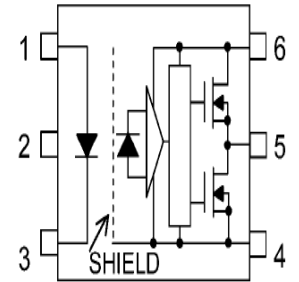


PSpice Model

Photocoupler IC Output

TOSHIBA

TLP5701



Model Information

Model An original macro model
Call Name MDC_TLP5701_PS
Pin Assign 1:Anode 3:Cathode 4:GND 5:VO 6:VCC
File List Model Library MDC_TLP5701_PS02.lib
 Model Report MDC_TLP5701_PS.pdf (this file)

Verified Simulator Version PSpice version 17.2
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version 2017-03-17 Rev.4.0
- Product name TLP5701
- Company name Toshiba Corporation
- Characteristics IfVf[Temp],IfhTemp[Vcc],IccITemp[Vcc],IcchTemp[Vcc],VoItemp[Vcc],VohTemp[Vcc],Vollop[Temp]4,VohVccloph[Temp],SwitchingTemp[Tname],SwitchingIf[Tname],SwitchingVcc[Tname],SwitchingWaveform

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	-55	to	125	deg C

Photo coupler

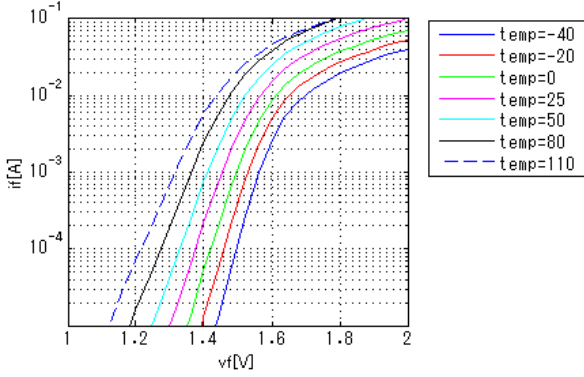
○ : Implemented
 × : Not Implemented
 — : Not applicable

Model Functions Table
RANK=1

Functions	RANK	Implemented
IF-VF-Temp	1	○
Iccl-Temp-Vcc	1	○
Icch-Temp-Vcc	1	○
Vol-Temp-Vcc	1	○
Voh-Temp-Vcc	1	○
Vol-Iop-Temp	1	○
Vohvcc-Ioph-Temp	1	○
Switching	1	○

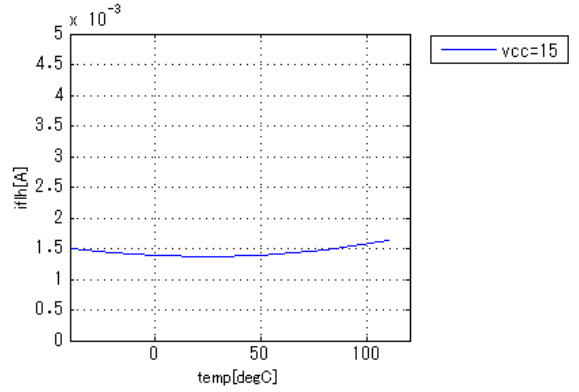
Simulation results are following.
 Explanatory notes — : simulated

IfVf[Temp]



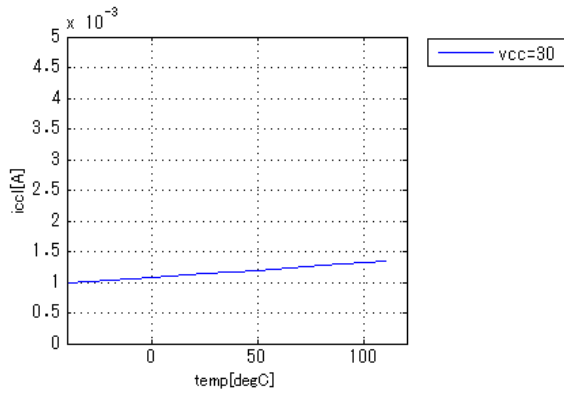
IfIhTemp[Vcc]

$v_{cc} = 15V, i_o = 0.1A$



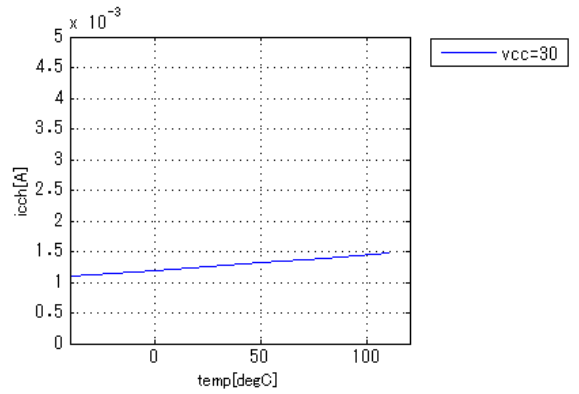
IccITemp[Vcc]

$i_f = 0A$



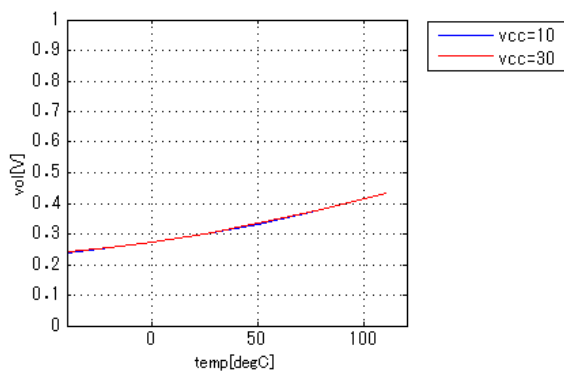
IcchTemp[Vcc]

$i_f = 0.01V$



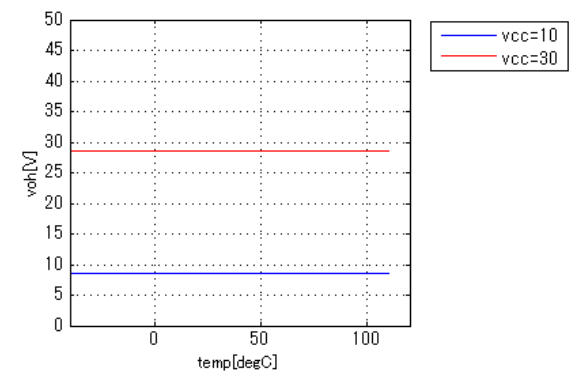
VoITemp[Vcc]

$v_f = 0.8V, i_o = 0.1A$



VohTemp[Vcc]

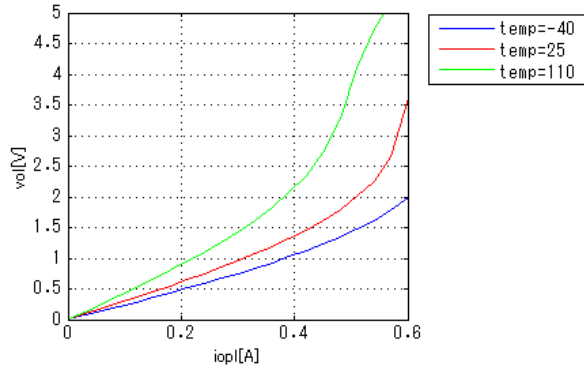
$i_f = 0.005A, i_o = 0.1A$



Simulation results are following.
 Explanatory notes — : simulated

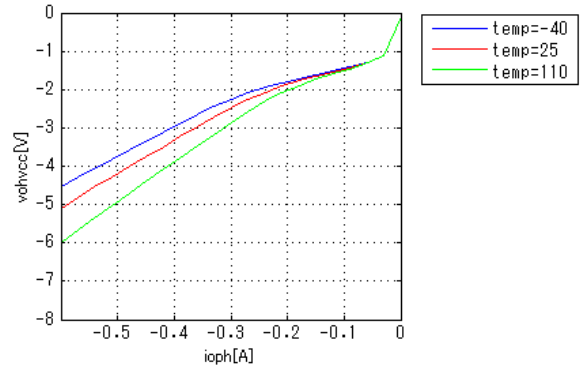
Vollopl[Temp]4

if = 0A, vcc = 15V



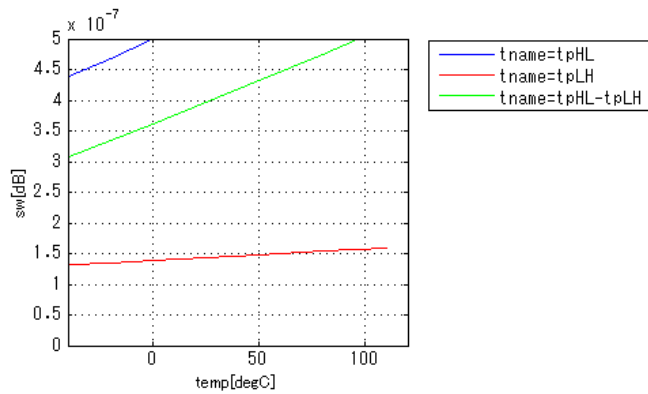
VohVccloph[Temp]

if = 0.005A, vcc = 15V



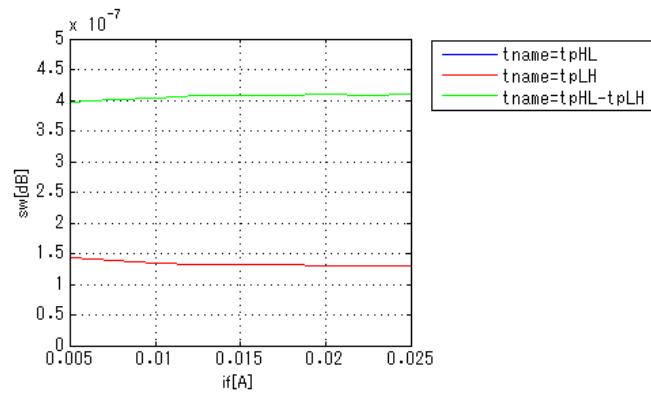
SwitchingTemp[Tname]

if = 0.005A, vcc = 30V



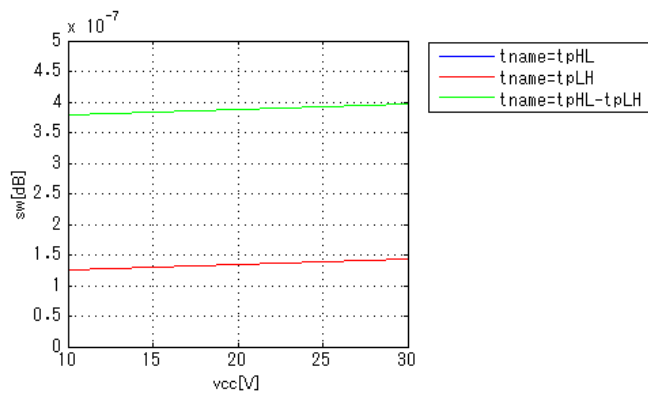
SwitchingIf[Tname]

vcc = 30V, temp = 25degC



SwitchingVcc[Tname]

if = 0.005A, temp = 25degC

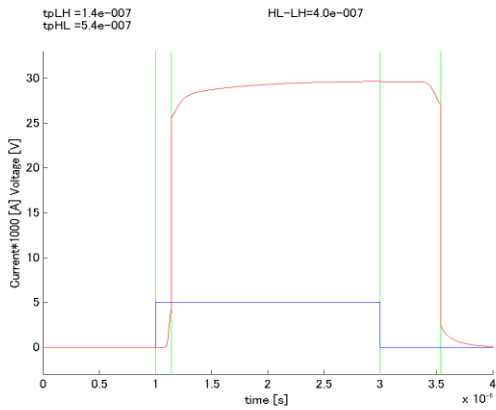


Simulation results are following.

Explanatory notes — : simulated

Switching Waveform (Blue : INPUT Red : OUTPUT)

if = 0.005A, vcc = 30V, temp = 25degC



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