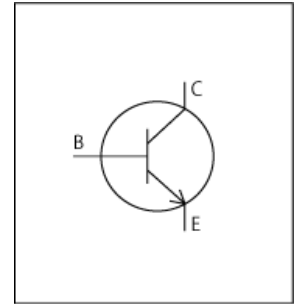


# PSpice Model

## NPN

### Comchip

### MMBT5551-G



### Model Information

**Model** Mextram model  
**Call Name** MDC\_MMBT5551-G\_PS  
**Pin Assign** 1:C 2:B 3:E  
**File List** Model Library MDC\_MMBT5551-G\_PS01.lib  
 Model Report MDC\_MMBT5551-G\_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 REV:B
- Product name MMBT5551-G
- Company name Comchip Technology Co., Ltd.
- Characteristics  $I_{cV_{ce}}[I_b], h_{FE}I_{c}[Temp], V_{be(sat)}I_{c}[Temp], V_{ce(sat)}I_{c}[Temp], I_{c}V_{be}[Temp], C_{ob}, C_{ib}, f_T I_{c}[V_{ce}]$

### Simulation Range

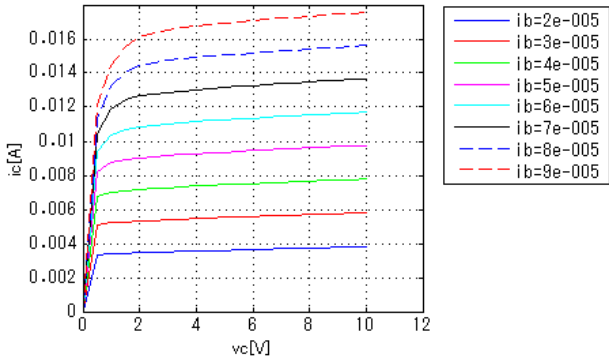
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Collector-emitter voltage (DC)	0	to	160	V
Base current (DC)	0	to	60	A
Temperature	-55	to	150	deg C

Simulation results are following.  
 Explanatory notes — : simulated

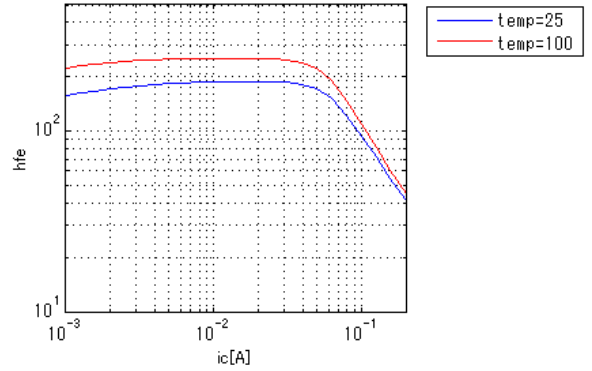
**IcVce[ib]**

Temp. = 25deg C



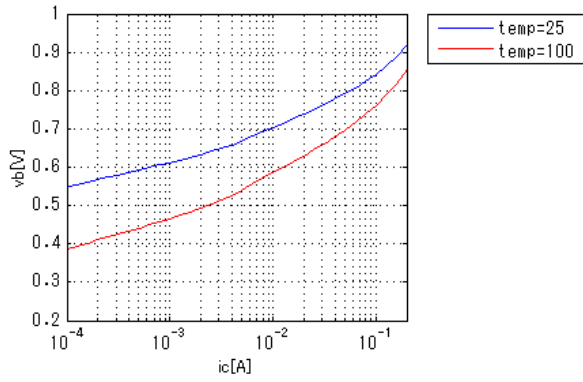
**hFEIc[Temp]**

Vce = 5V



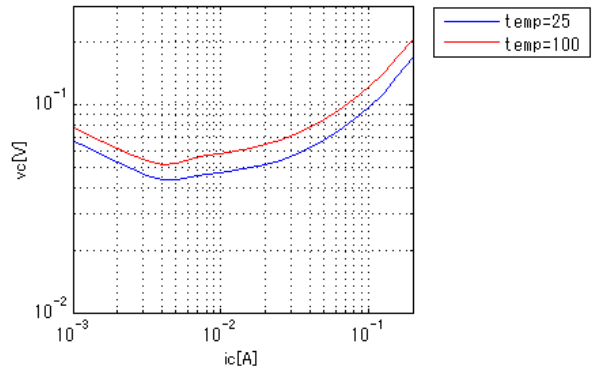
**Vbe(sat)Ic[Temp]**

IC/IB = 10



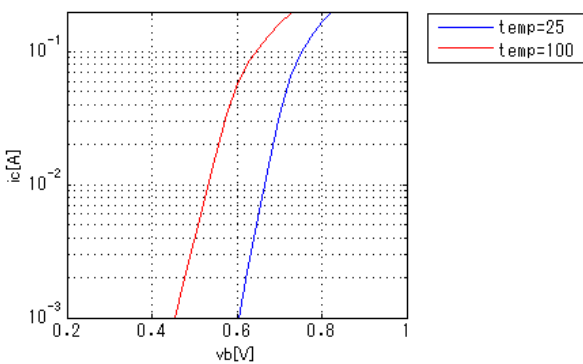
**Vce(sat)Ic[Temp]**

IC/IB = 10



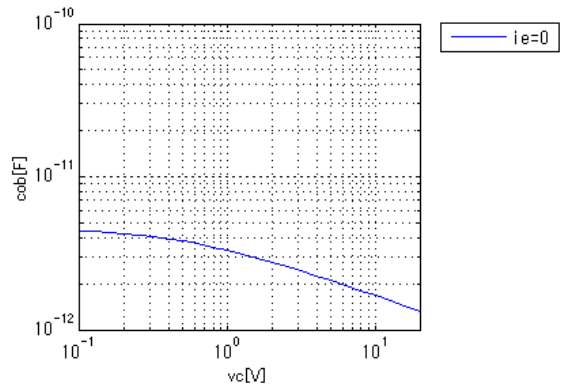
**IcVbe[Temp]**

Vce = 5V



**Cob**

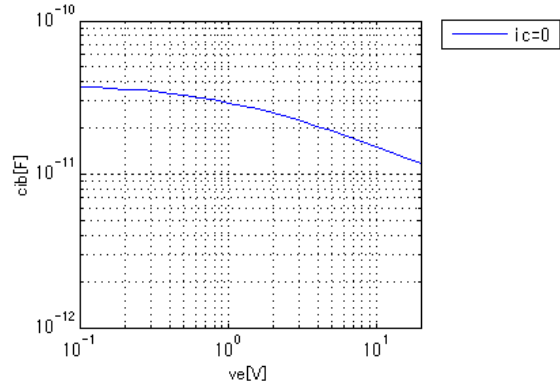
Freq. = 1MHz



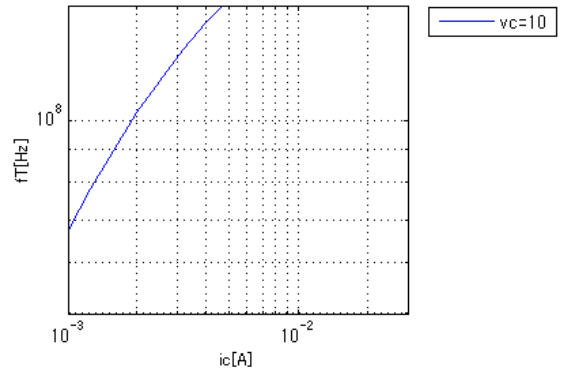
Simulation results are following.  
 Explanatory notes — : simulated

**Cib**

Freq. = 1MHz



**fT Ic [Vce]**



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MoDeCH Inc.

Head Office

Location: Mitsuseimei Hachioji Bldg., 5-15 Yokoyama-cho, Hachioji-Shi, Tokyo 192-0081, Japan

Tel:+81-42-656-3360

E-Mail: [model-on-support@modech.co.jp](mailto:model-on-support@modech.co.jp)

URL: <http://www.modech.com/en/>