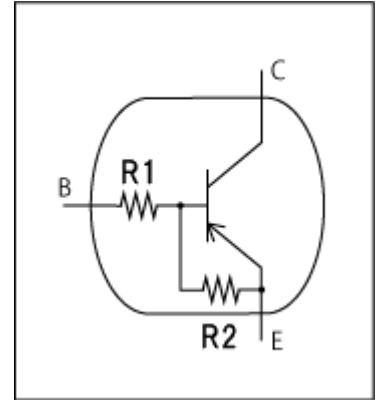


ADS Model BRT (Bias Resistor Transistor) Isahaya RT-1P434C



Model Information

Model A macro model based on Gummel-Poon model
Call Name MDC_RT_1P434C_AD
Pin Assign 1:B 2:E 3:C
File List Model Library MDC_RT_1P434C_AD.zip
 Model Report MDC_RT-1P434C_AD.pdf (this file)

Verified Simulator Version ADS version 2022 update1
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version Unknown
- Product name RT-1P434C
- Company name Isahaya Electronics Corporation
- Characteristics $V_{ion}I_c[Temp]$, $hFEI_c[Temp]$, $I_cV_{ioff}[Temp]$, $V_{ce(sat)}I_c[Temp]$, $f_{Tle}[V_{ce}]$

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
Temperature	-55	to	150	deg C
R1	4.7	to	4.7	Kohm
R2	22.09	to	22.09	Kohm

BRT

○ : Implemented
 × : Not Implemented
 — : Not applicable

Model Functions Table

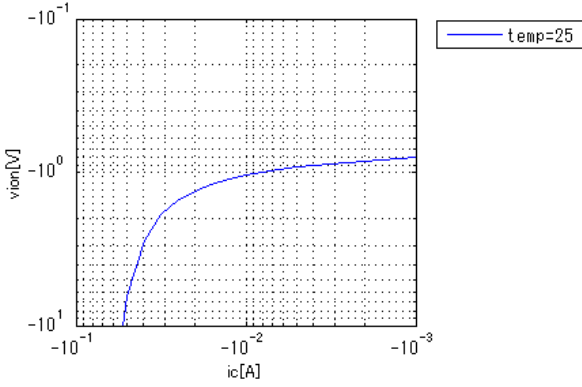
RANK=1

Functions	RANK	Implemented
VIN(on)-Iout(Temp)	1	○
Iout-VIN(off)(Temp)	1	○
hFE-Ic(Temp)	1	○
Vce(sat)-Ic(Temp)	1	○
Capacitance	1	—
Transition Frequency	1	○
Switching(Typ.)	1	—

Simulation results are following.
 Explanatory notes — : simulated

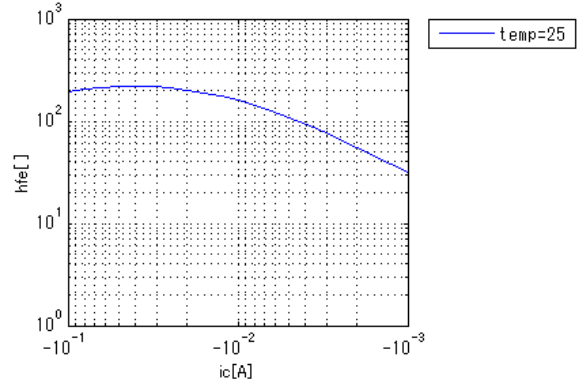
VionIc[Temp]

Vce = -0.2V



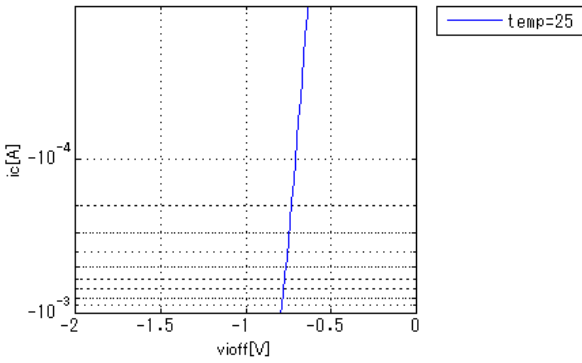
hFEIc[Temp]

Vce = -5V



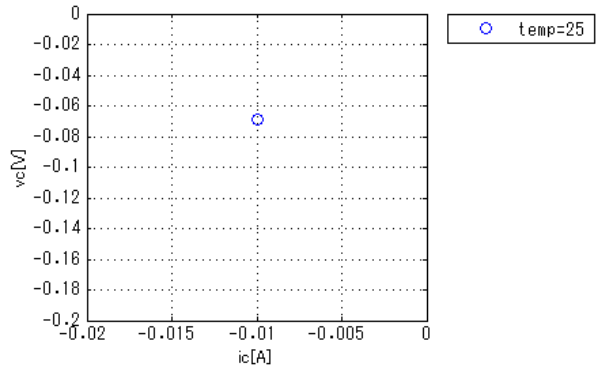
IcVioff[Temp]

Vce = -5V



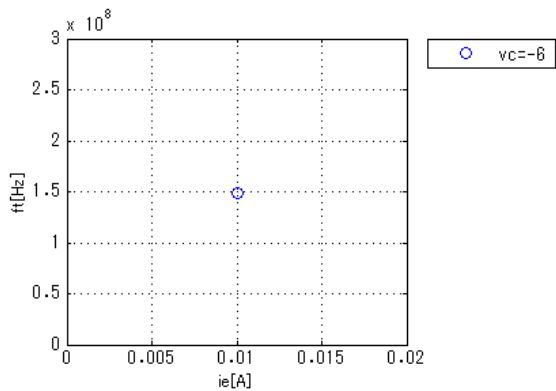
Vce(sat)Ic[Temp]

IC/IB = 20



fTle[Vce]

Freq = 100000000Hz



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