

LTspice Model

Photocoupler Tr. Output

TOSHIBA

TLP187

Model Information

Model An original macro model
Call Name MDC_TLP187_LT
Pin Assign 1:Anode 2:Cathode 3:Emitter 4:Collector
File List Model Library MDC_TLP187_LT01.lib
 Model Report MDC_TLP187_LT.pdf (this file)
Verified Simulator Version LTspice version XVII
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version 2019-11-19 Rev.5.0
- Product name TLP187
- Company name Toshiba Corporation
- Characteristics IfVf[Temp],IfVf[Temp]2,IcVce[If],IcIf[Vce],IcTemp[If],hFEIf[Vce],IcTemp[If]2,SwitchingTime,SwitchingTime2,SwitchingTime3

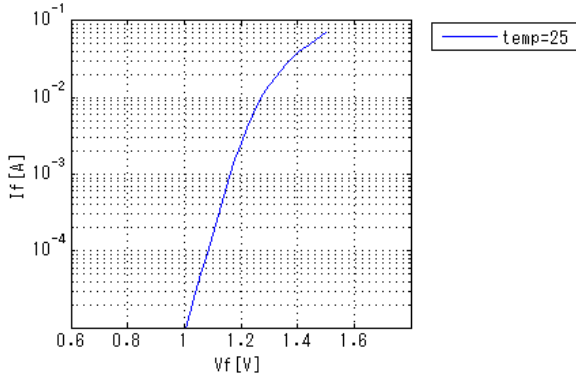
Simulation Range

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

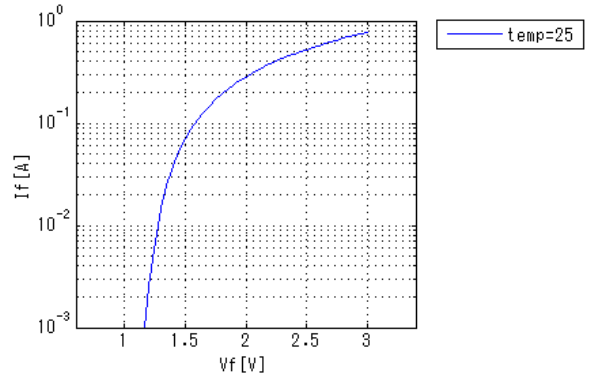
Item	Range			Unit
	Min.		Max.	
Forward current (DC)	0	to	0.05	A
Collector-emitter voltage (DC)	0	to	300	V
Temperature	-55	to	125	deg C

Simulation results are following.
 Explanatory notes — : simulated

IfVf[Temp]

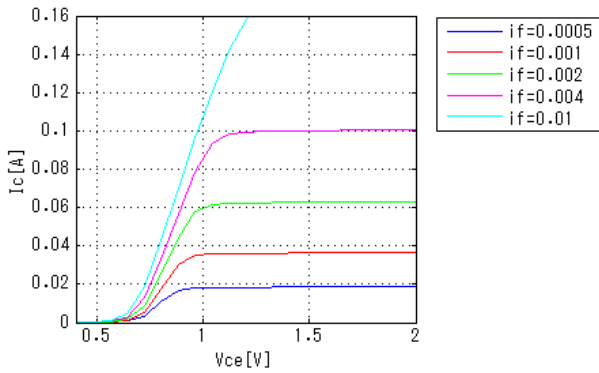


IfVf[Temp]2



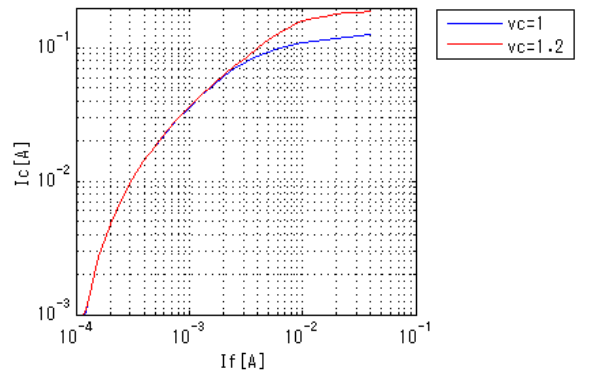
IcVce[If]

Temp. = 25deg C



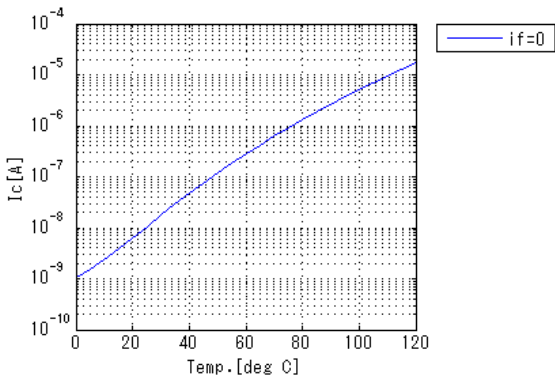
IcIf[Vce]

Temp. = 25deg C



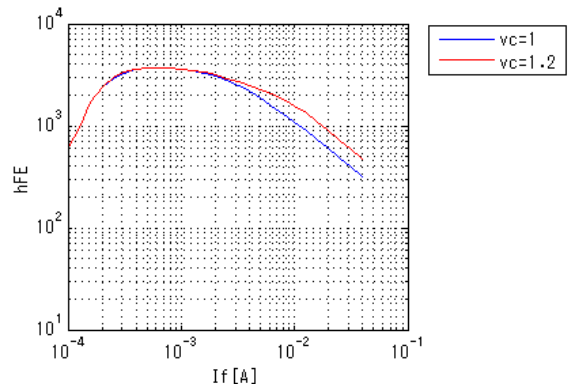
IcTemp[If]

Vc = 200V



hFEIf[Vce]

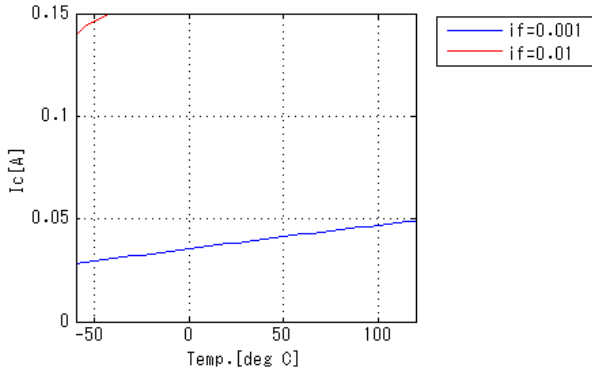
Temp. = 25deg C



Simulation results are following.
 Explanatory notes — : simulated

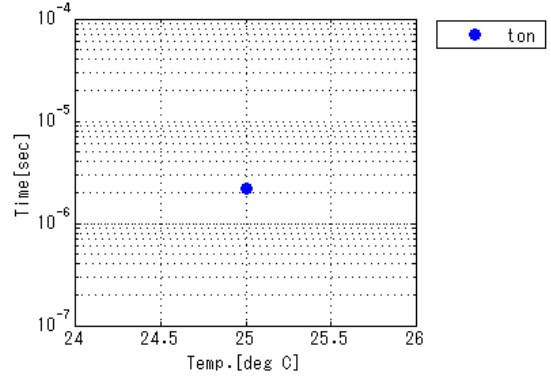
IcTemp[I_f]²

V_c = 5V



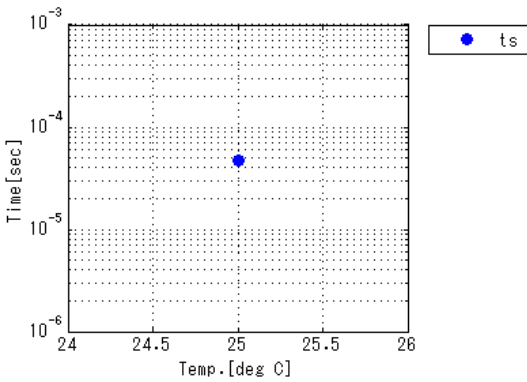
SwitchingTime

+I_f = 0.016A, -I_f = 0A, V_c = 10V



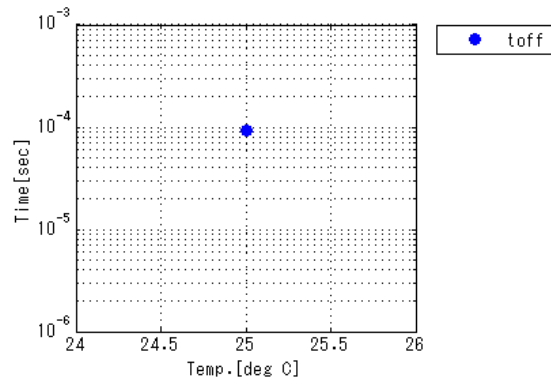
SwitchingTime2

+I_f = 0.016A, -I_f = 0A, V_c = 10V



SwitchingTime3

+I_f = 0.016A, -I_f = 0A, V_c = 10V



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