

# PSpice Model

## PNP

### Panasonic

### DSA2002



### Model Information

**Model** Gummel-Poon model  
**Call Name** MDC\_DSA2002\_PS  
**Pin Assign** 1:C 2:B 3:E  
**File List** Model Library MDC\_DSA2002\_PS02.lib  
 Model Report MDC\_DSA2002\_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 Ver. DJD
- Product name DSA2002
- Company name Panasonic Corporation
- Characteristics  $I_c[V_{ce}[ib], hFE I_c[Temp], V_{ce}(sat) I_c[Temp], I_c V_{be}[Temp], C_{ob}, f_T I_c[V_{ce}]$

### Simulation Range

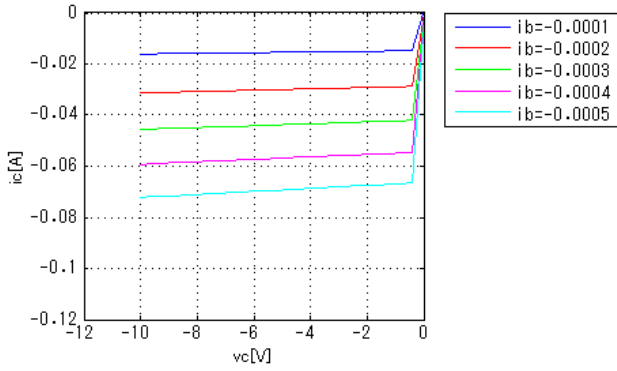
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

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

Simulation results are following.  
 Explanatory notes — : simulated

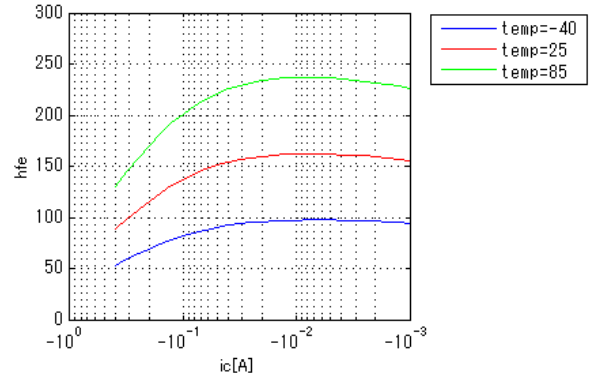
**IcVce[ib]**

Temp. = 25deg C



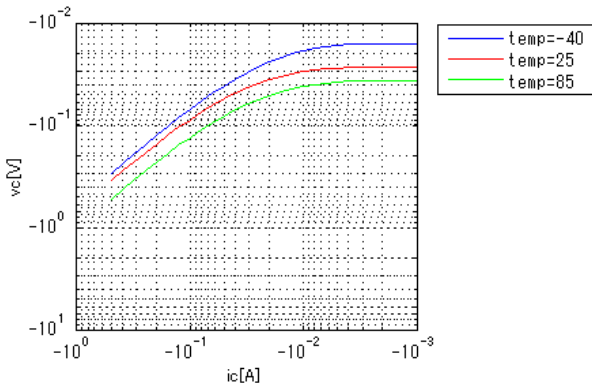
**hFEIc[Temp]**

Vce = -10V



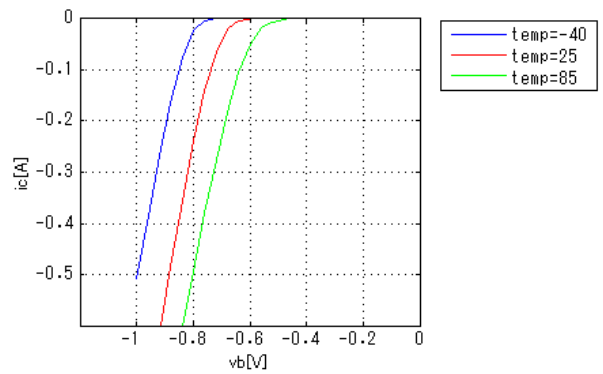
**Vce(sat)Ic[Temp]**

IC/IB = 10



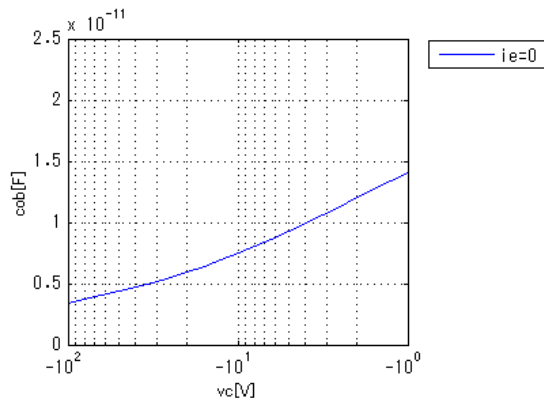
**IcVbe[Temp]**

Vce = -10V

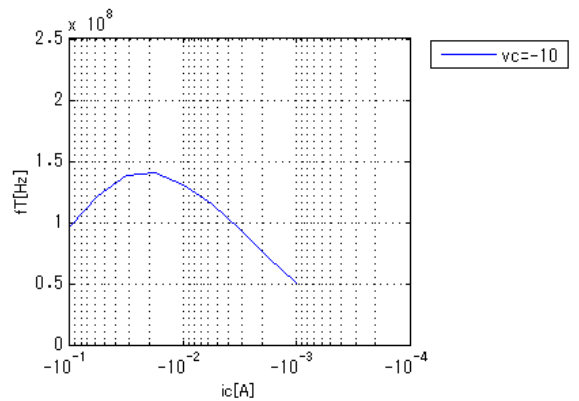


**Cob**

Freq. = 1MHz



**fT Ic[Vce]**



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