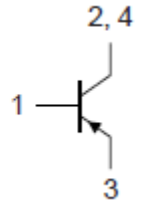
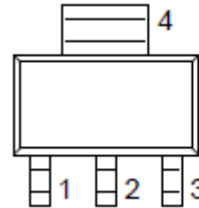


LTspice Model

PNP

Nexperia

BCP51



Model Information

Model	Gummel-Poon model
Call Name	MDC_BCP51_LT
Pin Assign	1:B 2:C 3:E 4:C
File List	Model Library MDC_BCP51_LT01.lib Model Report MDC_BCP51_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. 9 - 13 October 2011
- Product name BCP51
- Company name Nexperia B.V.
- Characteristics $hFEIc[Temp]$, $IcVce[ib]$, $Vbelc[Temp]$, $Vce(sat)Ic[Temp]$, $CobVcb$, $fT Ic[Vce]$

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	-45	V
Collector current (DC)	0	to	-1	A
Temperature	-65	to	150	deg C

BJT

○ : Implemented
 × : Not Implemented
 — : Not applicable

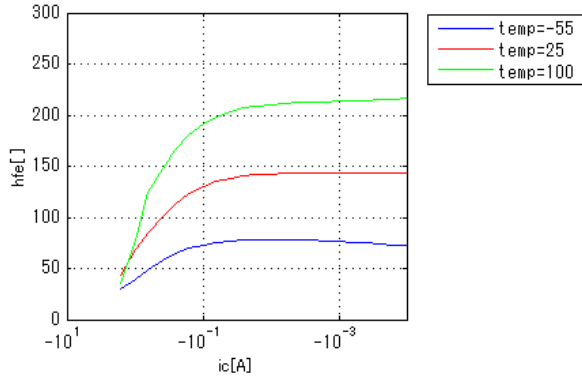
Model Functions Table
RANK=1

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

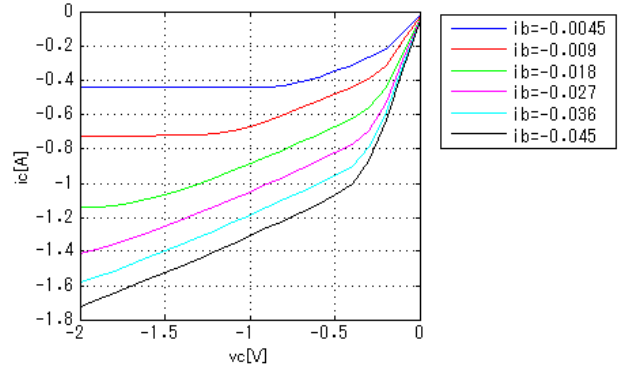
hFEIc[Temp]

Vce = -2V



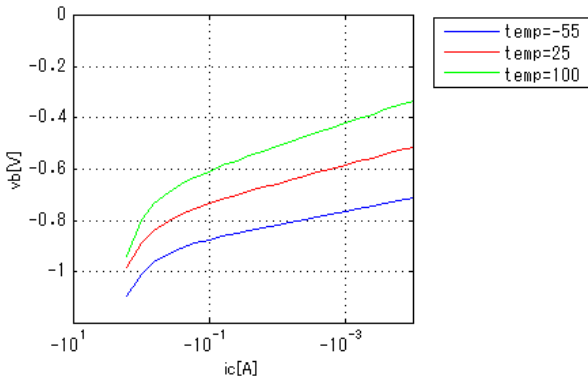
IcVce[ib]

Temp = 25degC



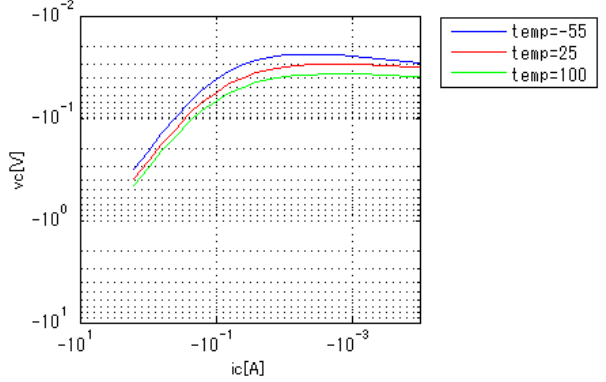
VbeIc[Temp]

Vce = -2V



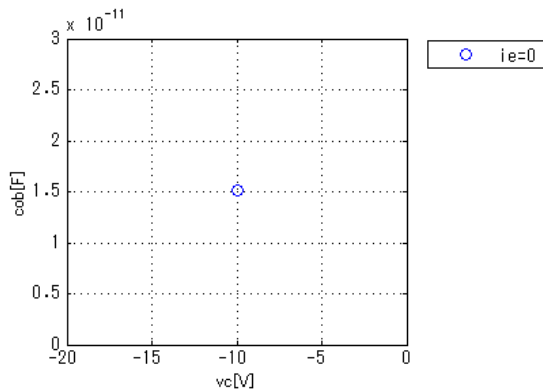
Vce(sat)Ic[Temp]

IC/IB = 10



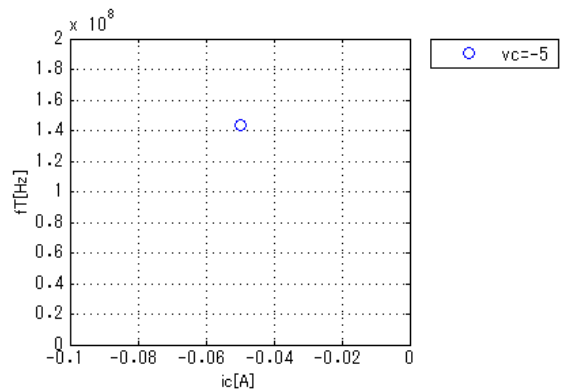
CobVcb

Freq = 1000000Hz



fTic[Vce]

Freq = 100000000Hz



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