

PSpice Model

NPN

TOSHIBA

2SD1220



Model Information

Model Mextram model
Call Name MDC_2SD1220_PS
Pin Assign 1:C 2:B 3:E
File List Model Library MDC_2SD1220_PS01.lib
 Model Report MDC_2SD1220_PS.pdf (this file)

Verified Simulator Version PSpice version 16.6
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version Unknown
- Product name 2SD1220
- Company name Toshiba Corporation
- Characteristics $I_{cV_{ce}[ib]}, I_{cV_{be}[Temp]}, h_{FE}I_{c}[V_{ce}], h_{FE}I_{c}[Temp], V_{ce(sat)}I_{c}[h_{FE}], V_{ce(sat)}I_{c}[Temp], f_{T}I_{c}[V_{ce}], C_{ob}$

Simulation Range

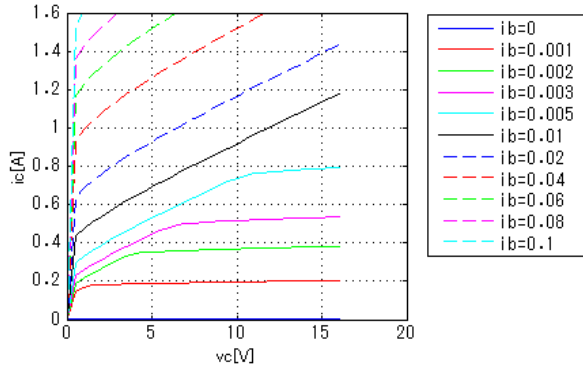
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Collector-emitter voltage (DC)	0	to	150	V
Base current (DC)	0	to	1	A
Temperature	-55	to	150	deg C

Simulation results are following.
 Explanatory notes — : simulated

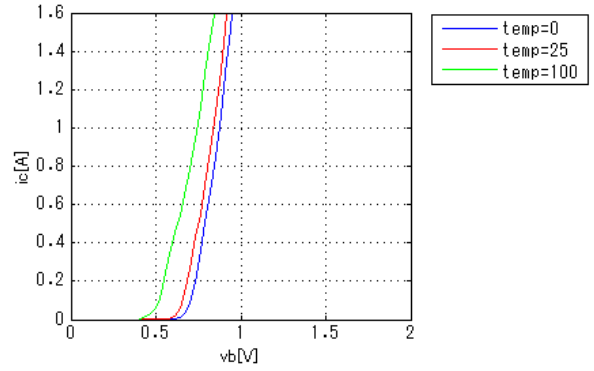
IcVce[ib]

Temp. = 25deg C

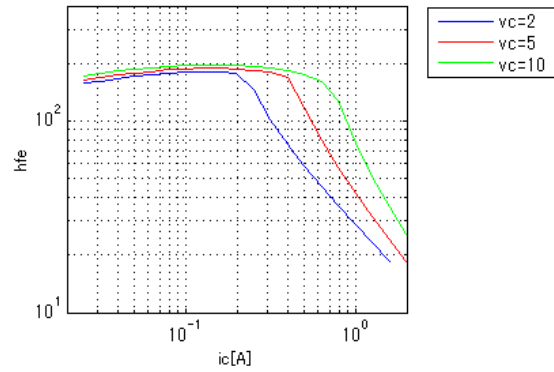


IcVbe[Temp]

Vce = 5V

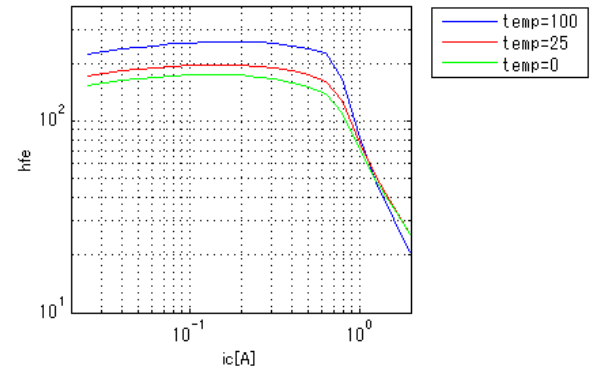


hFEIc[Vce]

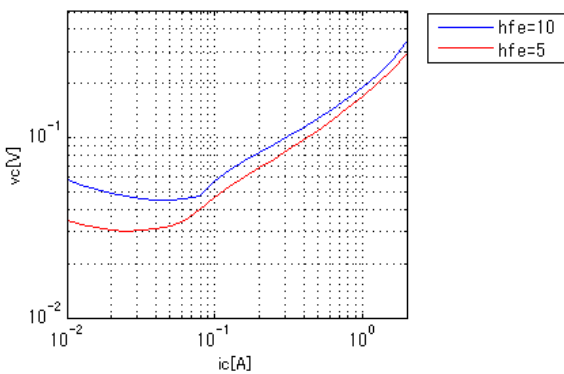


hFEIc[Temp]

Vce = 10V

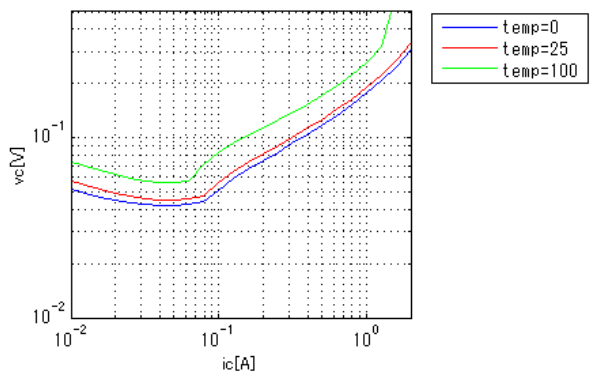


Vce(sat)Ic[hFE]



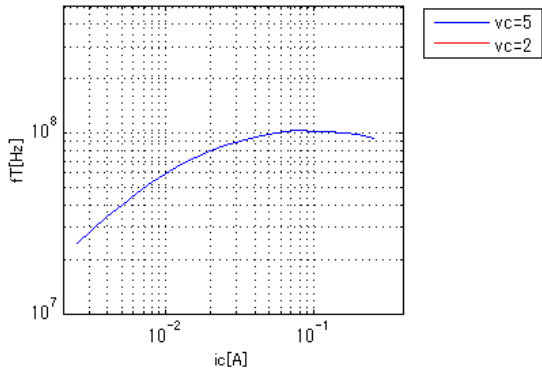
Vce(sat)Ic[Temp]

IC/IB = 10



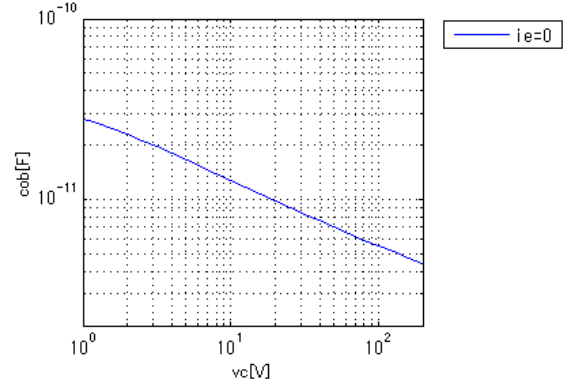
Simulation results are following.
 Explanatory notes — : simulated

fT_{lc}[Vce]



Cob

Freq. = 1MHz



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