

PSpice Model

PNP

TOSHIBA

2SA1213



Model Information

Model Mextram model
Call Name MDC_2SA1213_PS
Pin Assign 1:C 2:B 3:E
File List Model Library MDC_2SA1213_PS01.lib
 Model Report MDC_2SA1213_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 2013-11-01
- Product name 2SA1213
- Company name Toshiba Corporation
- Characteristics $I_c V_{ce}[ib], hFE I_c[Temp], V_{ce}(sat) I_c[Temp], V_{be}(sat) I_c[Temp], I_c V_{be}[Temp]$

Simulation Range

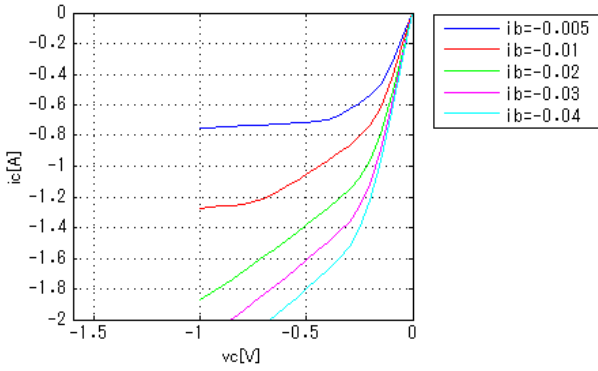
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

| Item | Range | | | Unit |
|--------------------------------|-------|----|-------|-------|
| | Min. | | Max. | |
| Collector-emitter voltage (DC) | 0 | to | -50 | V |
| Base current (DC) | 0 | to | -0.40 | A |
| Temperature | -55 | to | 150 | deg C |

Simulation results are following.
 Explanatory notes — : simulated

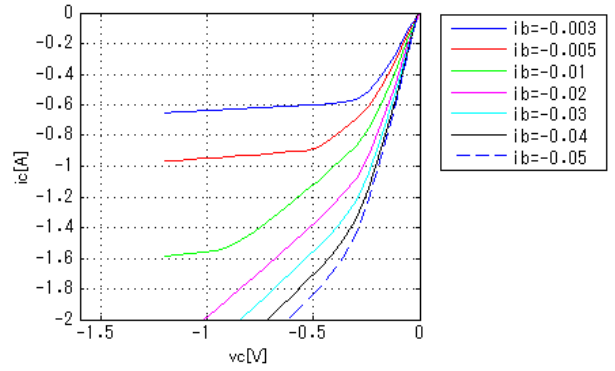
IcVce[ib]

Temp. = 25deg C



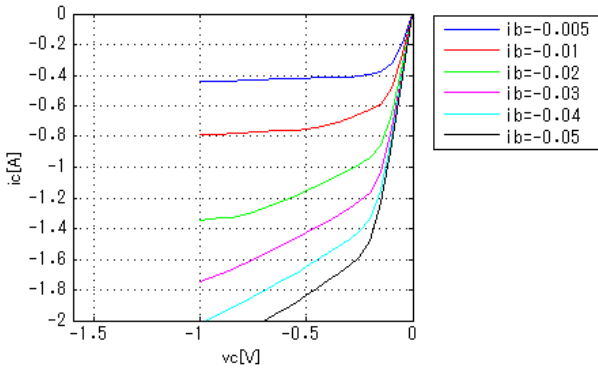
IcVce[ib]

Temp. = 100deg C



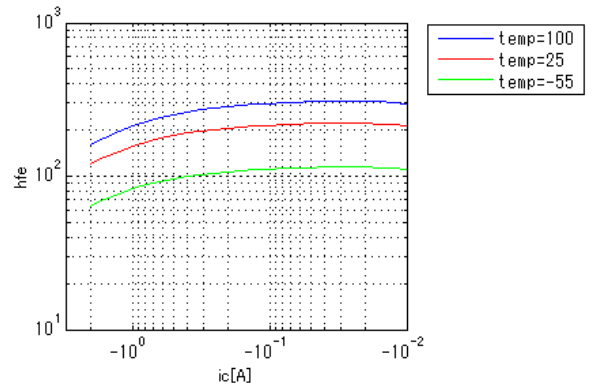
IcVce[ib]

Temp. = -55deg C



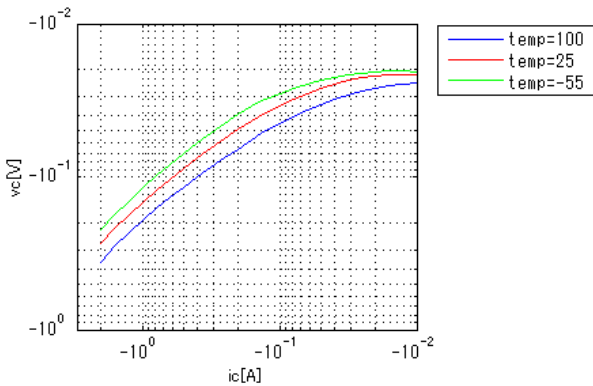
hFEIc[Temp]

Vce = -2V



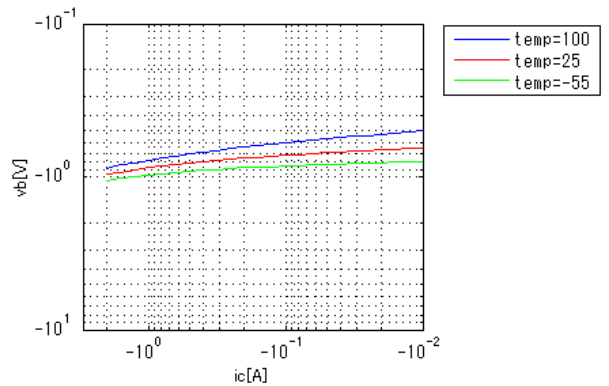
Vce(sat)Ic[Temp]

IC/IB = 20



Vbe(sat)Ic[Temp]

IC/IB = 20

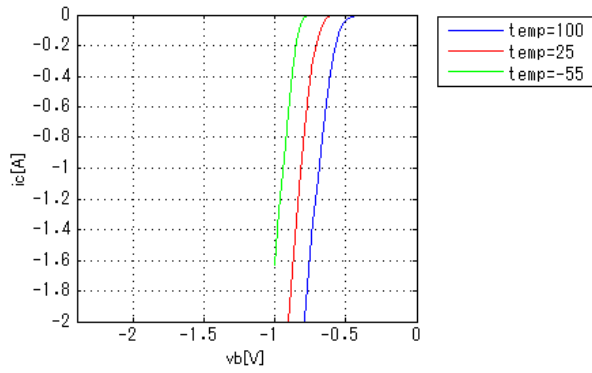


Simulation results are following.

Explanatory notes — : simulated

IcVbe[Temp]

Vce = -2V



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