce]

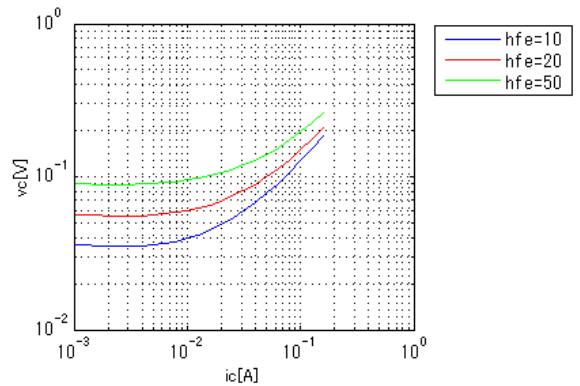


Vce(sat)Ic[Temp]

IC/IB = 10



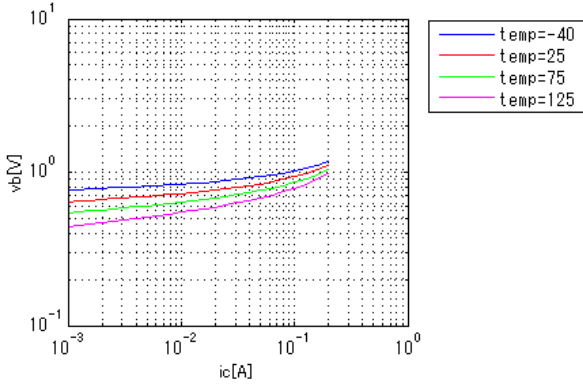
Vce(sat)Ic[hFE]



Simulation results are following.
 Explanatory notes — : simulated

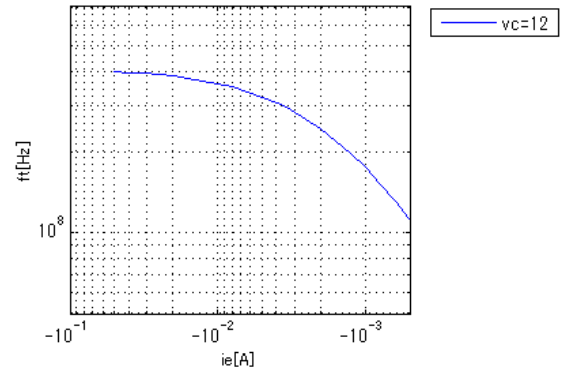
Vbe(sat)Ic[Temp]

IC/IB = 10



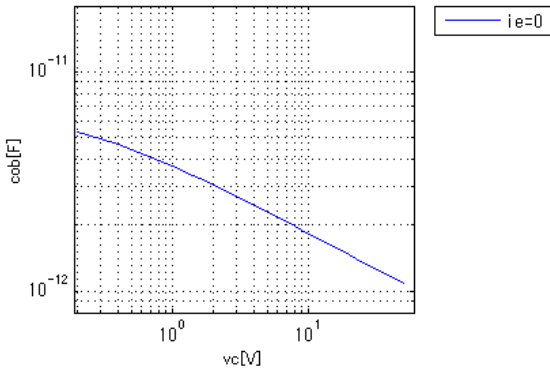
fTle[Vce]

Freq = 100000000Hz



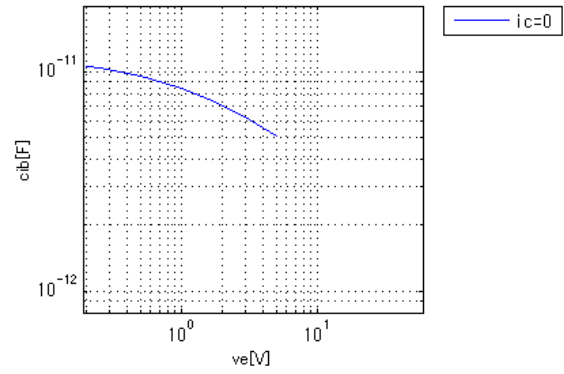
CobVcb

Freq = 1000000Hz



CibVeb

Freq = 1000000Hz



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