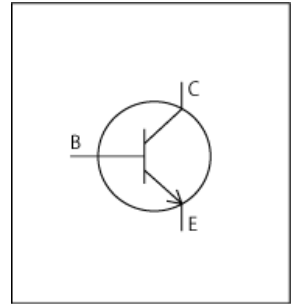


LTspice Model

NPN

Comchip

MMBT3904-G



Model Information

Model Gummel-Poon model
Call Name MDC_MMBT3904-G_LT
Pin Assign 1:C 2:B 3:E
File List Model Library MDC_MMBT3904-G_LT01.lib
 Model Report MDC_MMBT3904-G_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 REV:E
- Product name MMBT3904-G
- Company name Comchip Technology Co., Ltd.
- Characteristics $V_{ce(sat)}(I_c, I_b, T_{amb})$, $V_{be(sat)}(I_c, I_b, T_{amb})$, $I_{c(sat)}(V_{ce}, I_b, T_{amb})$, $I_{b(sat)}(V_{ce}, I_c, T_{amb})$, $\beta_{DC}(I_c, I_b, T_{amb})$, $\beta_{AC}(I_c, I_b, T_{amb}, f)$, $f_T(I_c, I_b, T_{amb})$, $f_{max}(I_c, I_b, T_{amb})$, $C_{ob}(I_c, I_b, V_{ce}, T_{amb})$, $C_{ib}(I_c, I_b, V_{be}, T_{amb})$

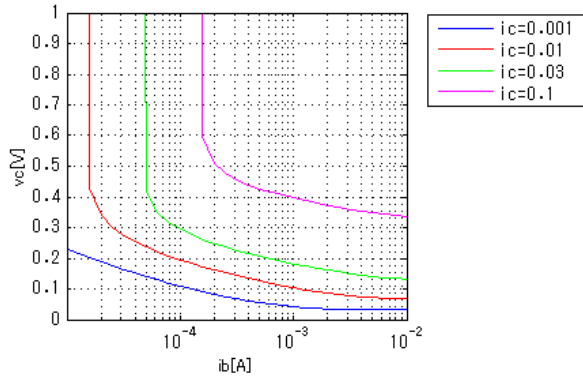
Simulation Range

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	40	V
Base current (DC)	0	to	20	A
Temperature	-55	to	150	deg C

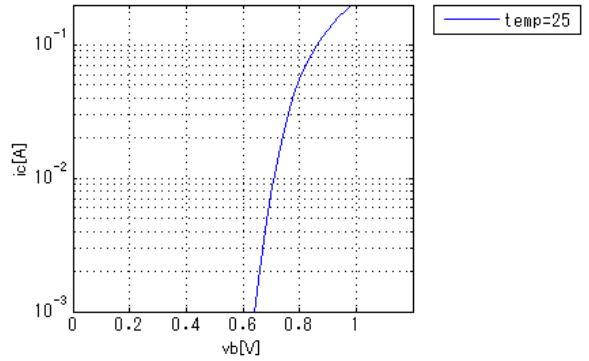
Simulation results are following.
 Explanatory notes — : simulated

VceIb[Ic]



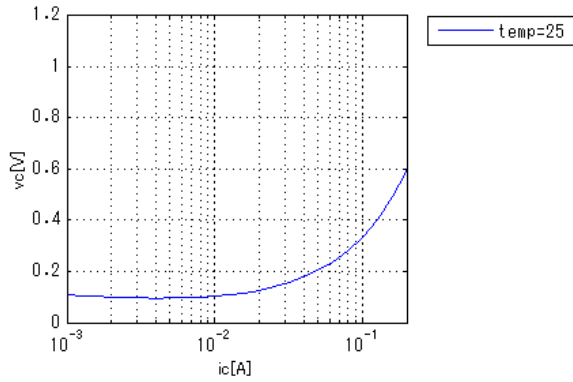
IcVbe[Temp]

Vce = 1V



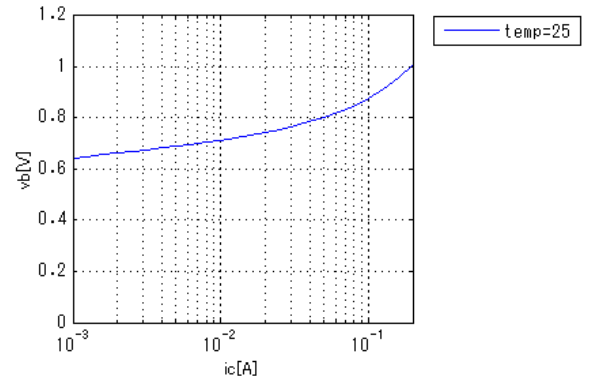
Vce(sat)Ic[Temp]

IC/IB = 10



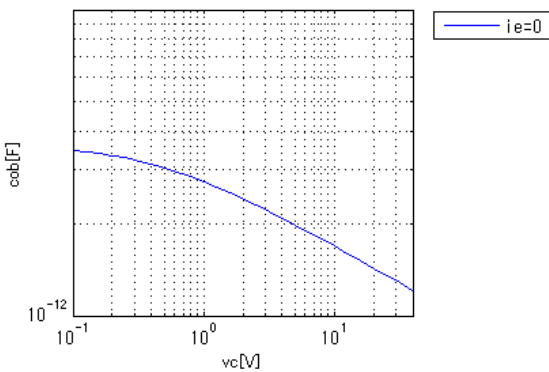
Vbe(sat)Ic[Temp]

IC/IB = 10



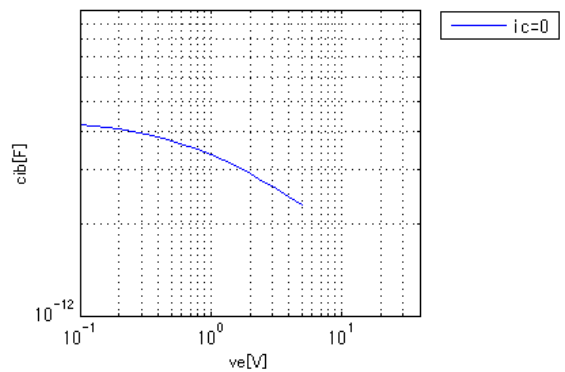
Cob

Freq. = 1MHz



Cib

Freq. = 1MHz



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