# PSpice Model
# NPN BJT
# Nexperia
# BCW66G

## Model Information

| | |
|---|---|
| **Model** | A macro model |
| **Call Name** | MDC_BCW66G_PS |
| **Pin Assign** | 1:B 2:E 3:C |
| **File List** | Model Library MDC_BCW66G_PS.lib |
| | Model Report MDC_BCW66G_PS.pdf |

**Verified Simulator Version**

**Note**

**References**

The information which was used for modeling is as follow:

[Data Sheet]

- ●Date/Version 21 April 2017
- ●Product name BCW66G
- ●Company name Nexperia

[Characteristics listed]

- ●Characteristics Ic Vce Ib, hFE Ic[Vce], Vbe(sat) Ic[Temp], Vce(sat) Ic[Temp], Cc, fT Ic[Vce]

**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

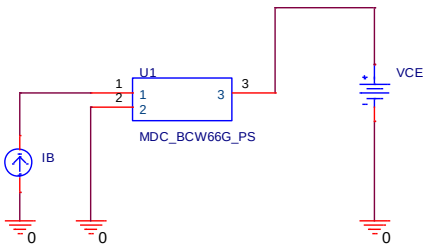
○ : Implemented
× : Not Implemented
— : Not applicable

**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)-IC | 1 | ○ |
| Cc | 1 | ○ |
| Ce | 1 | — |
| fT-IC | 1 | ○ |

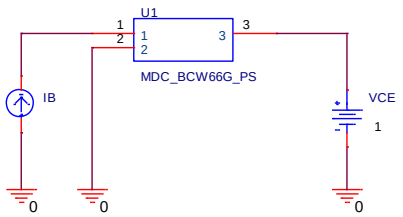
Simulation results are following.
Explanatory notes — : simulated

## Ic Vce Ib Testbench

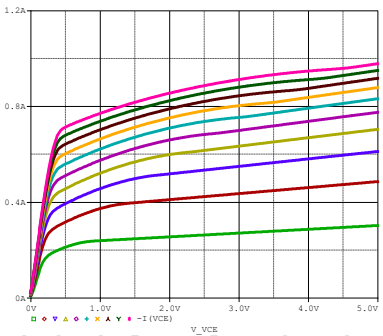



## hFEIc[Temp] Testbench

| CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|
| Ic = 100 mA, Vce= 1 V | 160 | - | 400 | |

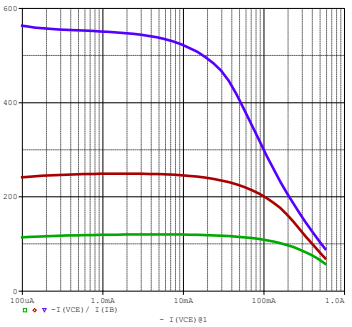



## IcVbe[Temp] Data Sheet




green:1.3mA
red:2.6mA
blue:3.9mA
yellow:5.2mA
purple:6.5mA
yellow-green:7.8mA
orange:9.1mA
olive brown:10.4mA
deep green:11.7mA
pink:13mA

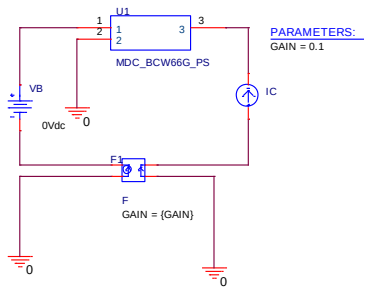
## hFEIc[Temp] Data sheet




blue:150℃
red:25℃
green:-55℃

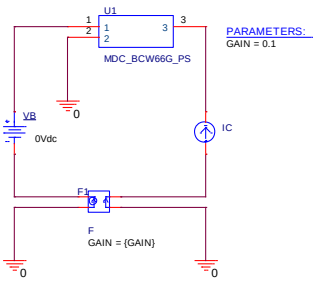
## Vbe(sat)Ic[Temp] Testbench

| CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|
| Ic = 100 mA,Ib =10 mA,note1 | - | - | 1.25 | V |
| Ic = 500 mA,Ib = 50 mA,note1 | - | - | 1.25 | V |

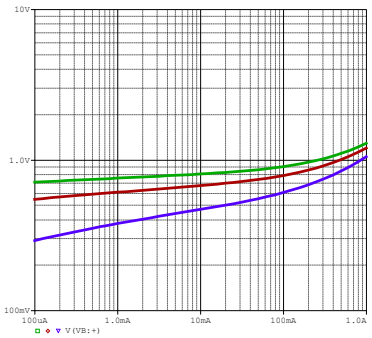



## Vce(sat)Ic[Temp] Testbench

| CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|
| Ic = 100 mA,Ib = 10 mA,note1 | - | - | 350 | mV |
| Ic = 500 mA,Ib = 50 mA,note1 | - | - | 450 | mV |

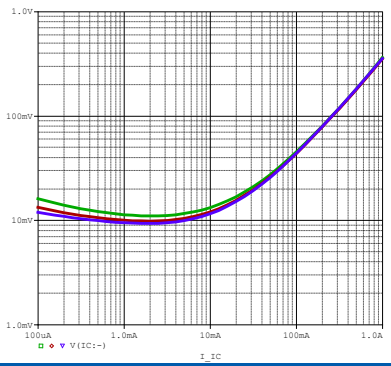



## Vbe(sat)Ic[Temp] Data Sheet




green:-55℃
red:25℃
blue:150℃

## Vce(sat)Ic[Temp] Data Sheet

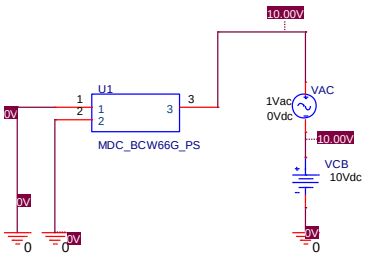



green:-55℃
red:25℃
blue:150℃

Simulation results are following.
Explanatory notes — : simulated

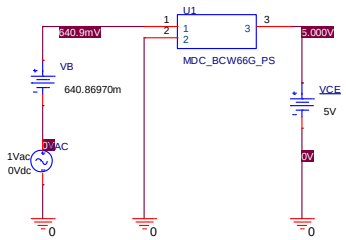
## Cc Testbench

| CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|
| Ie = ie = 0, Vcb = 10 V, f = 1 MHz | - | 3 | - | pF |

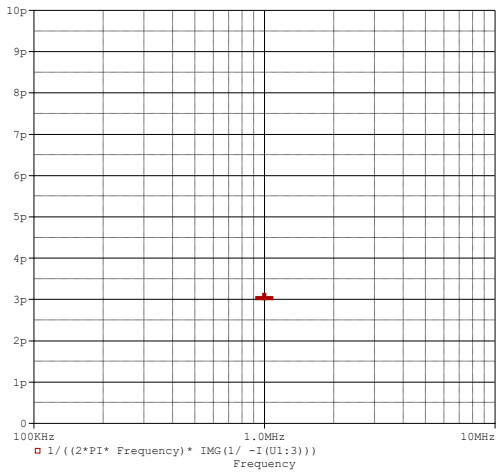



## fTIc[Vce] Testbench

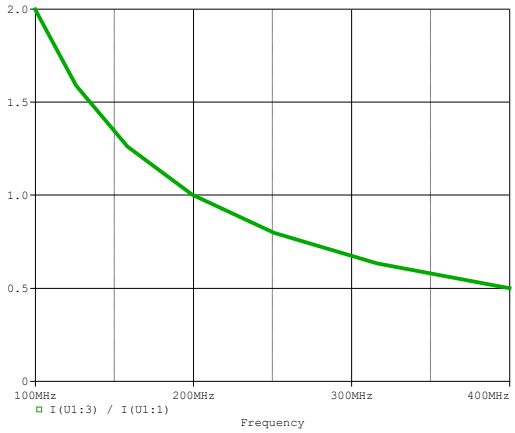
| CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|
| Vce = 5 V; Ic =10 mA; f = 100 MHz | 100 | - | - | MHz |




## Cc Data Sheet




## fTIc[Vce] Data Sheet



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