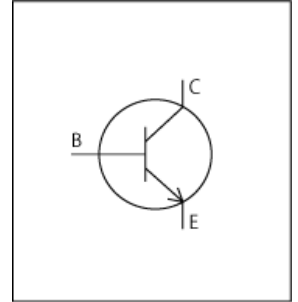


PSpice Model

NPN

TOSHIBA

MT3S111TU



Model Information

Model Gummel-Poon model
Call Name MDC_MT3S111TU_PS
Pin Assign 1:B 2:E 3:C
File List Model Library MDC_MT3S111TU_PS01.lib
 Model Report MDC_MT3S111TU_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 2014-03-01
- Product name MT3S111TU
- Company name Toshiba Corporation
- Characteristics hFEIc[Temp], IcVbe[Temp], IcVce[ib], fT Ic[Vce], Cob, Cib

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	6	V
Temperature	-55	to	150	deg C

BJT

○ : Implemented
 × : Not Implemented
 — : Not applicable

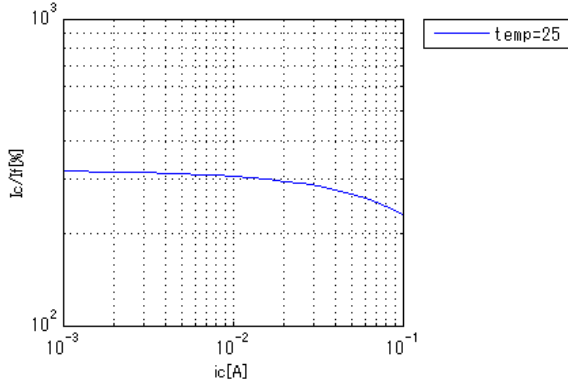
Model Functions Table
RANK=1

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

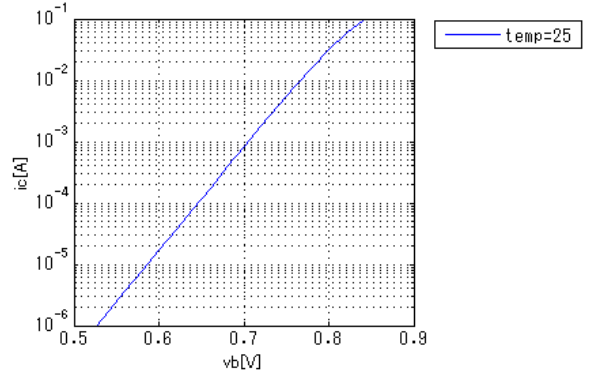
hFEIc[Temp]

Vce = 5V



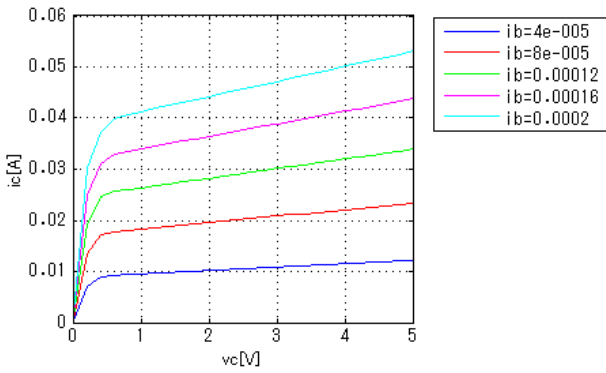
IcVbe[Temp]

Vce = 5V



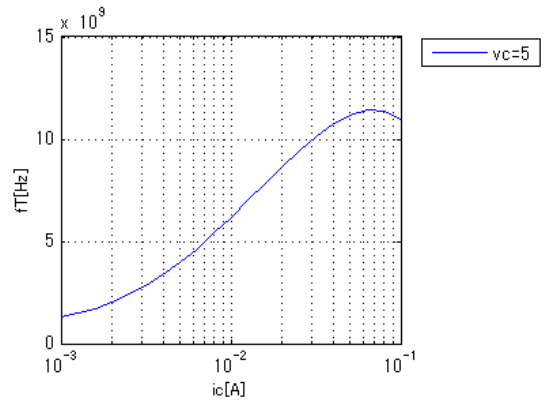
IcVce[ib]

Temp = 25degC



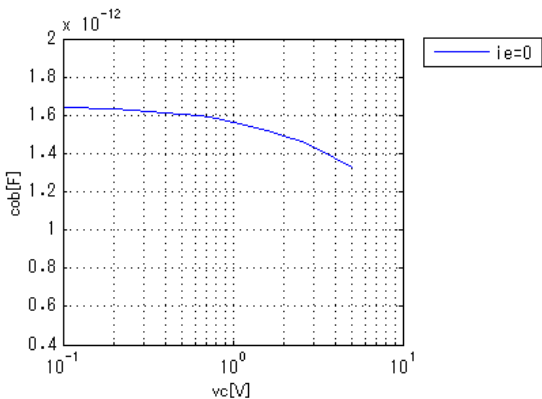
fT[IcVce]

Freq = 5000000000Hz



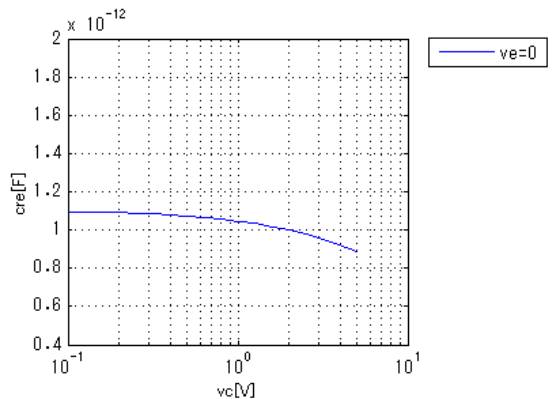
Cob

Freq = 1000000Hz



Cib

Freq = 1000000Hz, Freq = 1000000Hz



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