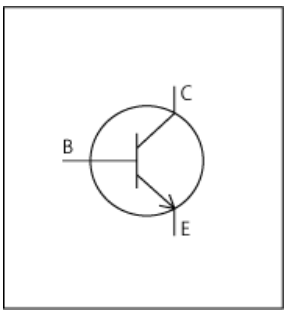
LTspice Model
NPN
ROHM
UM2222AU3HZG



Model Information

Model	Gummel-Poon model	
Call Name	MDC_UM2222AU3HZG_LT	
Pin Assign	1:E 2:B 3:C	
File List	Model Library	MDC_UM2222AU3HZG_LT01.lib
	Model Report	MDC_UM2222AU3HZG_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 20181228-Rev001
- ●Product name UM2222AU3HZG
- ●Company name ROHM Co., Ltd.
- ●Characteristics IcVbe[Temp],IcVce[ib],hFEIc[Temp],hFEIc[Vce],Vce(sat)Ic[Temp],Vce(sat)Ic[hFE],Vbe(sat)Ic[Temp],fTIe[Vce],Cob,Cib,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	40	V
Collector current (DC)	0	to	600m	A
Temperature	-55	to	150	deg C

BJT

○ : Implemented
× : Not Implemented
— : Not applicable

Model Functions Table

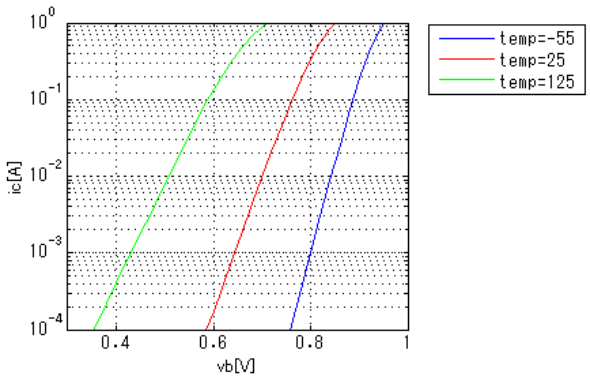
RANK=1

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

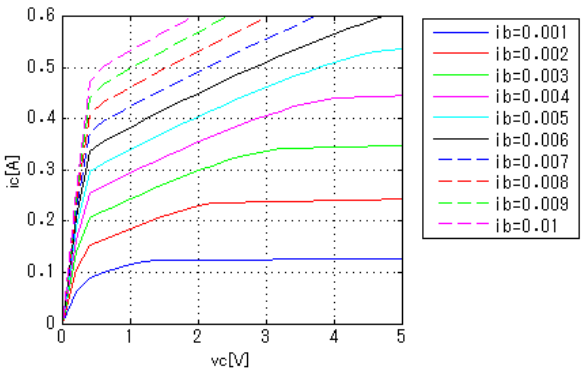
IcVbe[Temp]

Vce = 10V



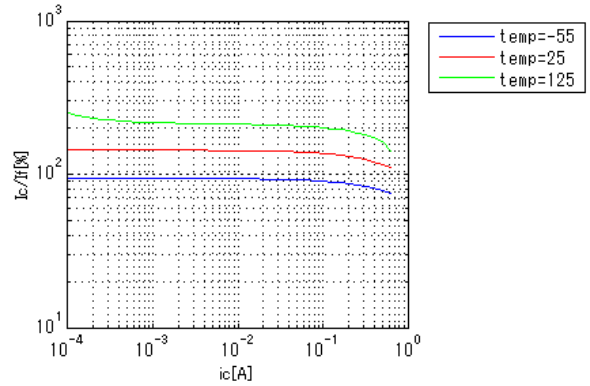
IcVce[ib]

Temp. = 25degC



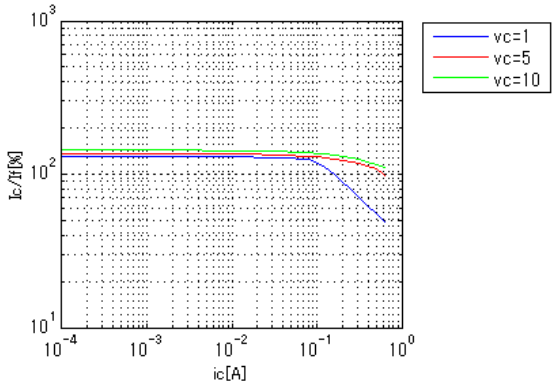
hFEIc[Temp]

Vce = 10V



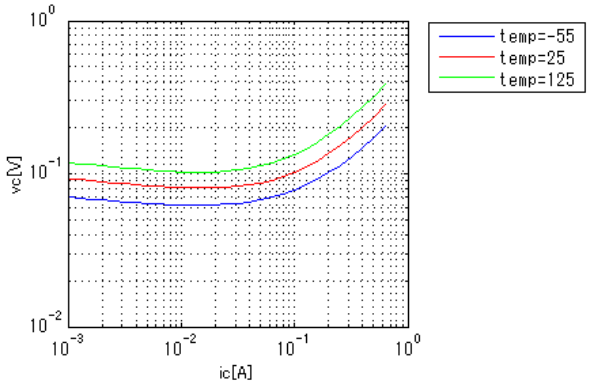
hFEIc[Vce]

Temp = 25degC



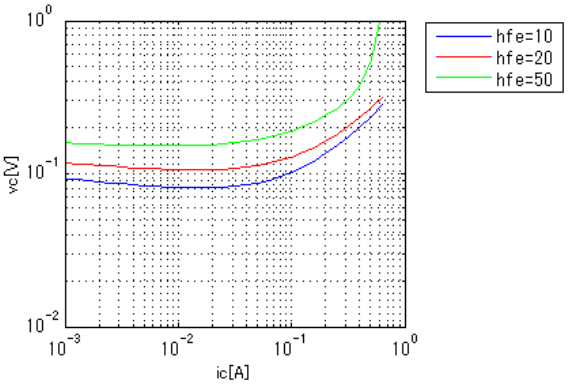
Vce(sat)Ic[Temp]

IC/IB = 10



Vce(sat)Ic[hFE]

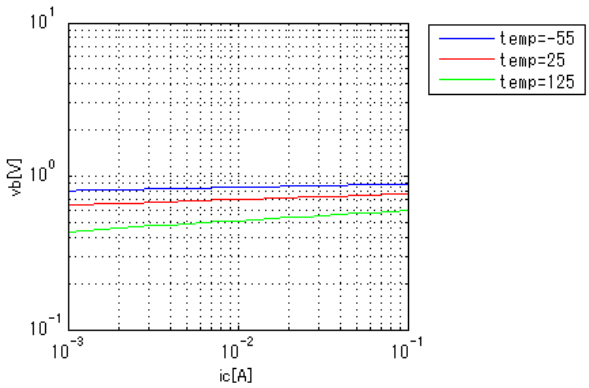
Temp = 25degC



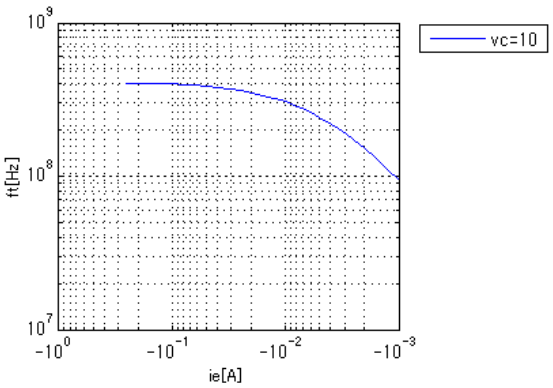
Simulation results are following.
Explanatory notes — : simulated

Vbe(sat)Ic[Temp]

IC/IB = 20

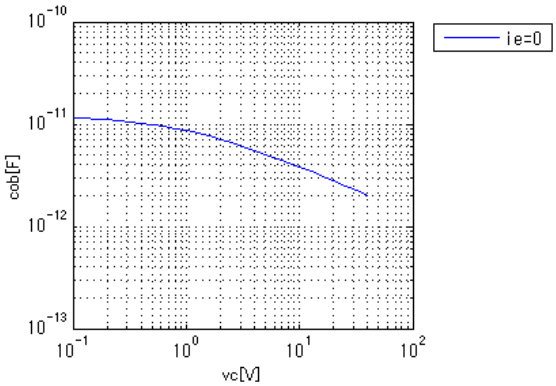


fTIe[Vce]



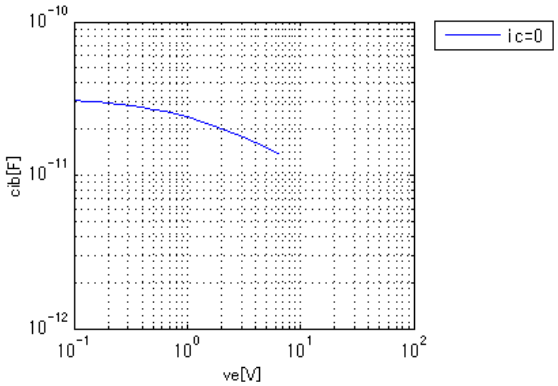
Cob

Freq. = 1MHz



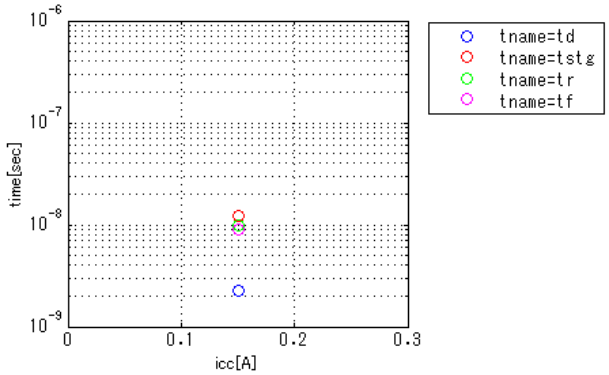
Cib

Freq. = 1MHz



SwitchingIcc[Tname]

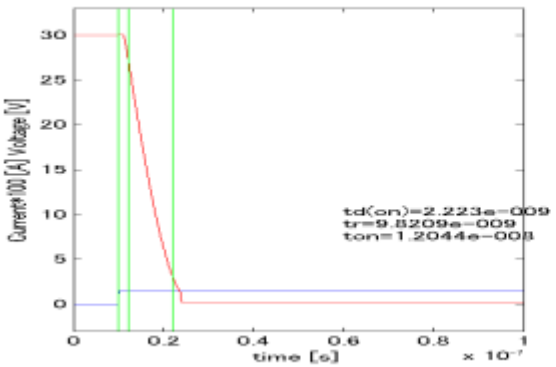
ib. = 0.015A, vcc. = 30V, Temp. = 25degC

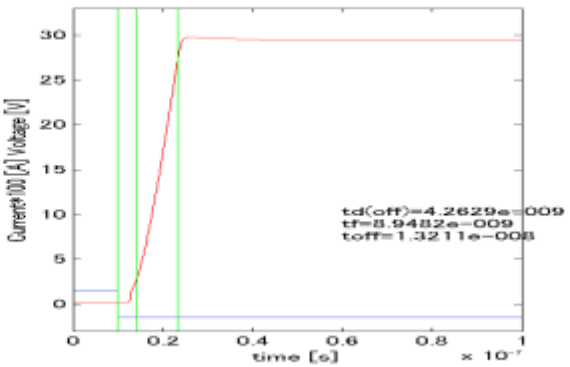


Simulation results are following.
Explanatory notes — : simulated

Vbe(sat)Ic[Temp]

ib. =.0.015A, vcc. = 30V, Temp. = 25degC, icc = 0.15A





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