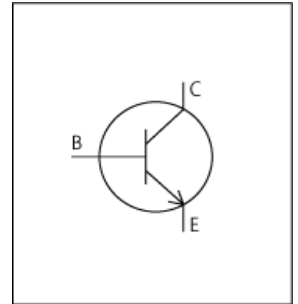


LTspice Model

NPN

SanKen

2SC4382



Model Information

Model Gummel-Poon model
Call Name MDC_2SC4382_LT
Pin Assign 1:B 2:C 3:E
File List Model Library MDC_2SC4382_LT01.lib
 Model Report MDC_2SC4382_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 None
- Product name 2SC4382
- Company name Sanken Electric Co., Ltd.
- Characteristics $I_{cV_{ce}}[i_b], V_{ceI_b}[I_c], I_{cV_{be}}[Temp], h_{FE}I_c[Temp], f_{TIE}[V_{ce}], C_{ob}, SwitchingI_{cc}[Tname], SwitchingWaveform$

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

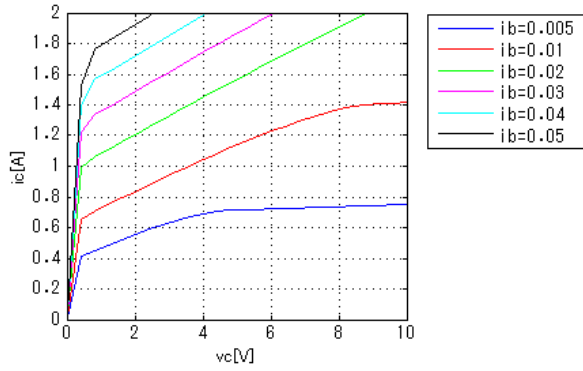
Model Functions Table
RANK=1

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	○

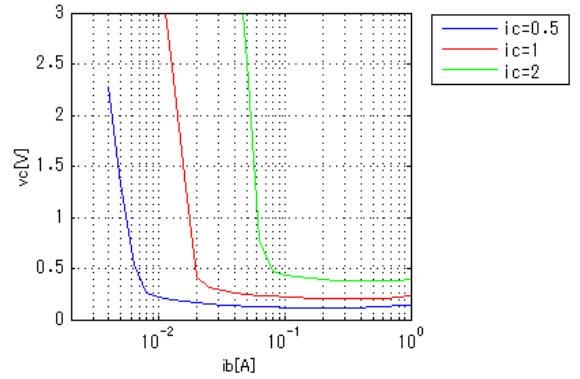
Simulation results are following.
 Explanatory notes — : simulated

IcVce[ib]

Temp = 25degC

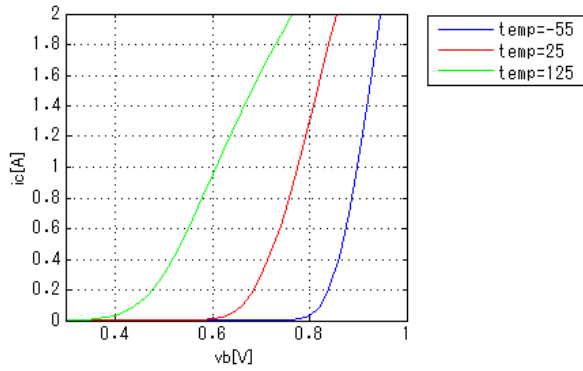


VceIb[Ic]



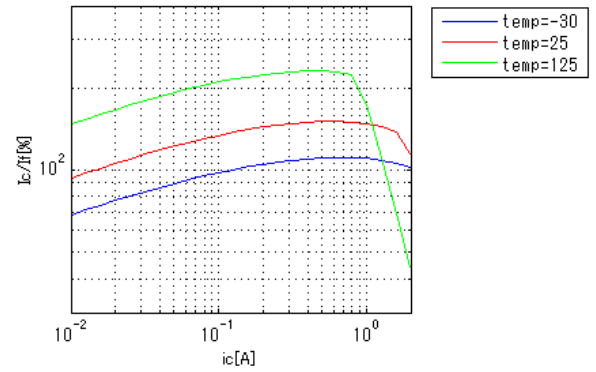
IcVbe[Temp]

Vce = 10V



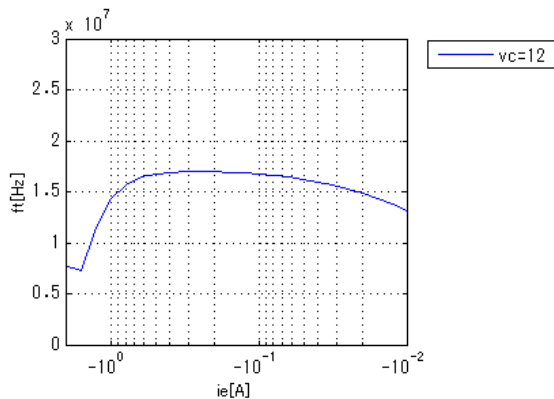
hFEIc[Temp]

Vce = 10V



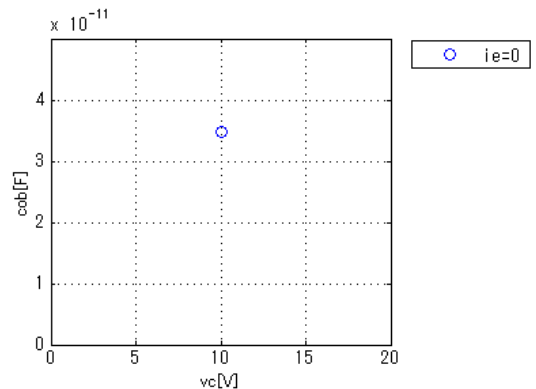
fTle[Vce]

Freq = 10000000Hz



Cob

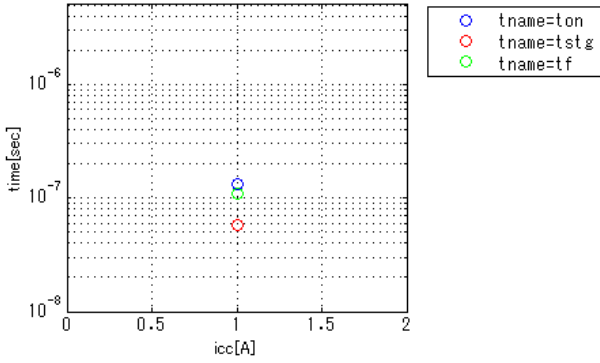
Freq = 10000000Hz



Simulation results are following.
 Explanatory notes — : simulated

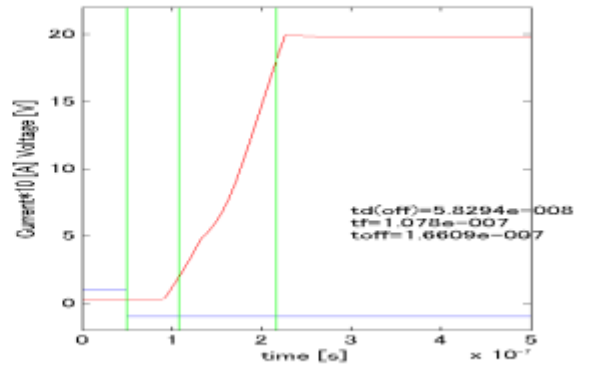
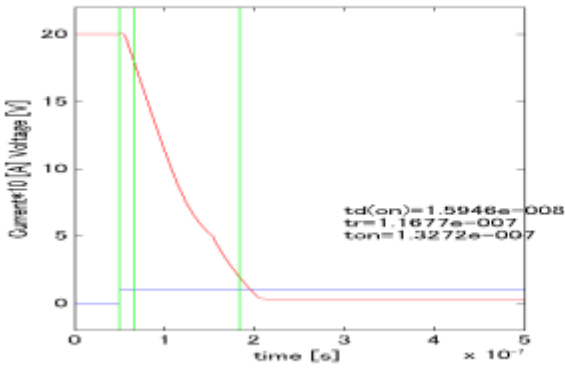
SwitchingIcc[Tname]

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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