

PSpice Model

Photocoupler IC Output

TOSHIBA

TLP705A

Model Information

Model An original macro model
Call Name MDC_TLP705A_PS
Pin Assign 1:Anode 3:Cathode 4:GND 5:VO 6:VCC
File List Model Library MDC_TLP705A_PS01.lib
 Model Report MDC_TLP705A_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.5.0
- Product name TLP705A
- Company name Toshiba Corporation
- Characteristics IfVf[Temp], IflhTemp[Vcc], IccITemp[Vcc], IcchTemp[Vcc], Vollopl[Temp], Vohvccloph[Temp], SwitchingTemp, SwitchingIf, SwitchingVcc

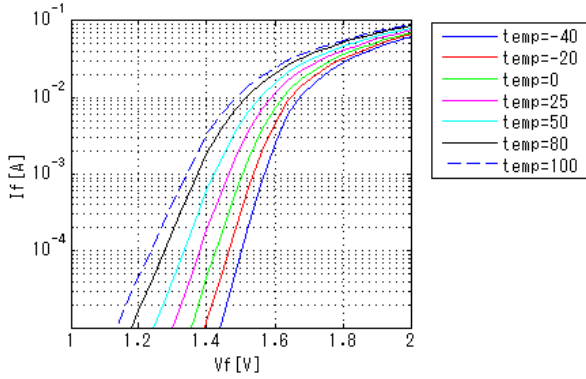
Simulation Range

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

Item	Range			Unit
	Min.		Max.	
Temperature	-40	to	100	deg C

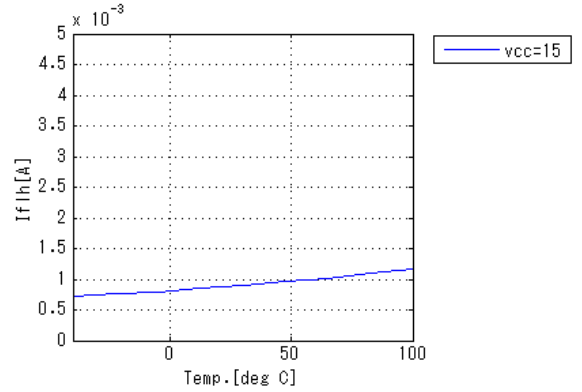
Simulation results are following.
 Explanatory notes — : simulated

IfVf[Temp]



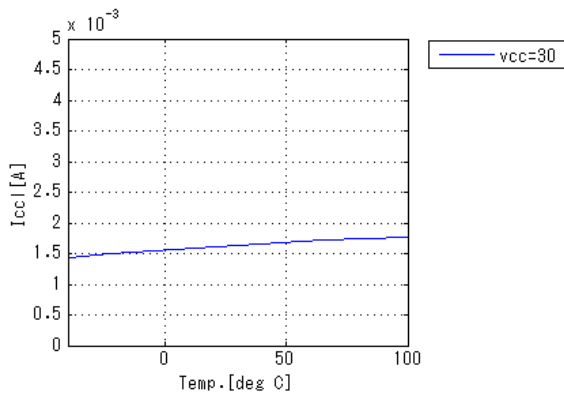
IfIhTemp[Vcc]

$V_o = 1V$



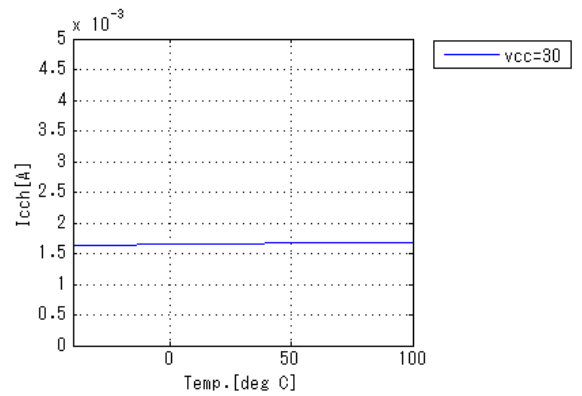
IccITemp[Vcc]

$I_f = 0A$



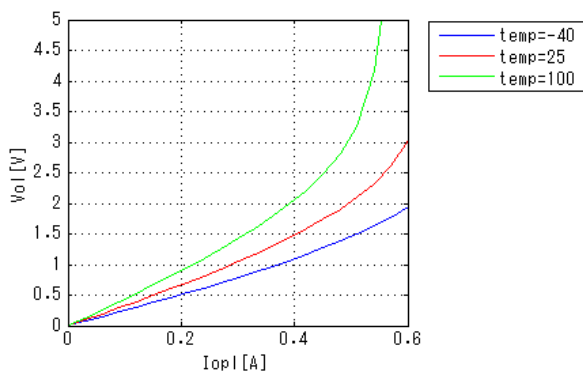
IcchTemp[Vcc]

$I_f = 0.01A$



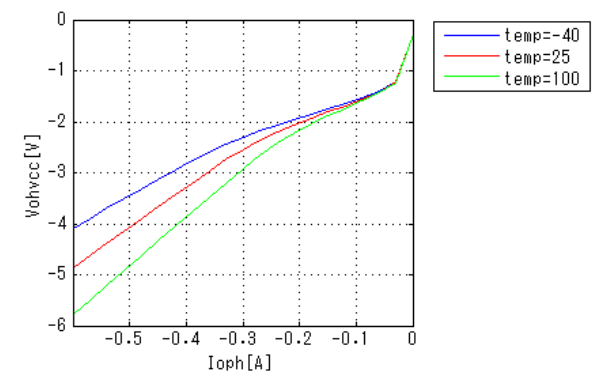
VolIopI[Temp]

$V_{cc} = 15V, I_f = 0A$



VohvccIoph[Temp]

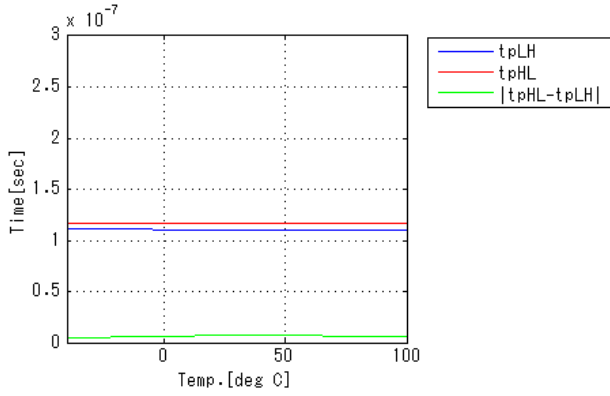
$V_{cc} = 15V, I_f = 0.01A$



Simulation results are following.
 Explanatory notes — : simulated

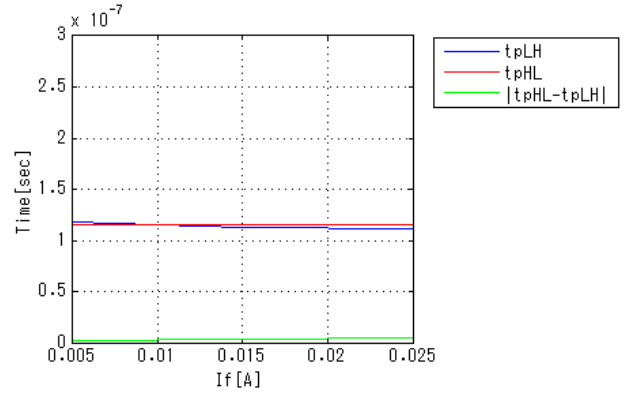
SwitchingTemp

Freq. = 250000Hz, Duty = 50%, If = 0.01A, Vcc = 20V



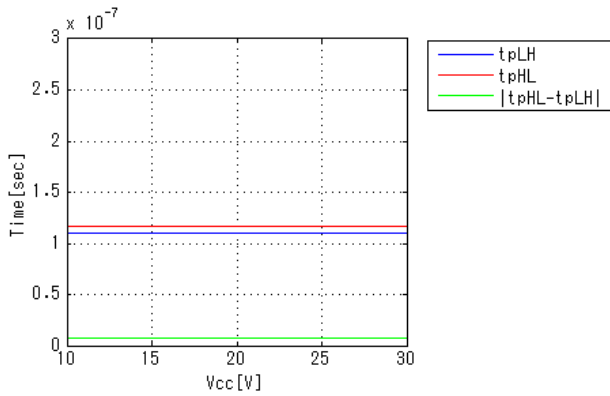
SwitchingIf

Freq. = 250000Hz, Duty = 50%, Vcc = 20V



SwitchingVcc

Freq. = 250000Hz, Duty = 50%, If = 0.01A



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