

PSpice Model

Photocoupler Tr. Output

TOSHIBA

TLP180

Model Information

Model An original macro model
Call Name MDC_TLP180_PS
Pin Assign 1:Anode(Cathode) 2:Cathode(Anode) 3:Emitter 4:Collector
File List Model Library MDC_TLP180_PS01.lib
 Model Report MDC_TLP180_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 2017-05-12
- Product name TLP180
- Company name Toshiba Corporation
- Characteristics IfVf[Temp],IcVce[If],IcVce[If]2,IcIf[Vce],hFEIf[Vce],IcTemp[If], SwitchingTime,SwitchingTime2,SwitchingTime3

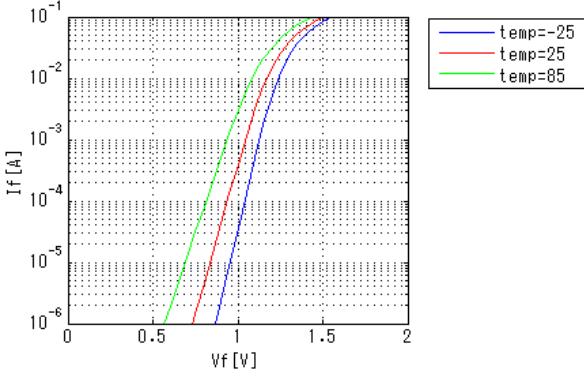
Simulation Range

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

Item	Range			Unit
	Min.		Max.	
Forward current (DC)	0	to	0.05	A
Collector-emitter voltage (DC)	0	to	80	V
Temperature	-55	to	125	deg C

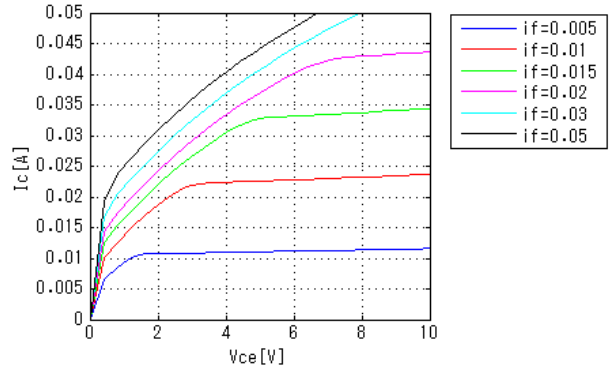
Simulation results are following.
 Explanatory notes — : simulated

IfVf[Temp]



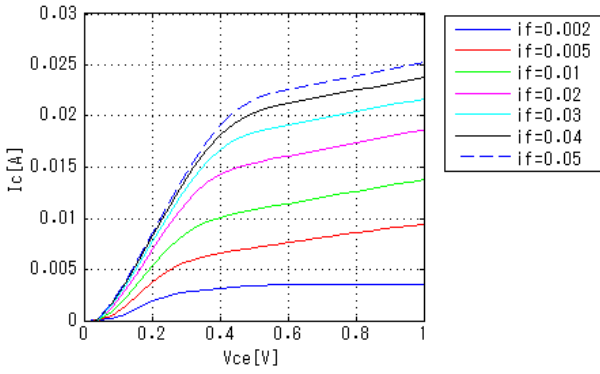
IcVce[If]

Temp. = 25deg C



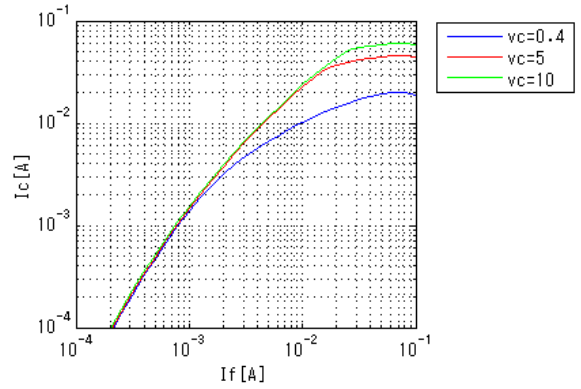
IcVce[If]2

Temp. = 25deg C



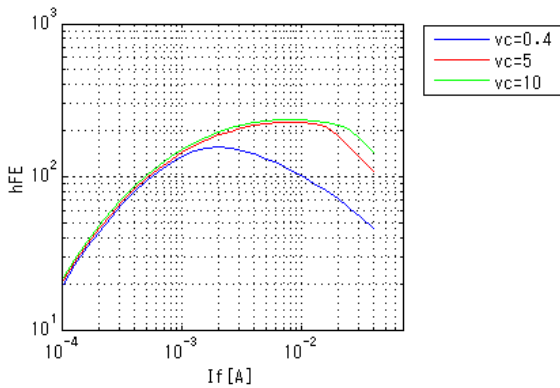
IcIf[Vce]

Temp. = 25deg C



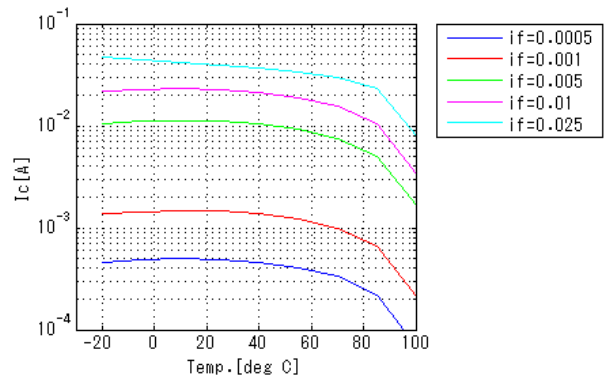
hFEIf[Vce]

Temp. = 25deg C



IcTemp[If]

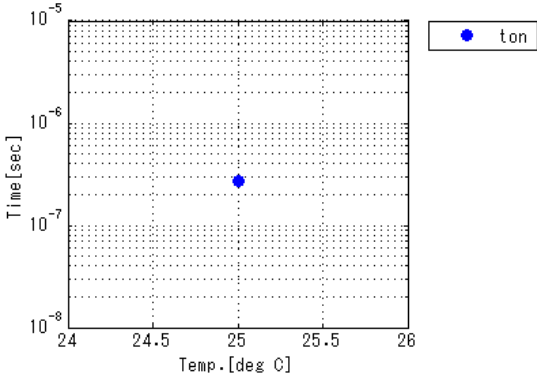
Vc = 5V



Simulation results are following.
 Explanatory notes — : simulated

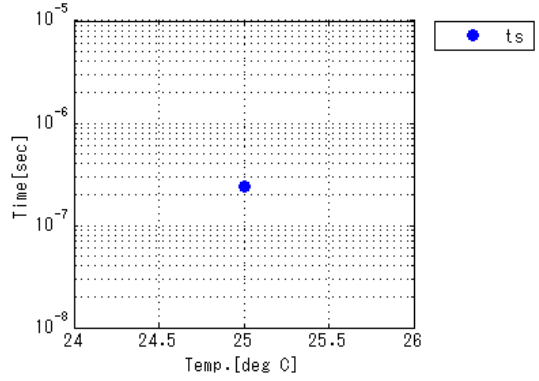
SwitchingTime

+If = 0.016A, -If = 0A, Vc = 5V, RI = 1900ohm



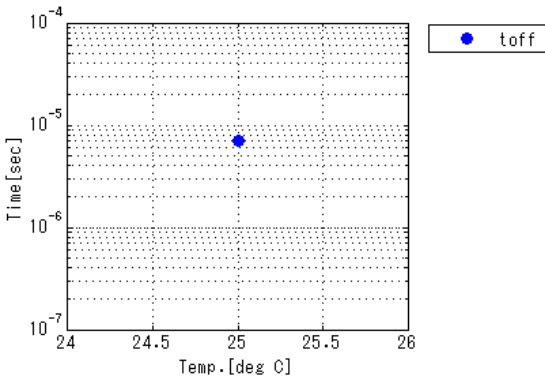
SwitchingTime2

+If = 0.016A, -If = 0A, Vc = 5V, RI = 1900ohm



SwitchingTime3

+If = 0.016A, -If = 0A, Vc = 5V, RI = 1900ohm



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