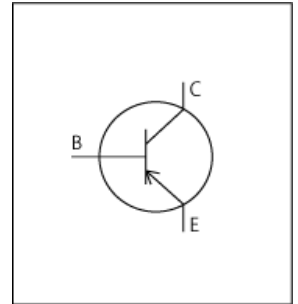


PSpice Model

PNP

SanKen

2SA1668



Model Information

Model Gummel-Poon model
Call Name MDC_2SA1668_PS
Pin Assign 1:B 2:C 3:E
File List Model Library MDC_2SA1668_PS02.lib
 Model Report MDC_2SA1668_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 None
- Product name 2SA1668
- Company name Sanken Electric Co., Ltd.
- Characteristics $I_{cVce}[ib], V_{ceIb}[ic], I_{cVbe}[Temp], h_{FEIc}[Temp], f_{Tle}[Vce], C_{ob}, SwitchingIcc[Tname], SwitchingWaveform$

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	-2	A
Temperature	-55	to	150	deg C

BJT

○ : Implemented
 × : Not Implemented
 — : Not applicable

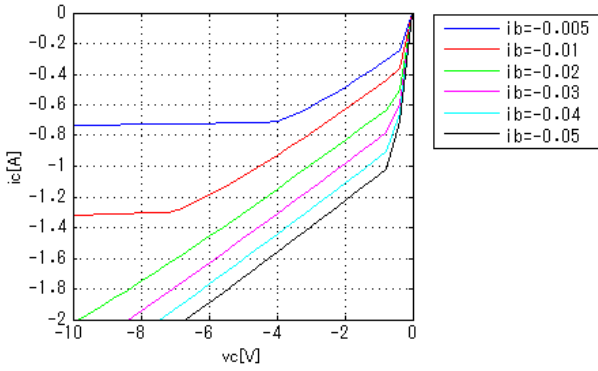
Model Functions Table
RANK=1

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	○

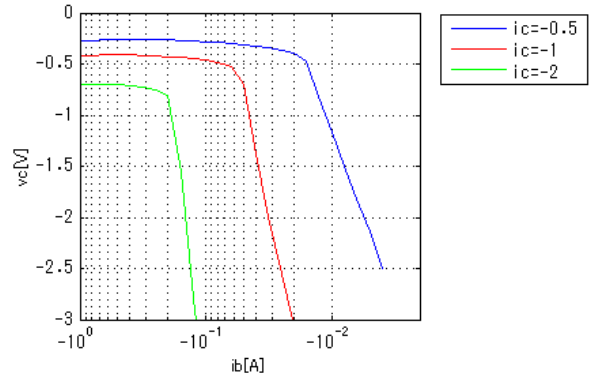
Simulation results are following.
 Explanatory notes — : simulated

IcVce[ib]

Temp = 25degC

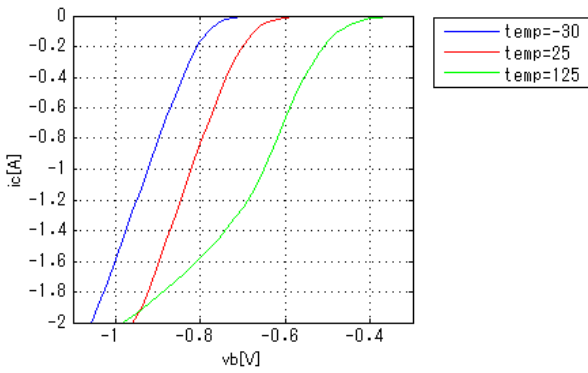


Vcelb[Ic]



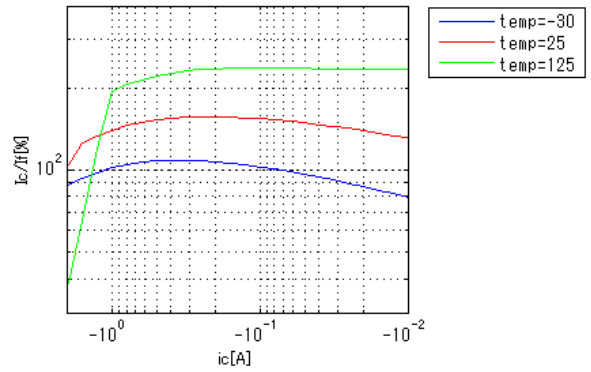
IcVbe[Temp]

Vce = -10V



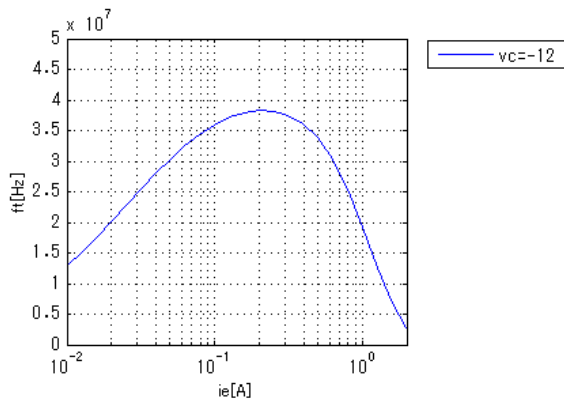
hFEIc[Temp]

Vce = -10V



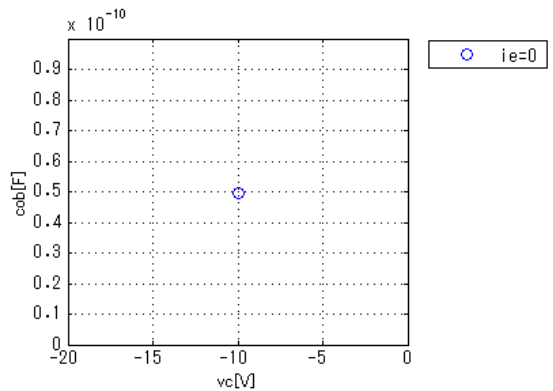
fTle[Vce]

Freq = 10000000Hz



Cob

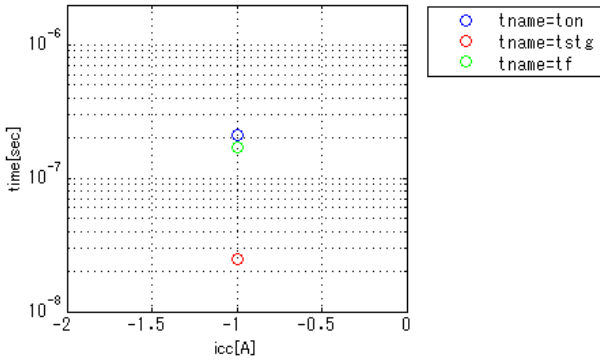
Freq = 10000000Hz



Simulation results are following.
 Explanatory notes — : simulated

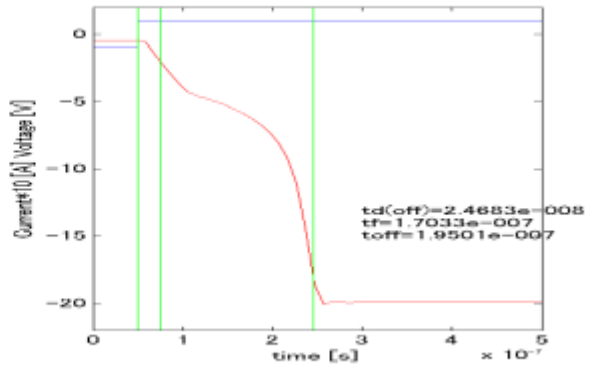
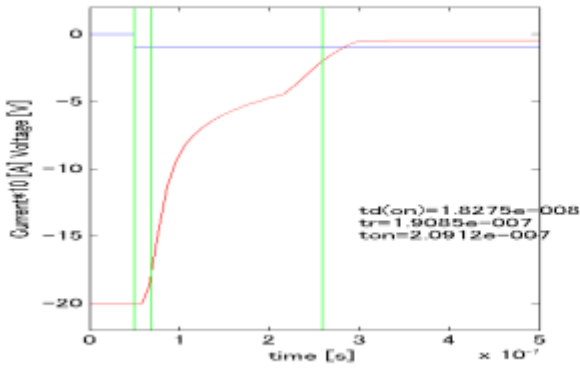
SwitchingIcc[Tname]

ic/ib = 10, vcc = -20V, Temp = 25degC



Switching Waveform (Blue : INPUT Red : OUTPUT)

icc = -1A, ic/ib = 10, vcc = -20V, Temp = 25degC



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