

PSpice Model

PNP

Nexperia

BC860B

Model Information

Model A macro model
Call Name MDC_BC860B_PS
Pin Assign 1:B 2:E 3:C
File List Model Library MDC_BC860B_PS.lib
 Model Report MDC_BC80B_PS.pdf

Verified Simulator Version

Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version 16 Jane 2004
- Product name BC860B
- Company name Nexperia

[Characteristics listed]

- Characteristics $I_{cV_{be}[Temp]}, h_{FE}I_{c}[Temp], V_{be(sat)}I_{c}[Temp], V_{ce(sat)}I_{c}[Temp], C_{ibVe}, C_{obVc}, f_{T}I_{c}[V_{ce}]$

Simulation Condition

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

Item	Condition	Unit
Temperature	25	deg C

BJT

○ : Implemented
 × : Not Implemented
 — : Not applicable

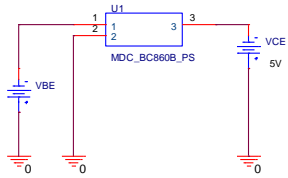
Model Functions Table
RANK=1

Functions	RANK	Implemented
IC-VBE(Temp)	1	○
IC-VCE-IB(Temp)	1	—
IC-hFE(Temp)	1	○
VCE(sat)-IC	1	○
VBE(sat)-IB	1	○
Capacitance	1	○
Transition Frequency	1	○

Simulation results are following.
 Explanatory notes — : simulated

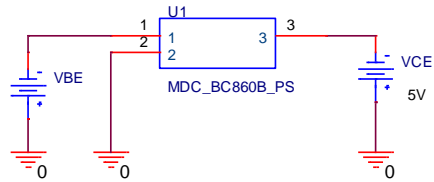
IcVbe[Temp] Testbench

CONDITIONS	MIN.	TYP.	MAX.	UNIT
Ic = -2 mA, Vce = -5V, note 2	600	650	750	mV
Ic = 10 mA, Vce = 5 V, note 2	-	-	820	mV

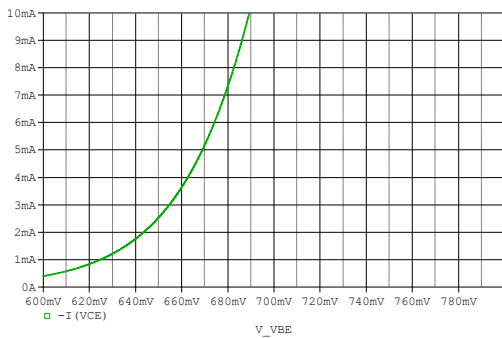


hFEIc[Temp] Testbench

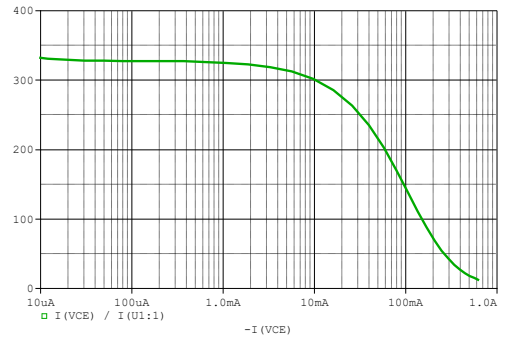
CONDITIONS	MIN.	TYP.	MAX.	UNIT
Ic = -2 mA, Vce = -5V,	220	-	475	



IcVbe[Temp] Data Sheet

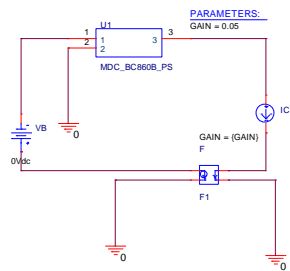


hFEIc[Temp] Data sheet



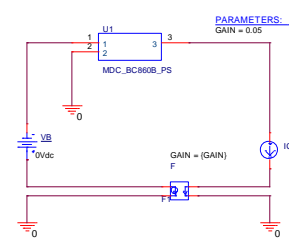
Vbe(sat)Ic[Temp] Testbench

CONDITIONS	MIN.	TYP.	MAX.	UNIT
Ic = -10 mA, Ib = -0.5 mA, note1	-	-700	-	mV
Ic = -100 mA, Ib = -5 mA, note1	-	-850	-	mV

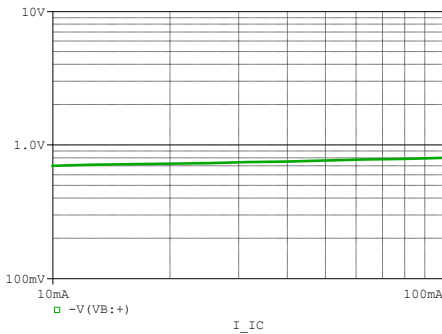


Vce(sat)Ic[Temp] Testbench

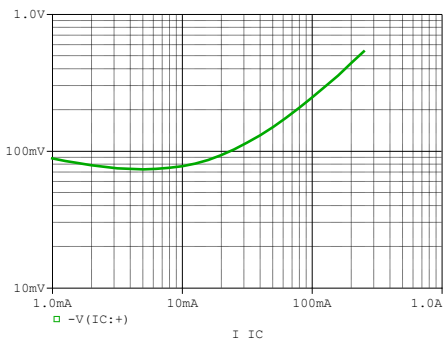
CONDITIONS	MIN.	TYP.	MAX.	UNIT
Ic = -10 mA, Ib = -0.5 mA	-	-75	-300	mV
Ic = -100 mA, Ib = -5 mA	-	-250	-650	mV



Vbe(sat)Ic[Temp] Data Sheet



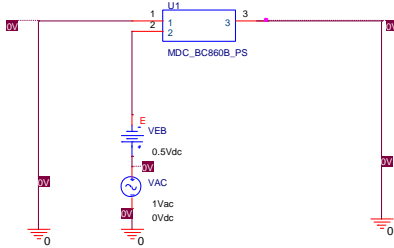
Vce(sat)Ic[Temp] Data Sheet



Simulation results are following.
 Explanatory notes — : simulated

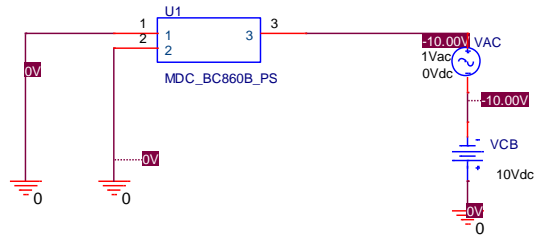
CibVe Testbench

CONDITIONS	MIN.	TYP.	MAX.	UNIT
IC = ic = 0, Veb = -500 mV, f = 1 MHz	-	10	-	pF

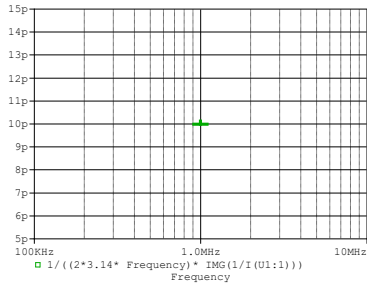


CobVc Testbench

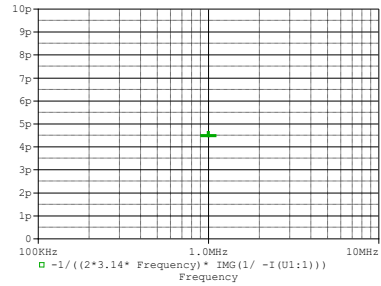
CONDITIONS	MIN.	TYP.	MAX.	UNIT
Ie = ie = 0, Vcb = -10 V, f = 1 MHz	-	4.5	-	pF



CibVe Data Sheet

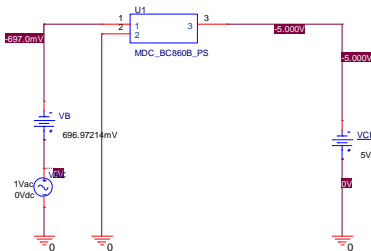


CobVc Data sheet

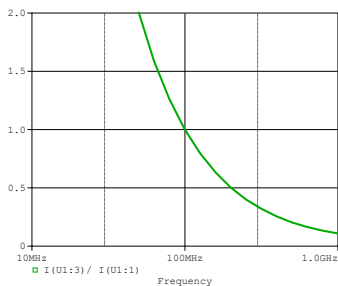


fTic[Vce] Testbench

CONDITIONS	MIN.	TYP.	MAX.	UNIT
IC = -10 mA, Vce = -5 V, f = 100 MHz	100	-	-	MHz



fTic[Vce] Data Sheet



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