

## PSpice Model

### NPN

### KEC

### KTC3875S



### Model Information

**Model** Gummel-Poon model  
**Call Name** MDC\_KTC3875S\_PS  
**Pin Assign** 1:C 2:B 3:E  
**File List** Model Library MDC\_KTC3875S\_PS01.lib  
 Model Report MDC\_KTC3875S\_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 No.4
- Product name KTC3875S
- Company name KEC Corporation
- Characteristics  $I_c V_{ce}[I_b], h_{FE} I_c [Temp], V_{ce}(sat) I_c [Temp], V_{be}(sat) I_c [Temp], I_b V_{be} [Temp], f_T I_c [V_{ce}]$

### Simulation Range

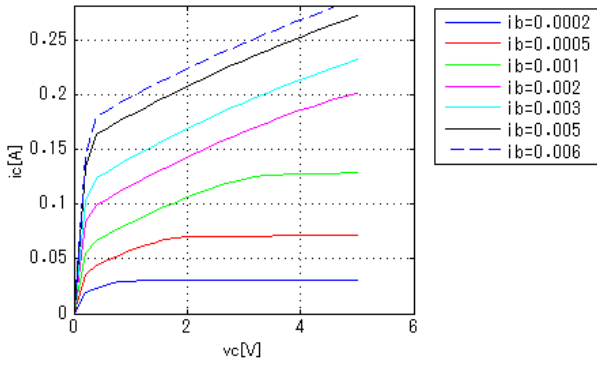
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Collector-emitter voltage (DC)	0	to	50	V
Base current (DC)	0	to	30m	A
Temperature	-55	to	150	deg C

Simulation results are following.  
 Explanatory notes — : simulated

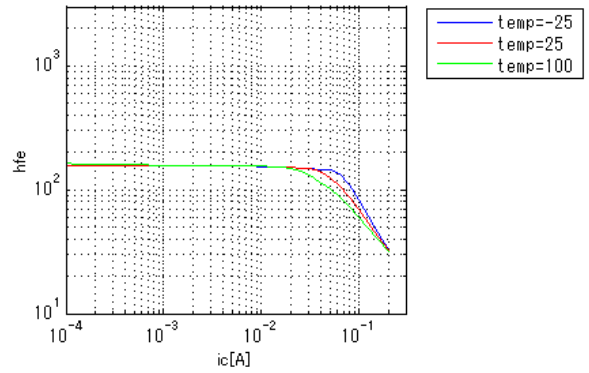
**IcVce[ib]**

Temp. = 25deg C



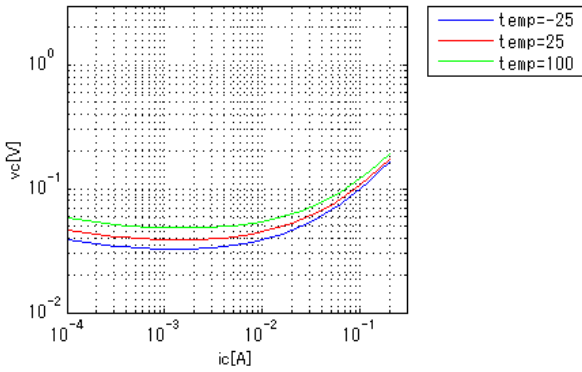
**hFEIc[Temp]**

Vce = 1V



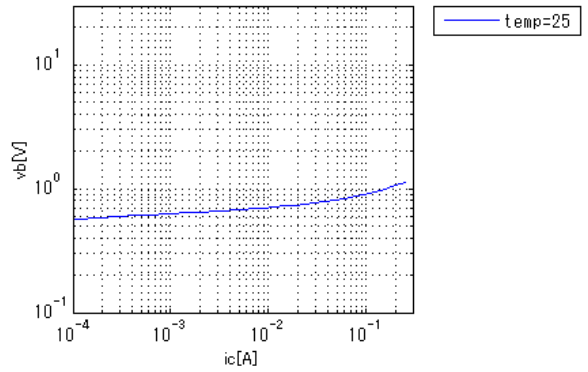
**Vce(sat)Ic[Temp]**

IC/IB = 10



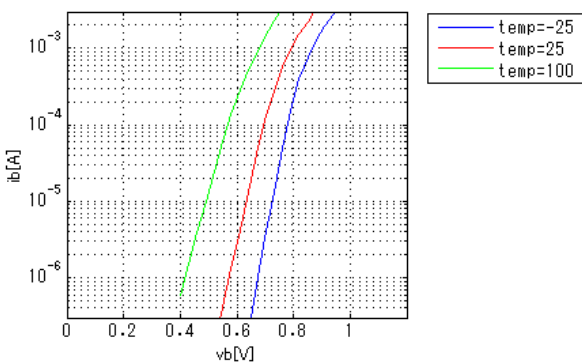
**Vbe(sat)Ic[Temp]**

IC/IB = 10

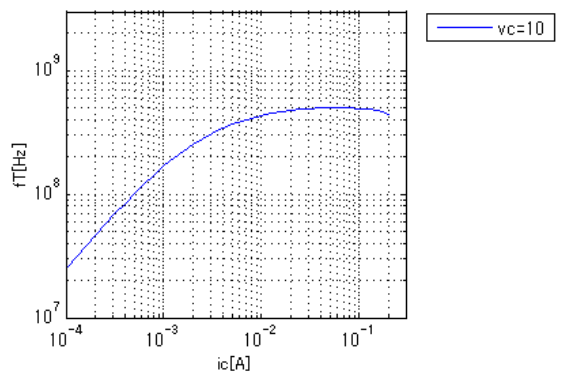


**IbVbe[Temp]**

Vce = 6V



**fT Ic [Vce]**



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