LTspice Model
Low-Power RS-485 transceiver
Texas Instruments
SN65HVD3088E

Model Information

Model A macro model
Call Name MDC_SN65HVD3088E_LT
Pin Assign 1:R 2:_RE 3:DE 4:D 5:GND 6:A 7:B 8:Vcc
File List Model Library MDC_SN65HVD3088E_LT01.lib
Model Report MDC_SN65HVD3088E_LT.pdf(this file)

Verified Simulator Version LTspice 17.1.14

Note

References
The information which was used for modeling is as follow:

[Data Sheet]
- ●Date/Version August 2009
- ●Product name SN65HVD3088E
- ●Company name Texas Instruments

[Characteristics listed]
- ●Characteristics |Vod|, d|Vod|, Voc, dVoc, Ios
  Vit+, Vit-, Vhys, Voh, Vol, Ioz, Ii, Iih, Iil, Cdiff, Icc
  tPLH, tPHL, tr, tf, tsk(p), tPZH, tPZL, tPHZ, tPLZ

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

Item	Condition			Unit
	Min	Typ	Max	
Supply Voltage	4.5	5.0	5.5	V
Temperature		25.0		deg C

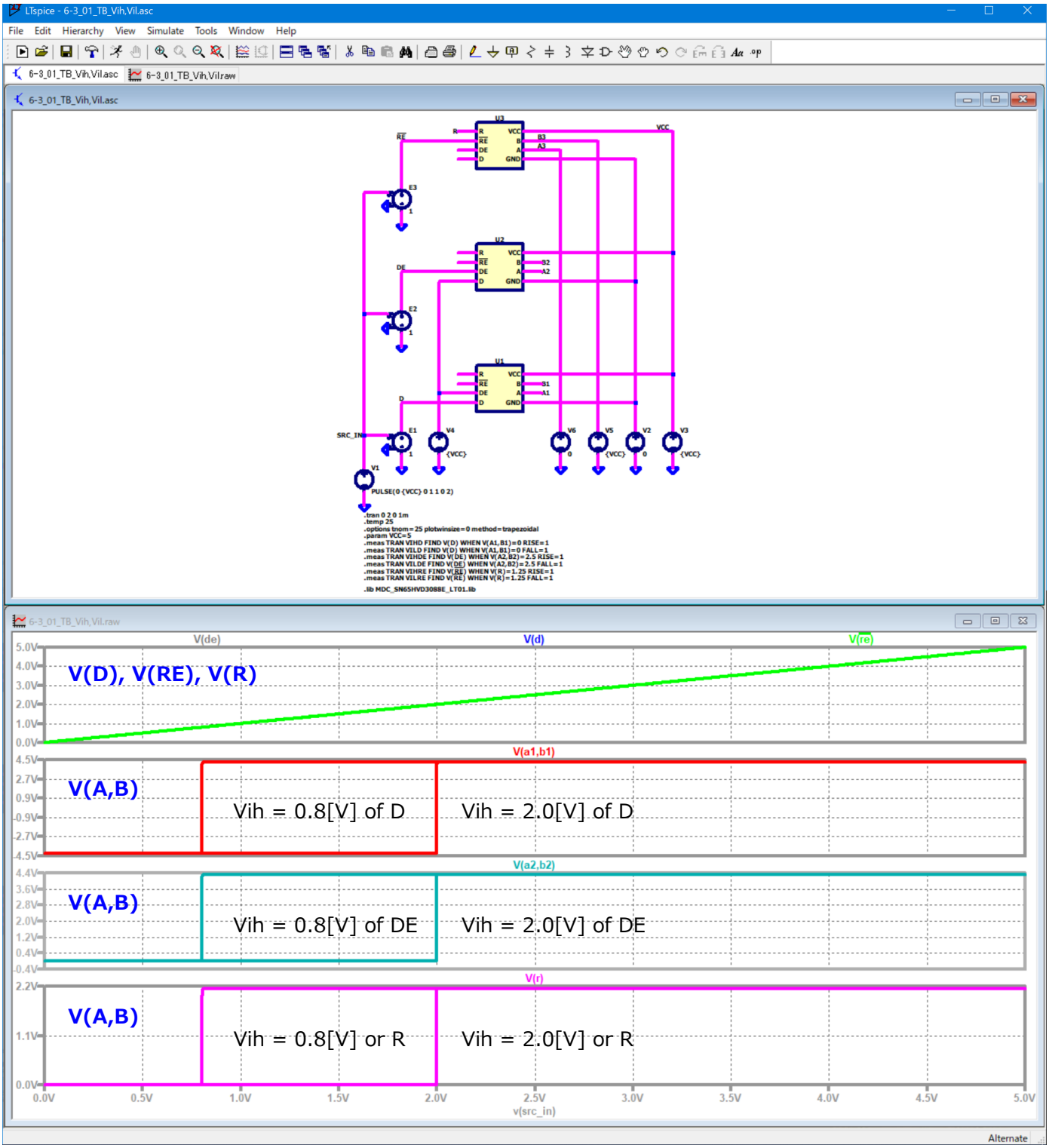
Transceiver

○ : Implemented
× : Not Implemented
— : Not applicable

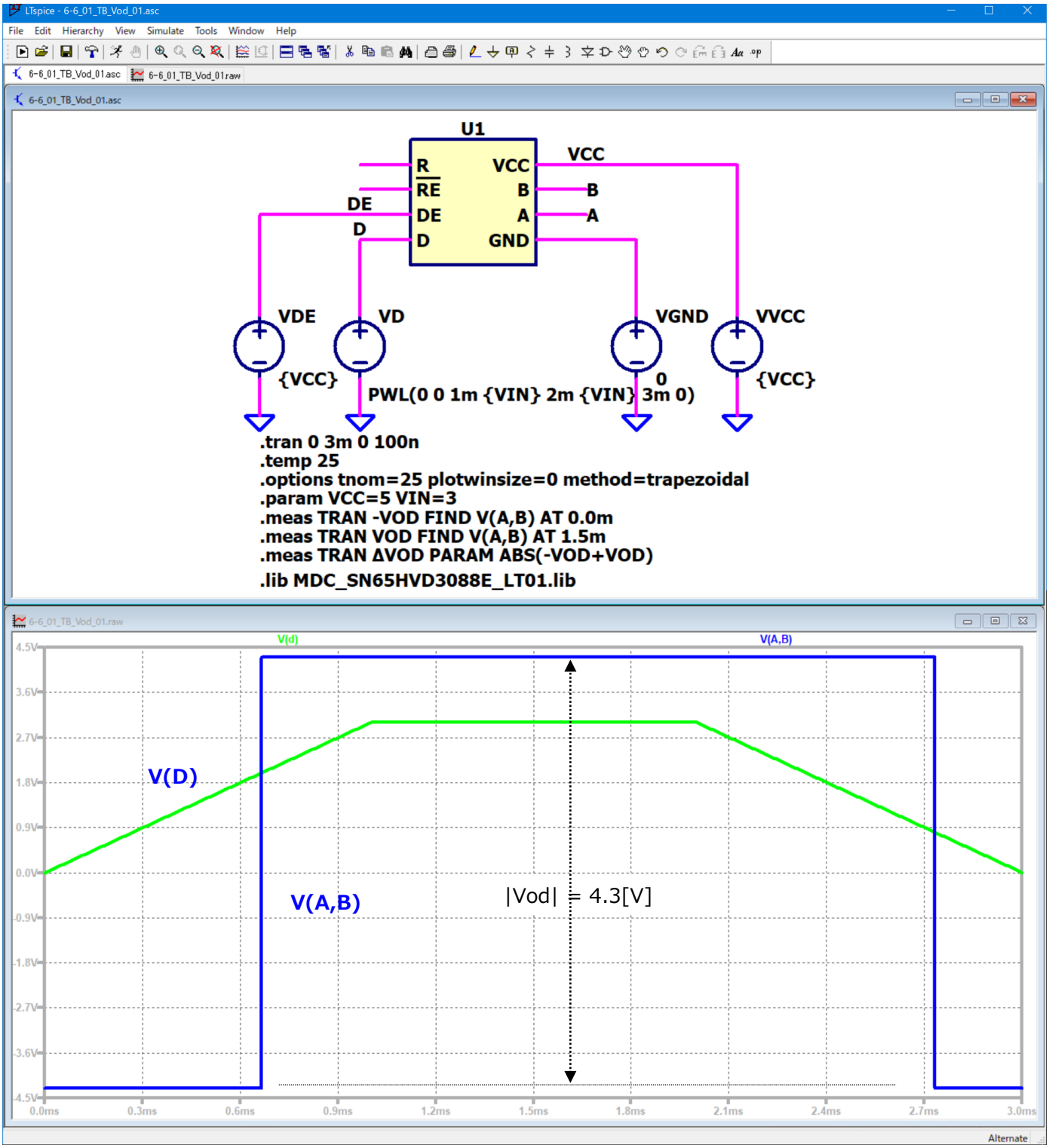
Model Functions Table

	RANK=1	
Functions	**RANK**	**Implemented**
Truth Table	1	○
Transmitter electrical characteristics	1	○
Receiver electrical characteristics	1	○
Driver switching characteristics	1	○
Receiver switching characteristics	1	○

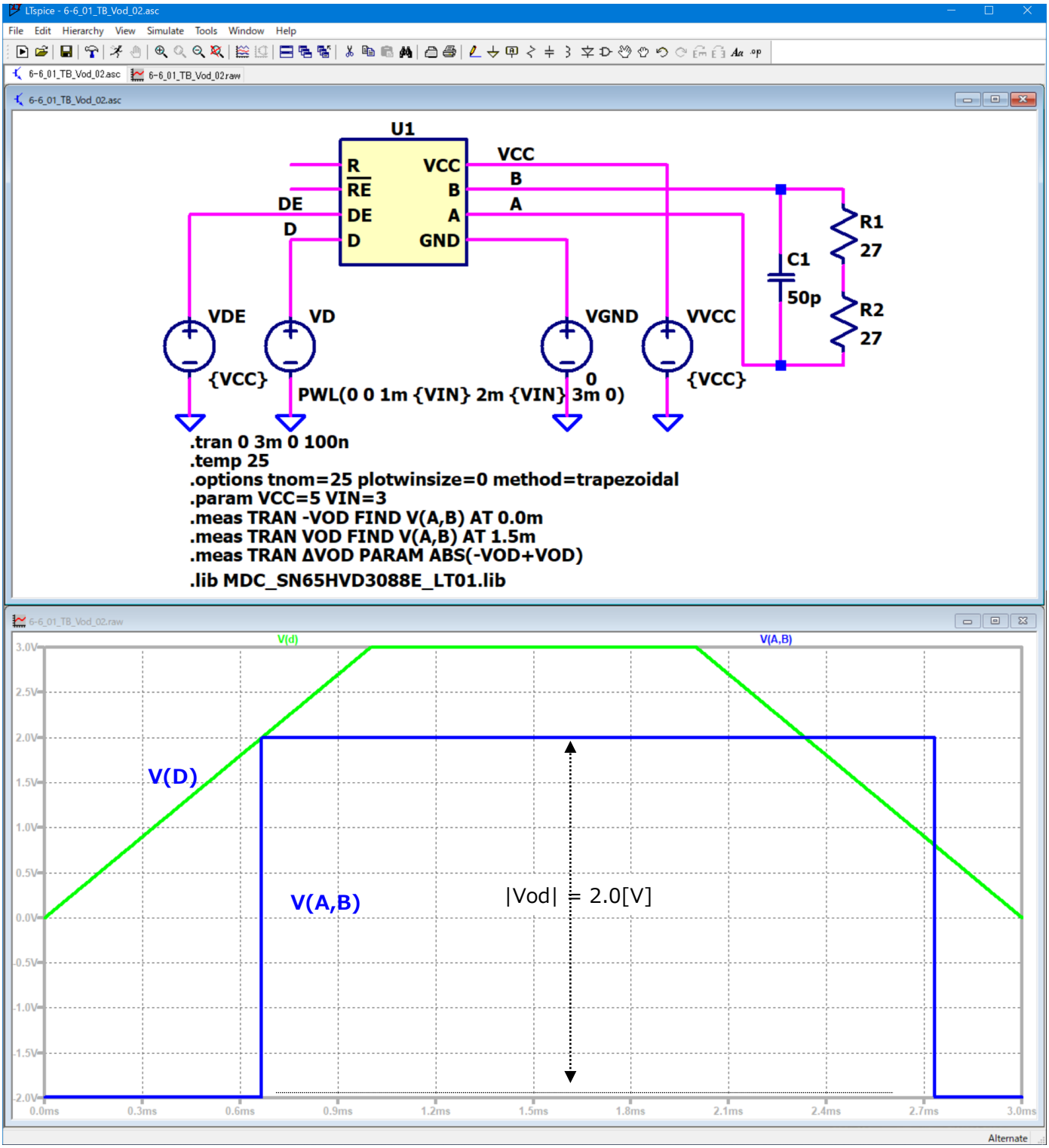
Testbench for Vih, Vil of RE, DE, R (Vcc = 5V)



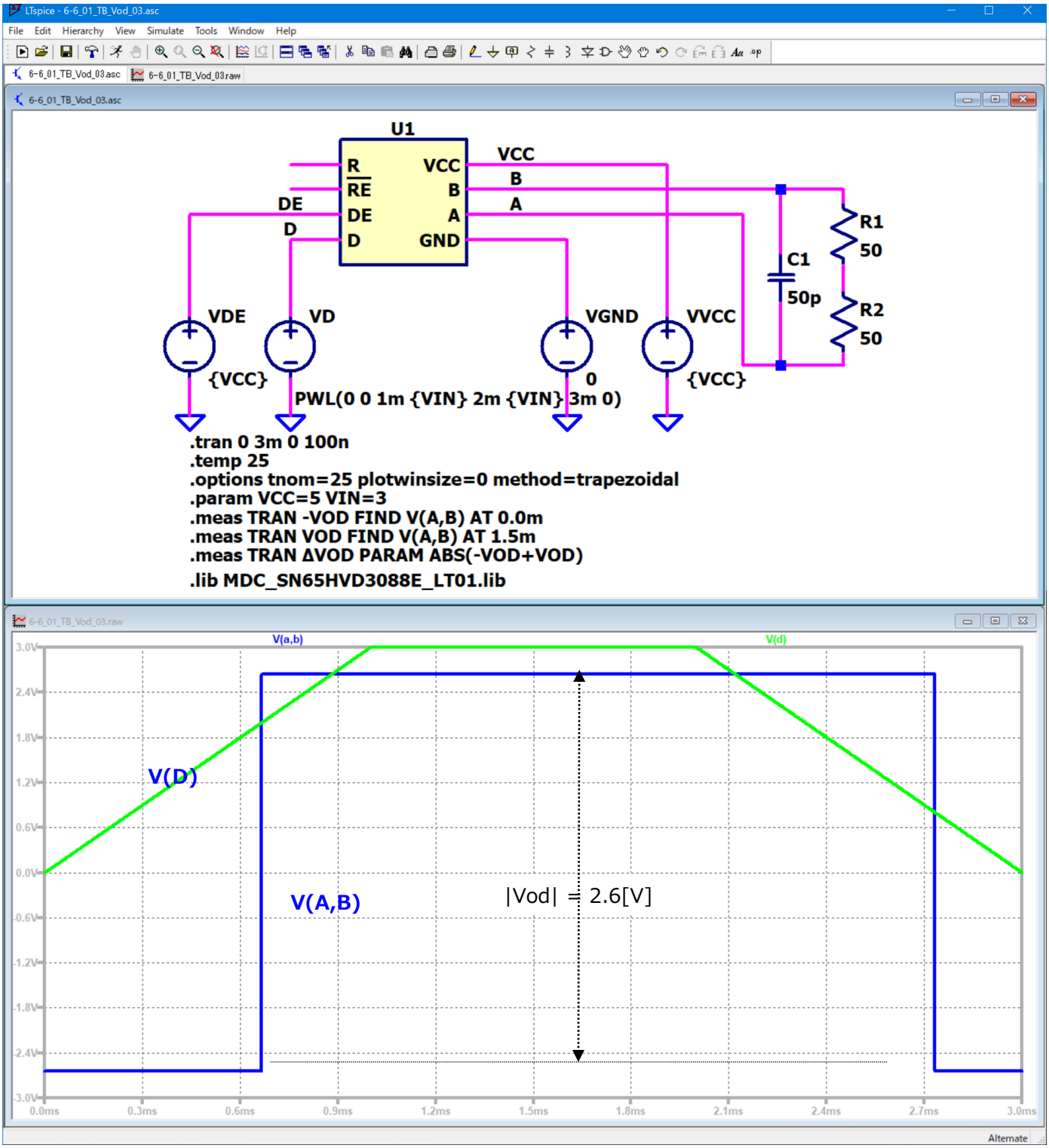
Testbench for |Vod| without common-mode loading (Vcc = 5V)



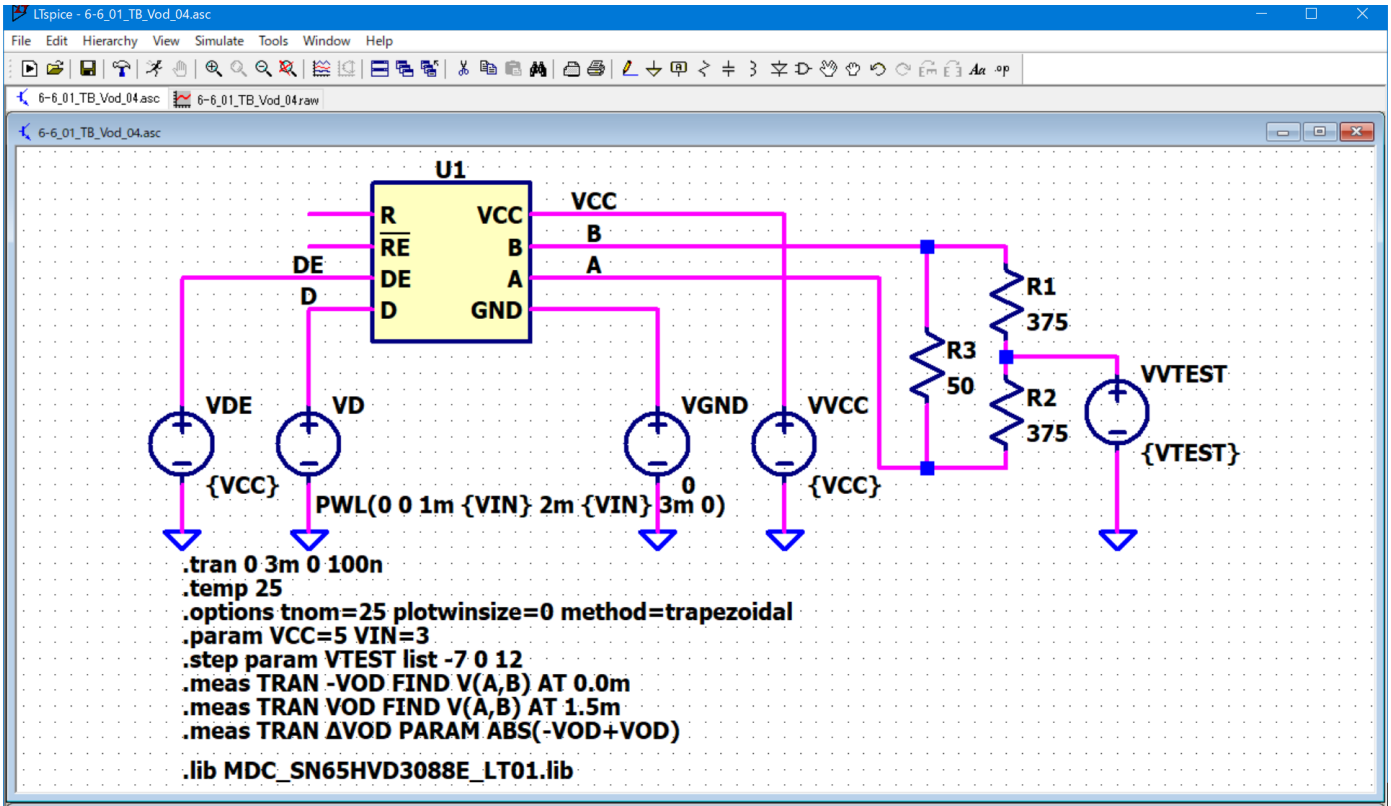
Testbench for |Vod| without common-mode loading (Vcc = 5V, Rload = 54[ohm])

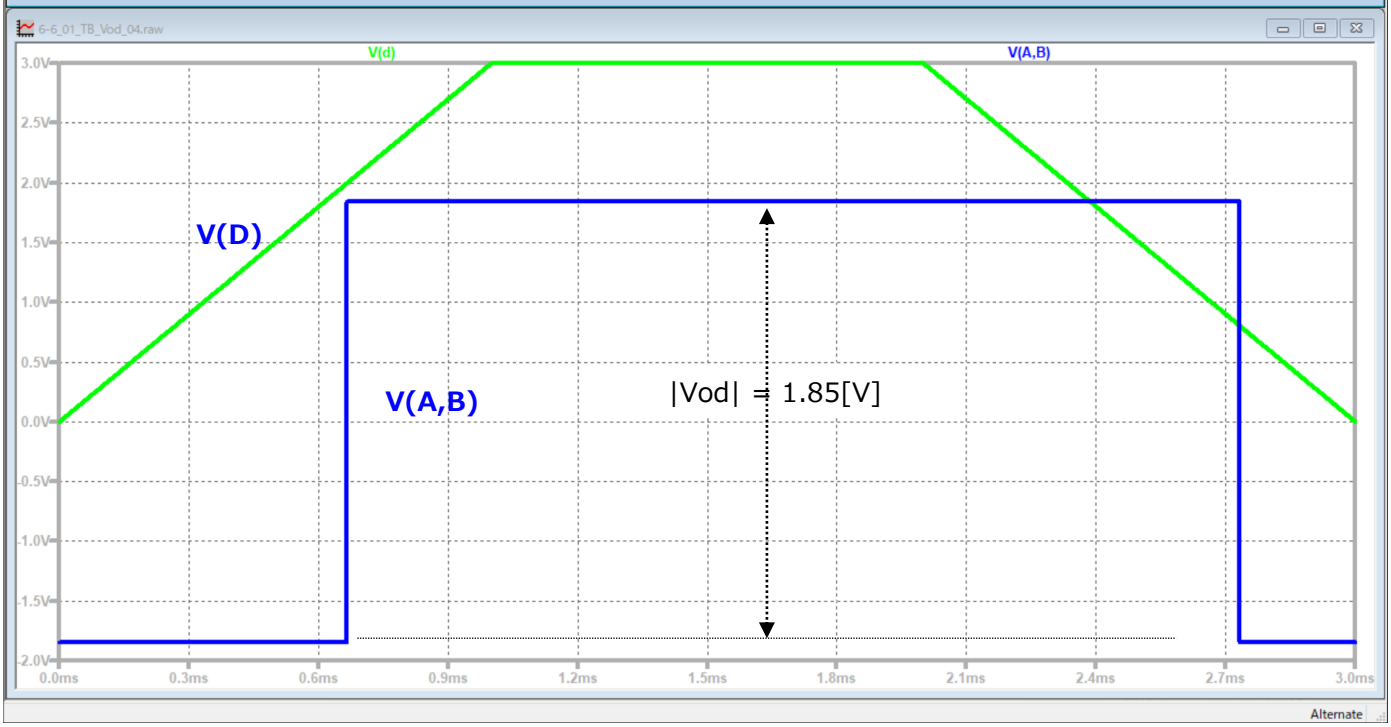


Testbench for |Vod| with common-mode loading (Vcc = 5V, Rload = 100[ohm])

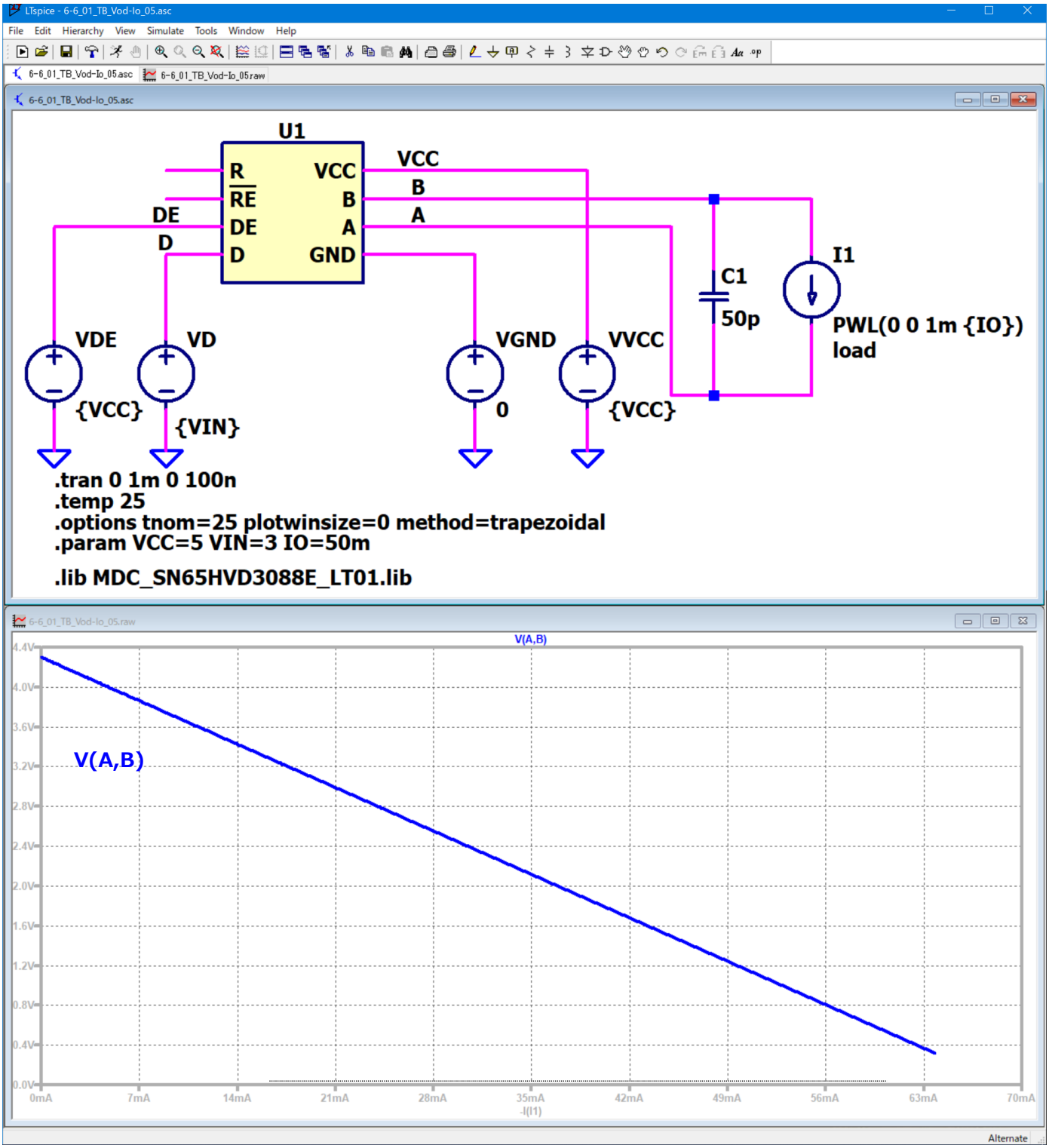


Testbench for |Vod| without common-mode loading (Vcc = 5V, Vtest = -7 to 12[V])

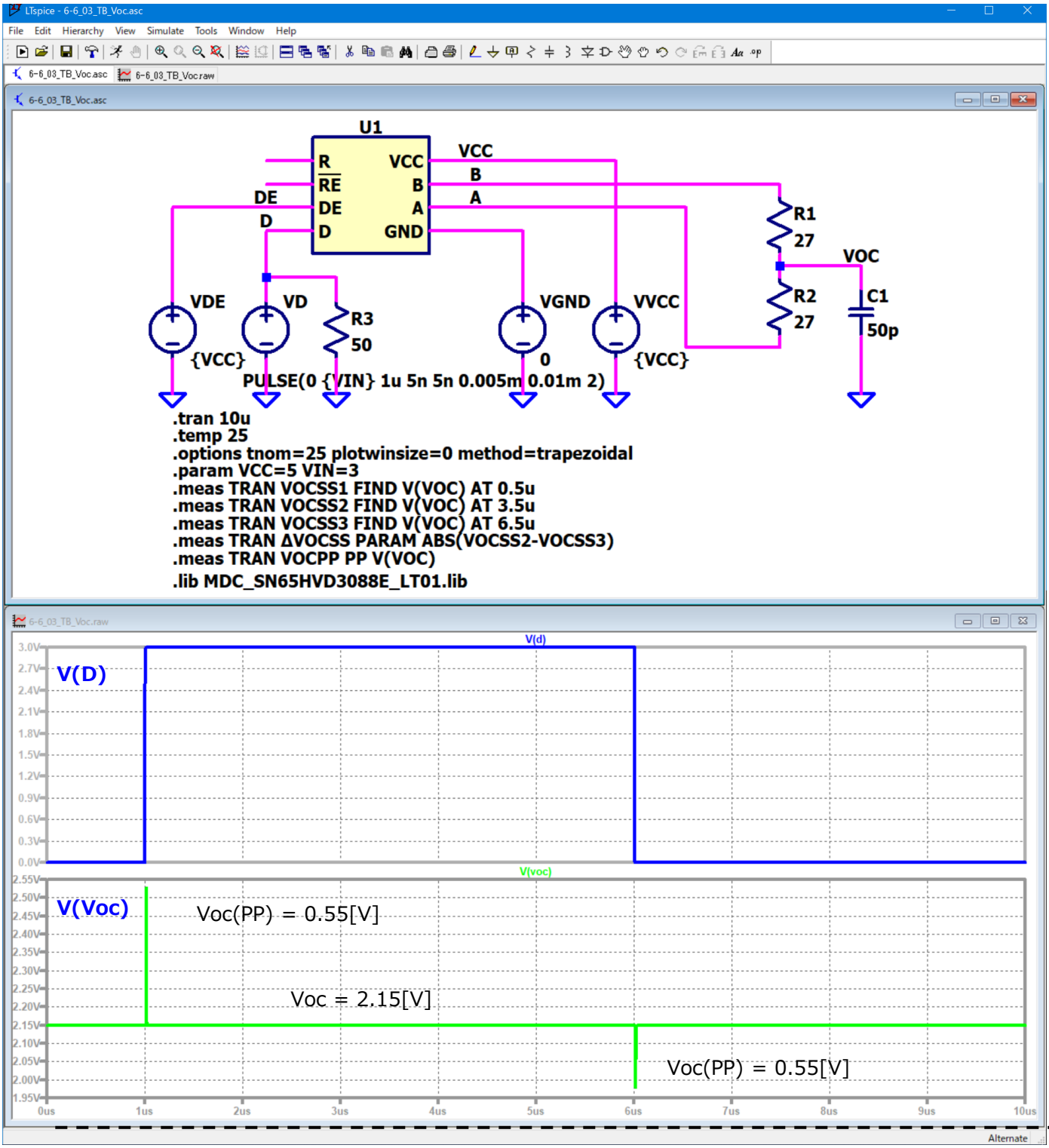




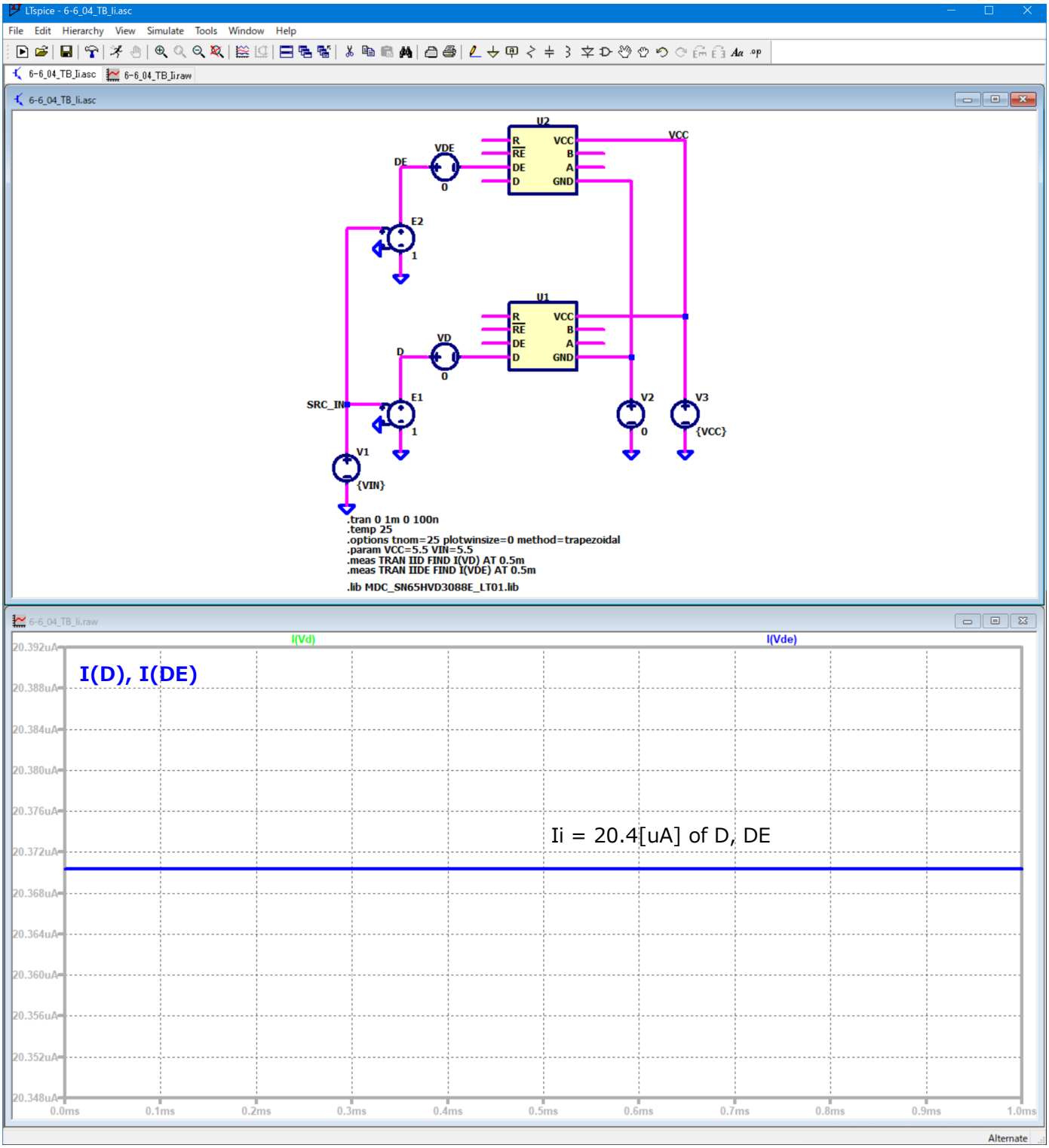
Testbench for Vod - Io (Vcc = 5V)



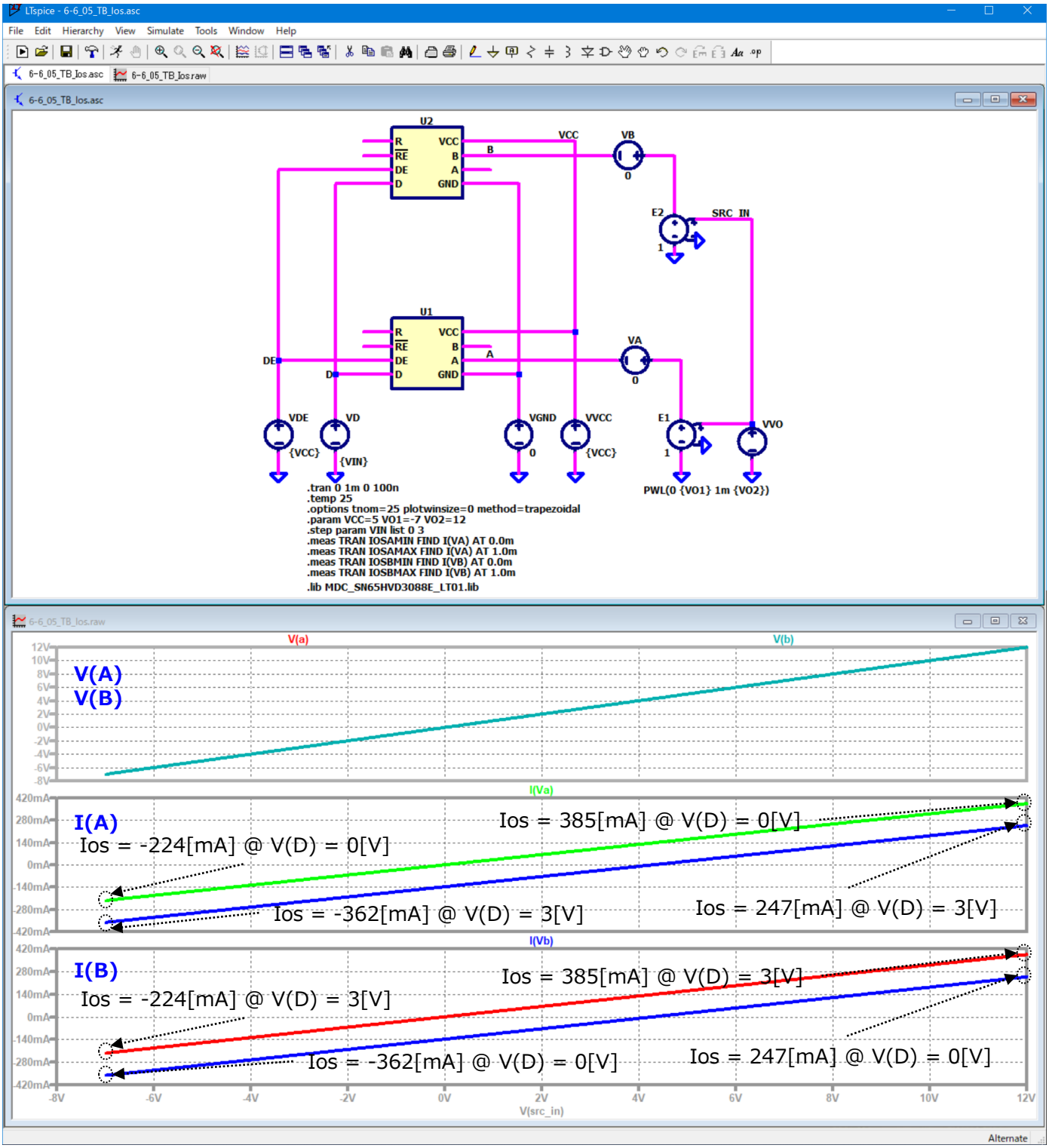
Testbench for Voc (Vcc = 5[V], Rload = 27[ohm], Cload = 50[pF])



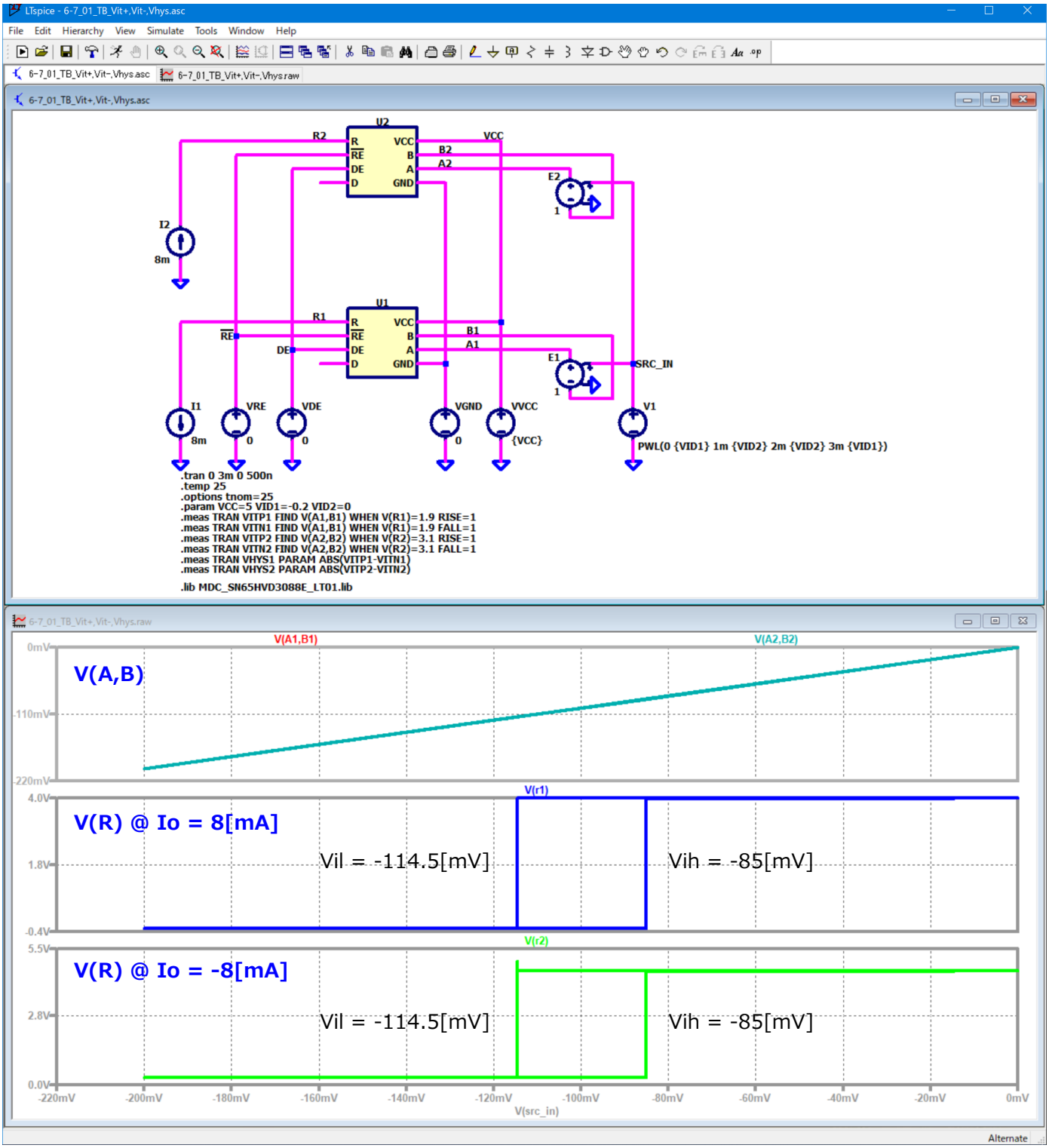
Testbench for Ii of D, DE (Vcc = 5V)



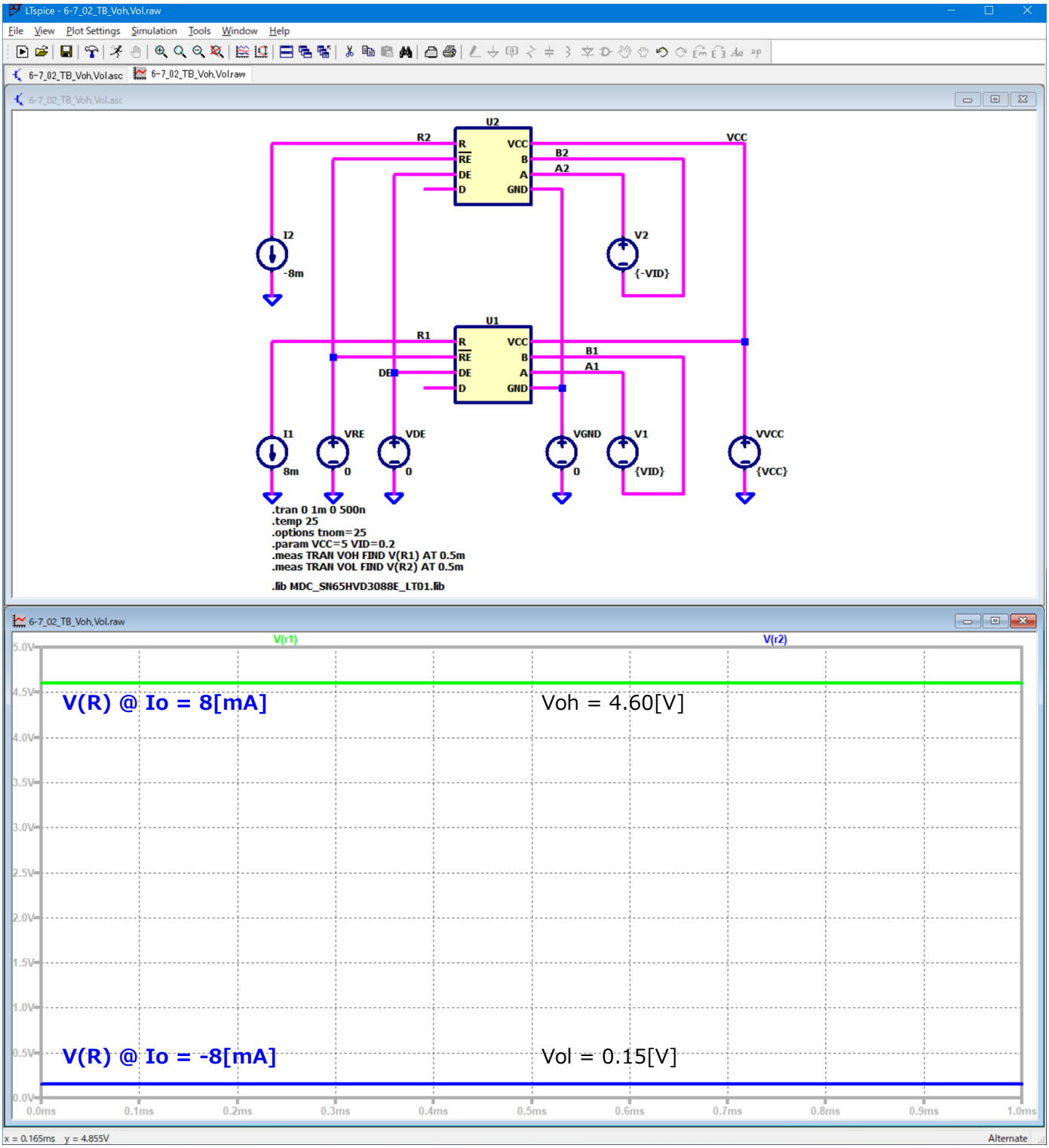
Testbench for Ios of D, DE (Vcc = 5V)



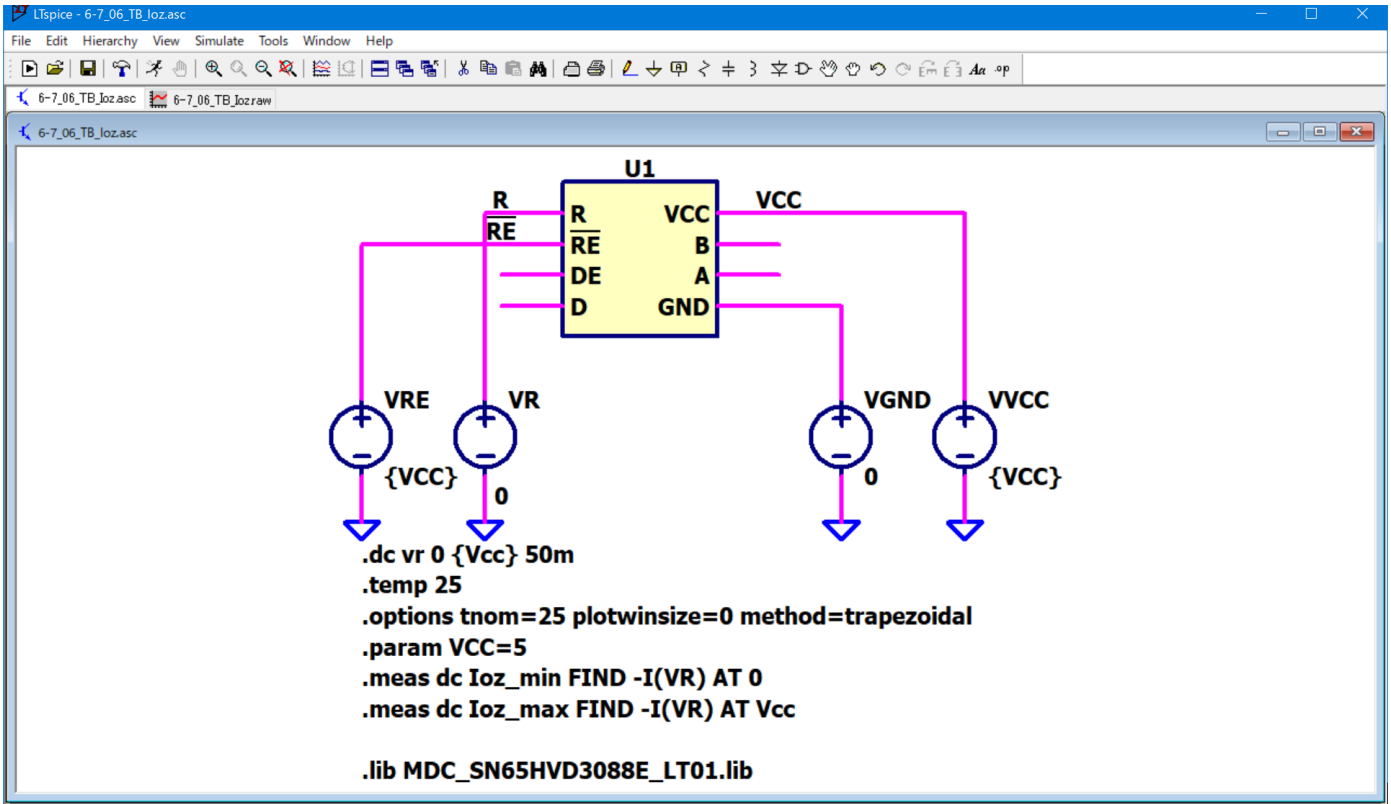
Testbench for Vit+, Vit-, Vhys (Vcc = 5V)

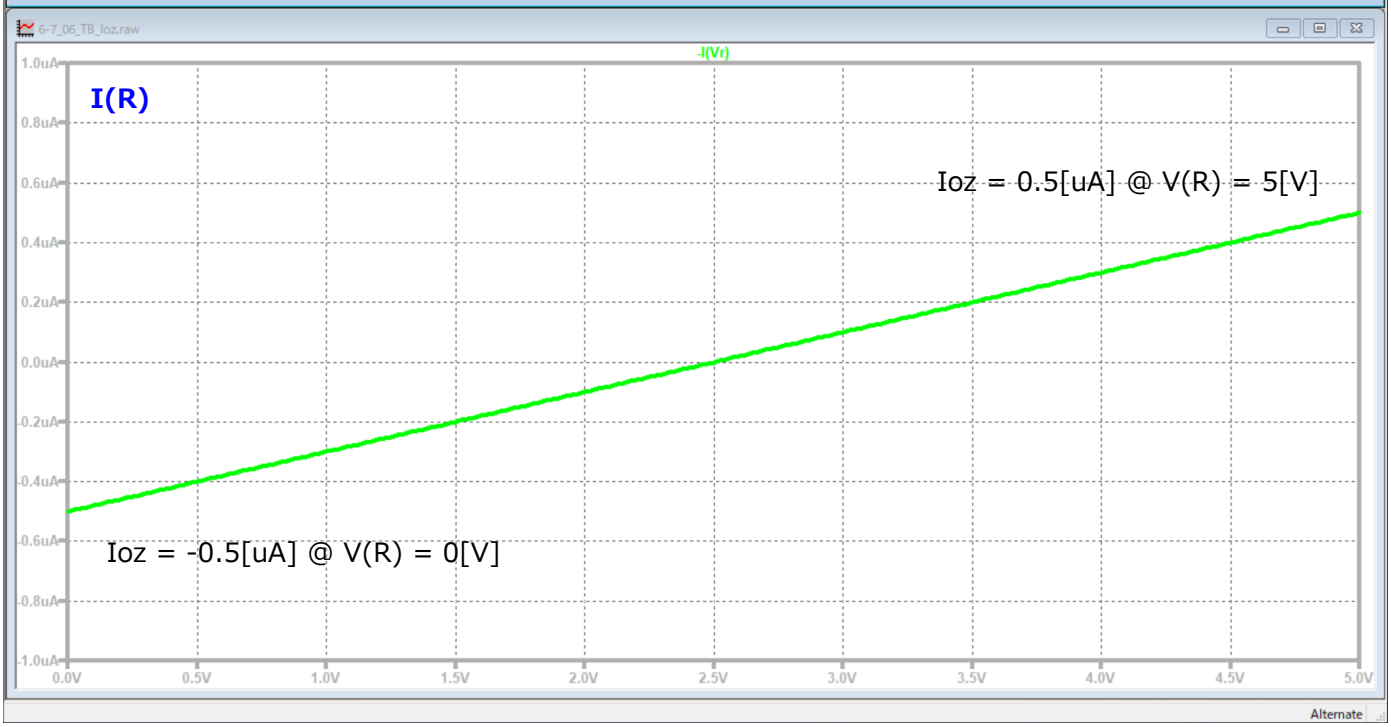


Testbench for Voh, Vol (Vcc = 5V)

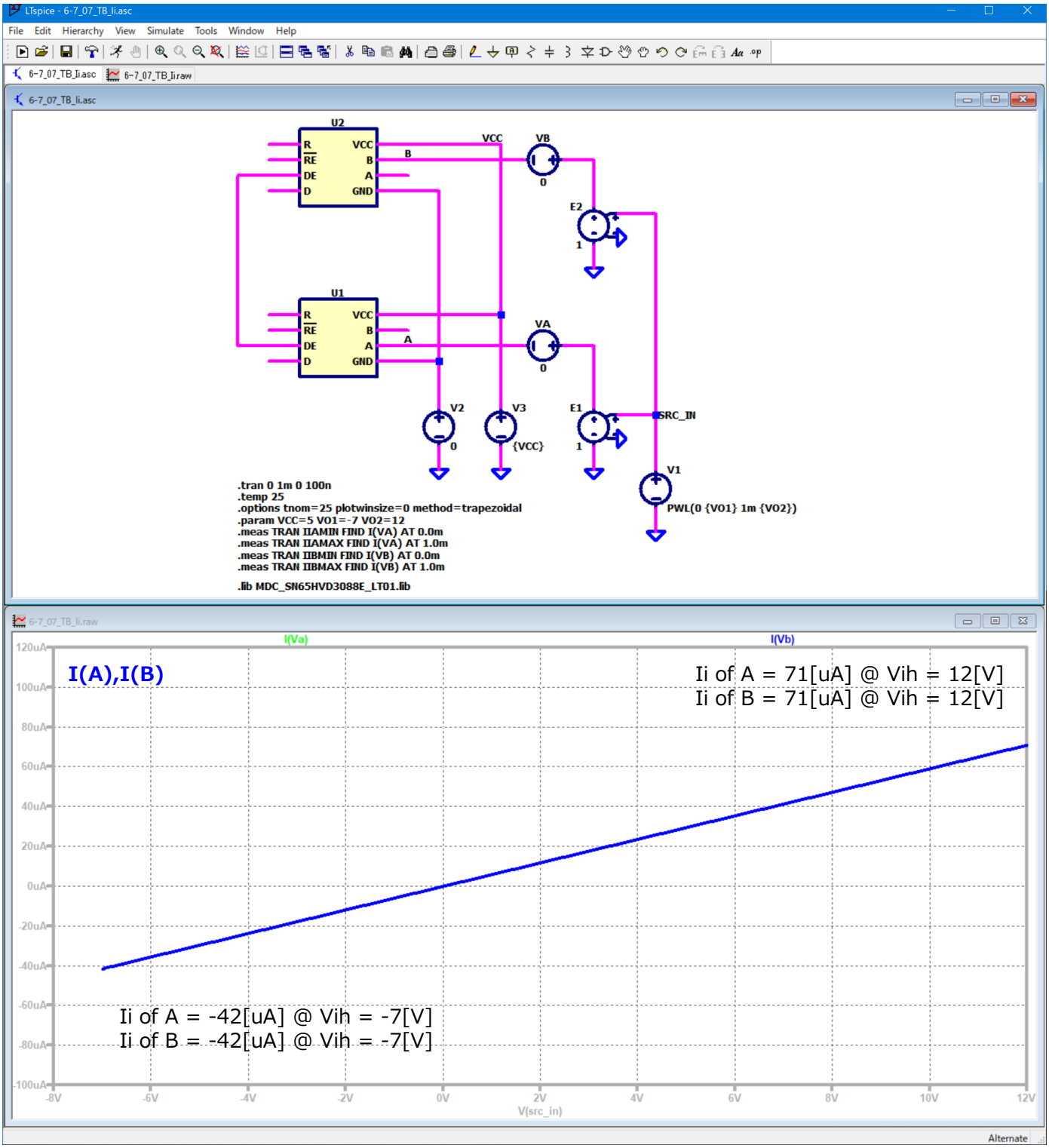


Testbench for Ioz (Vcc = 5V)

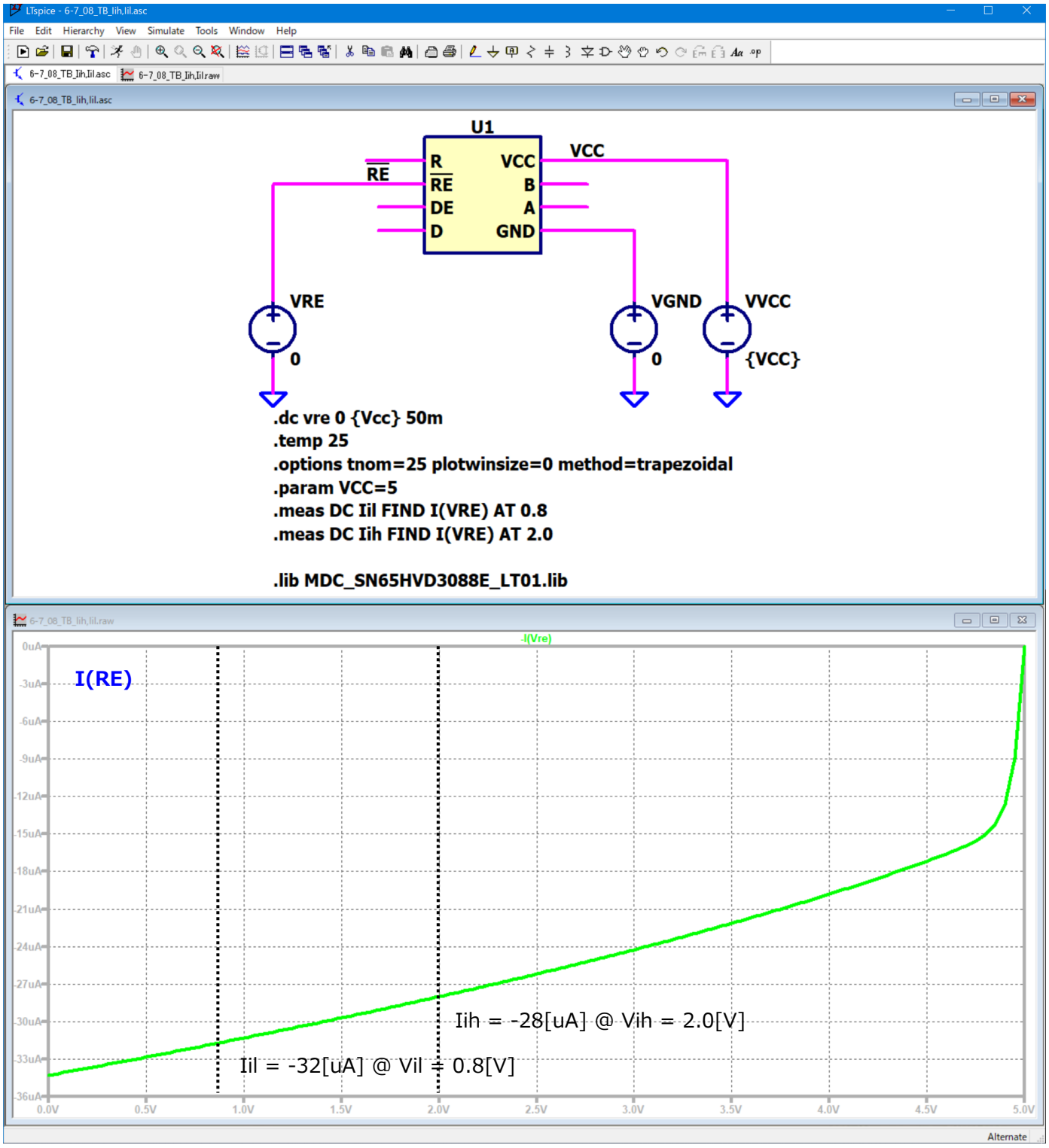




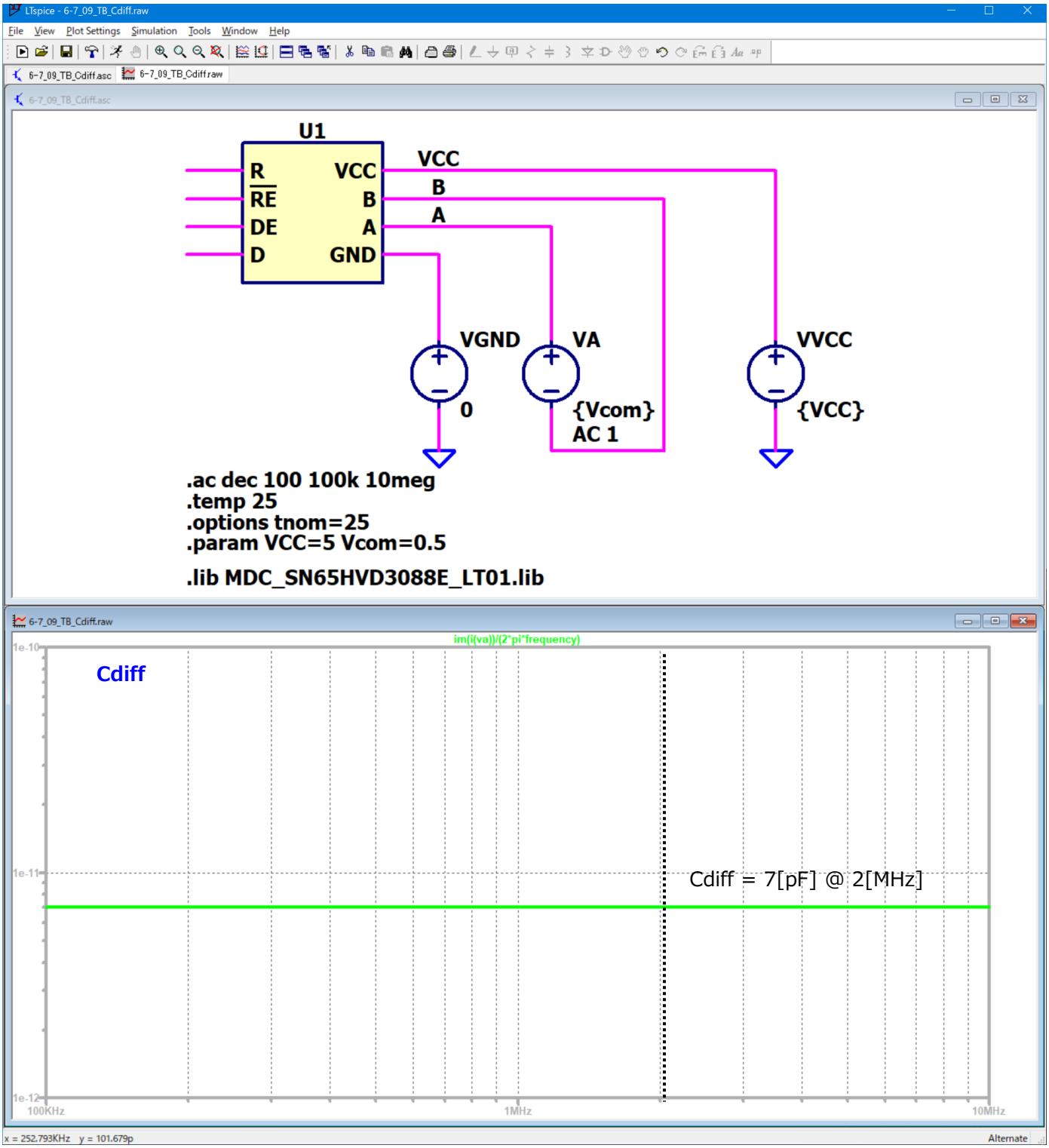
Testbench for Ii (Vcc = 5V)



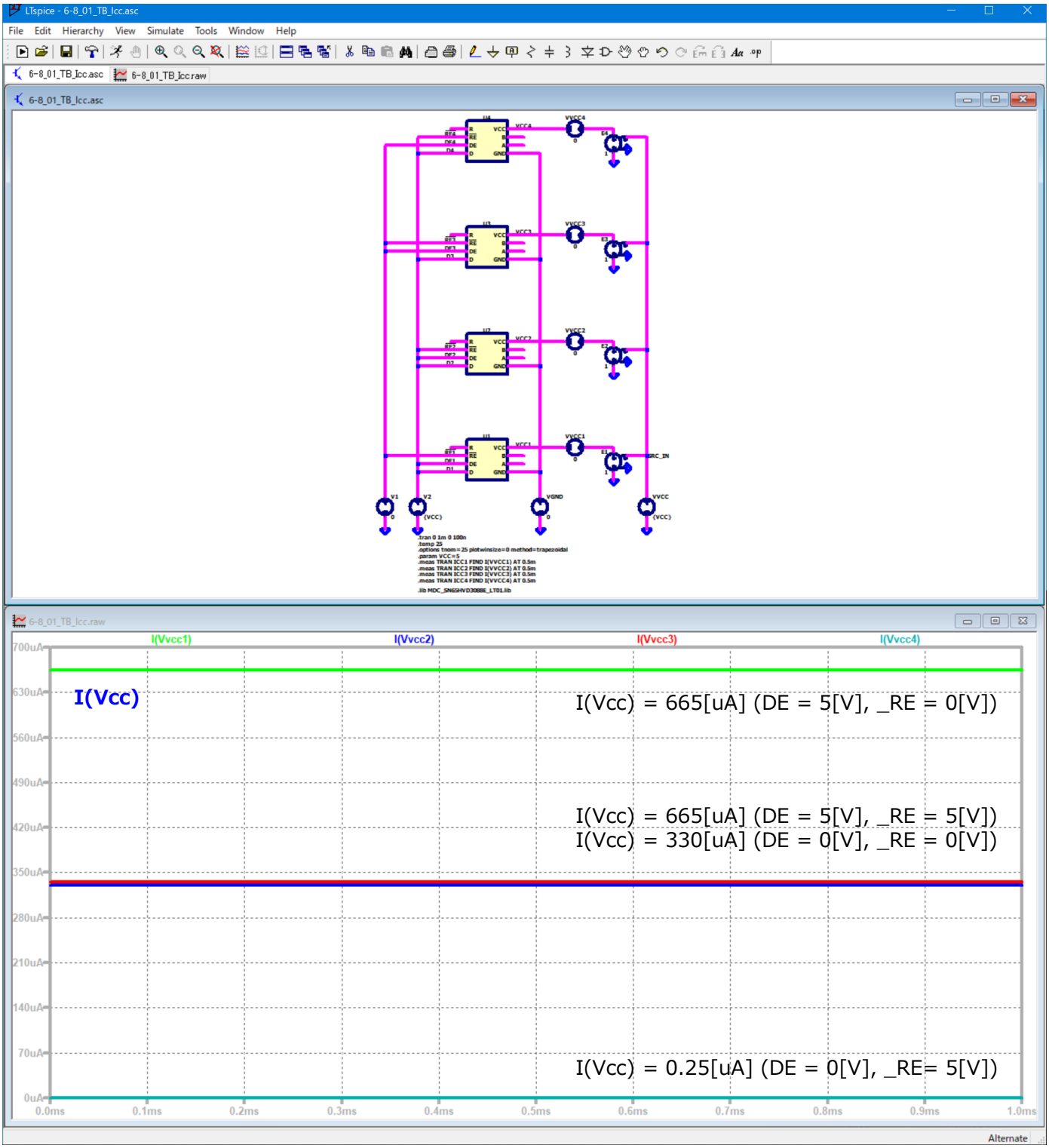
Testbench for Iih, Iil (Vcc = 5V)



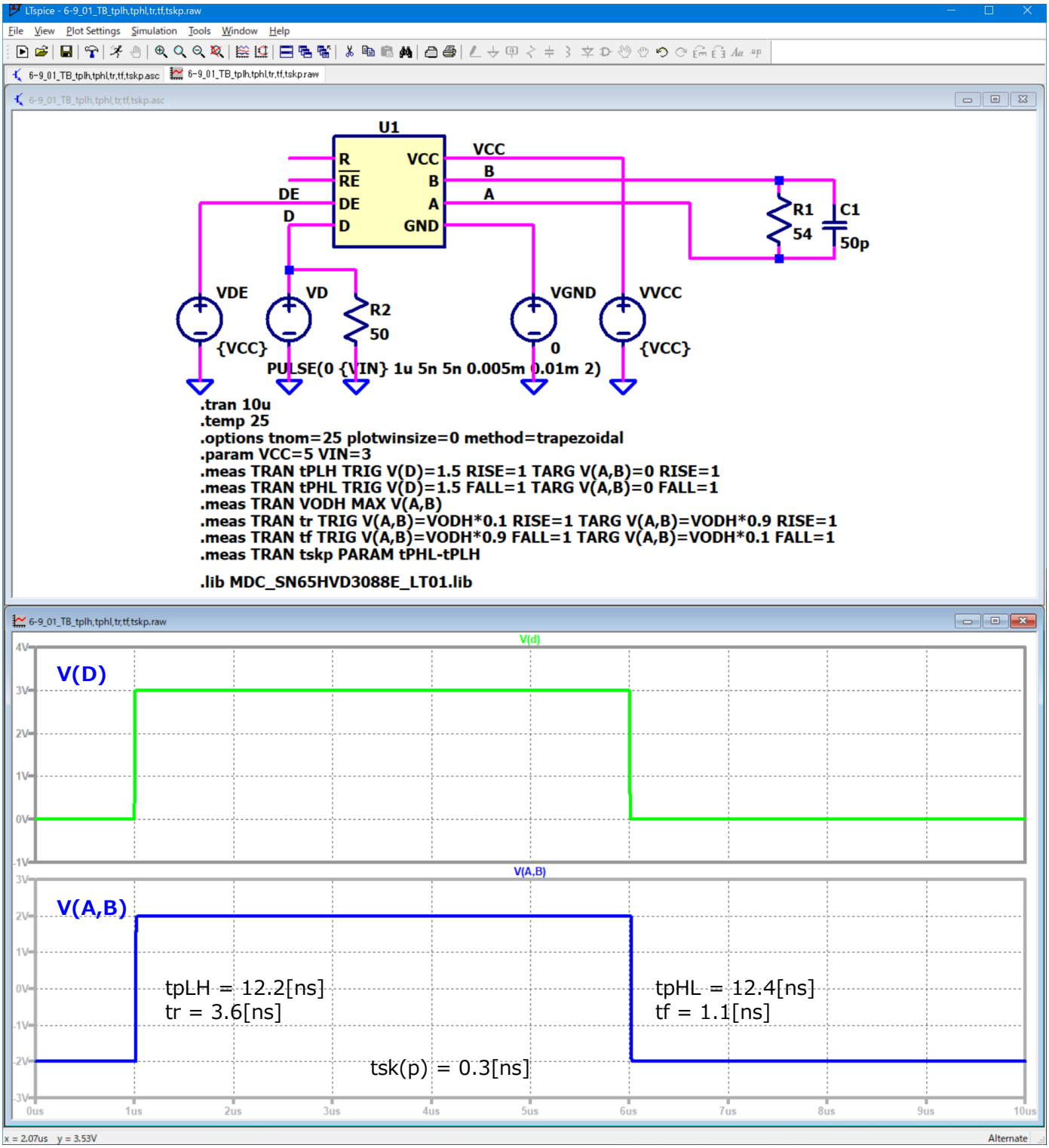
Testbench for Cdiff (Vcc = 5V, Fin = 2[MHz])



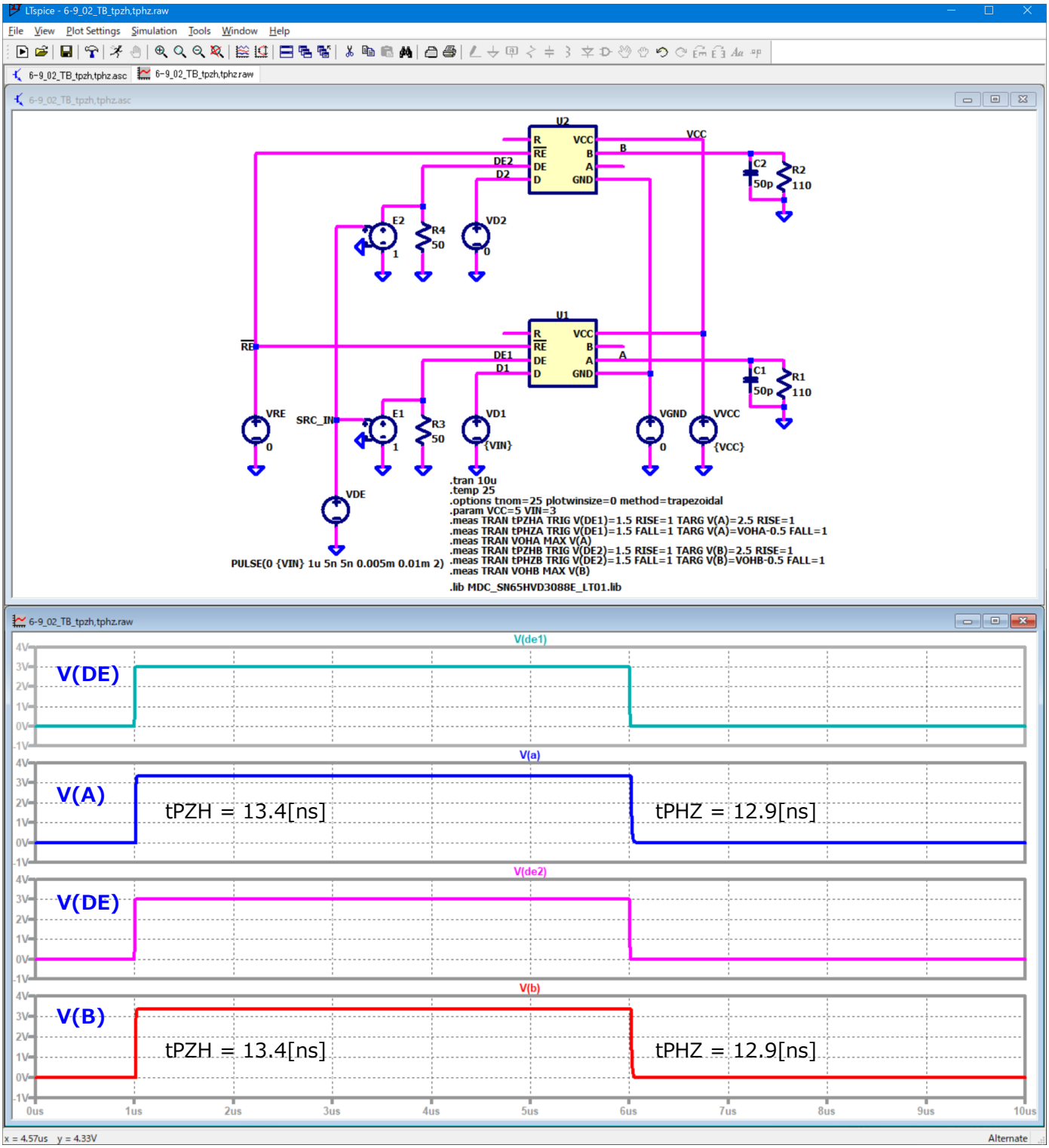
Testbench for Icc (Vcc = 5V)



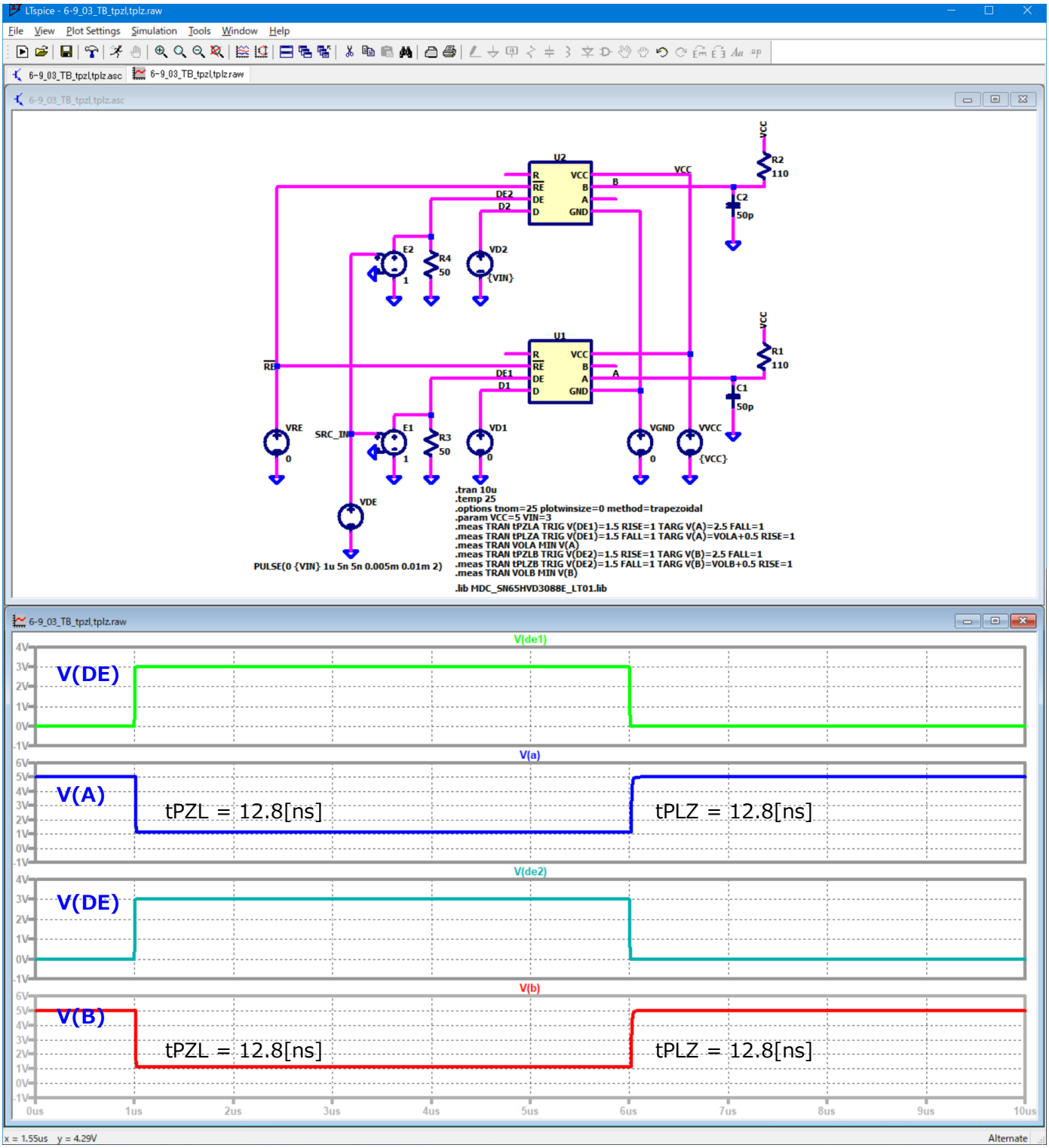
Testbench for tPLH, tPHL, tr, tf, tsk(p) of Driver (Vcc = 5V)



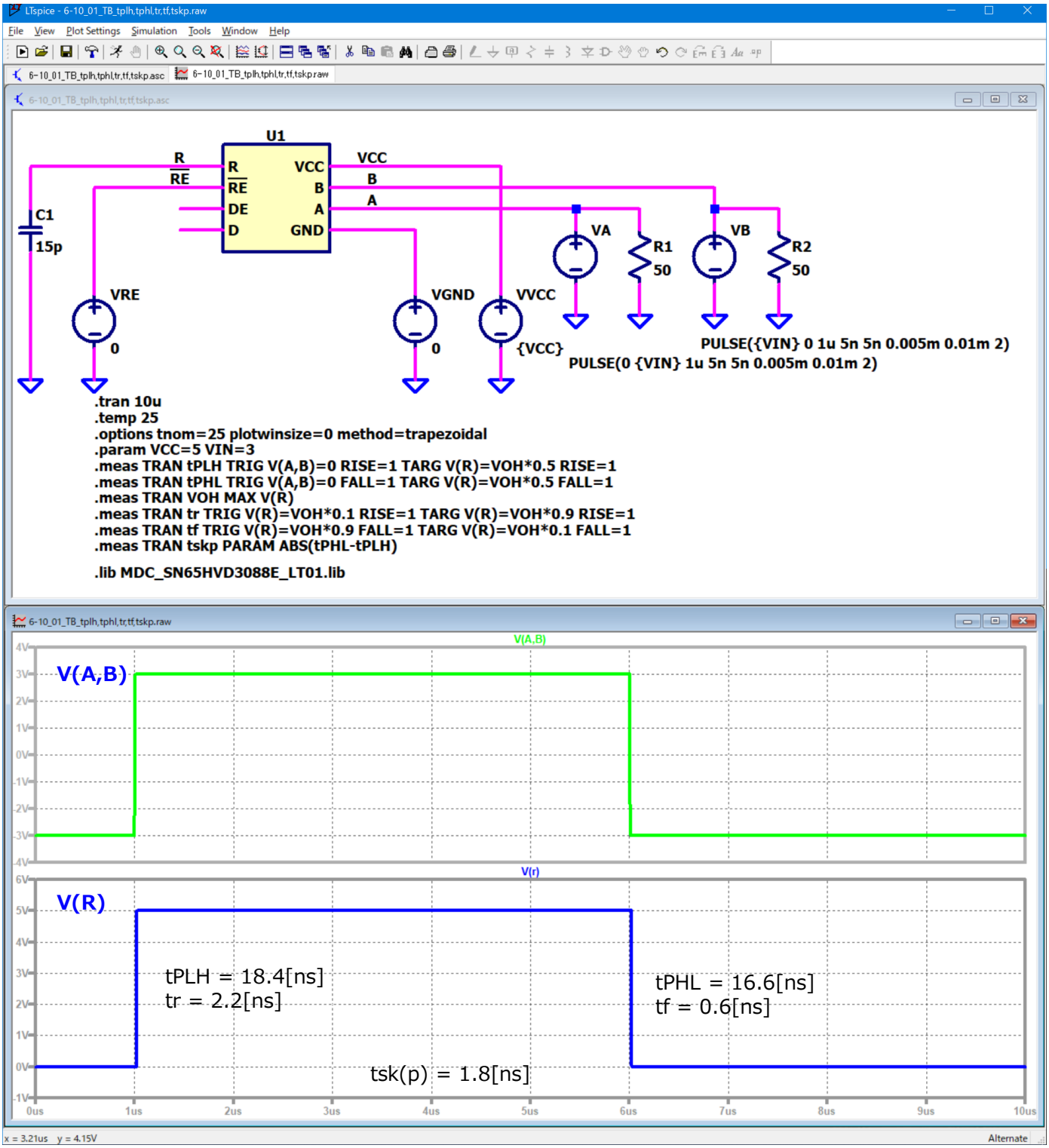
Testbench for tPZH, tPHZ of Driver (Vcc = 5V)



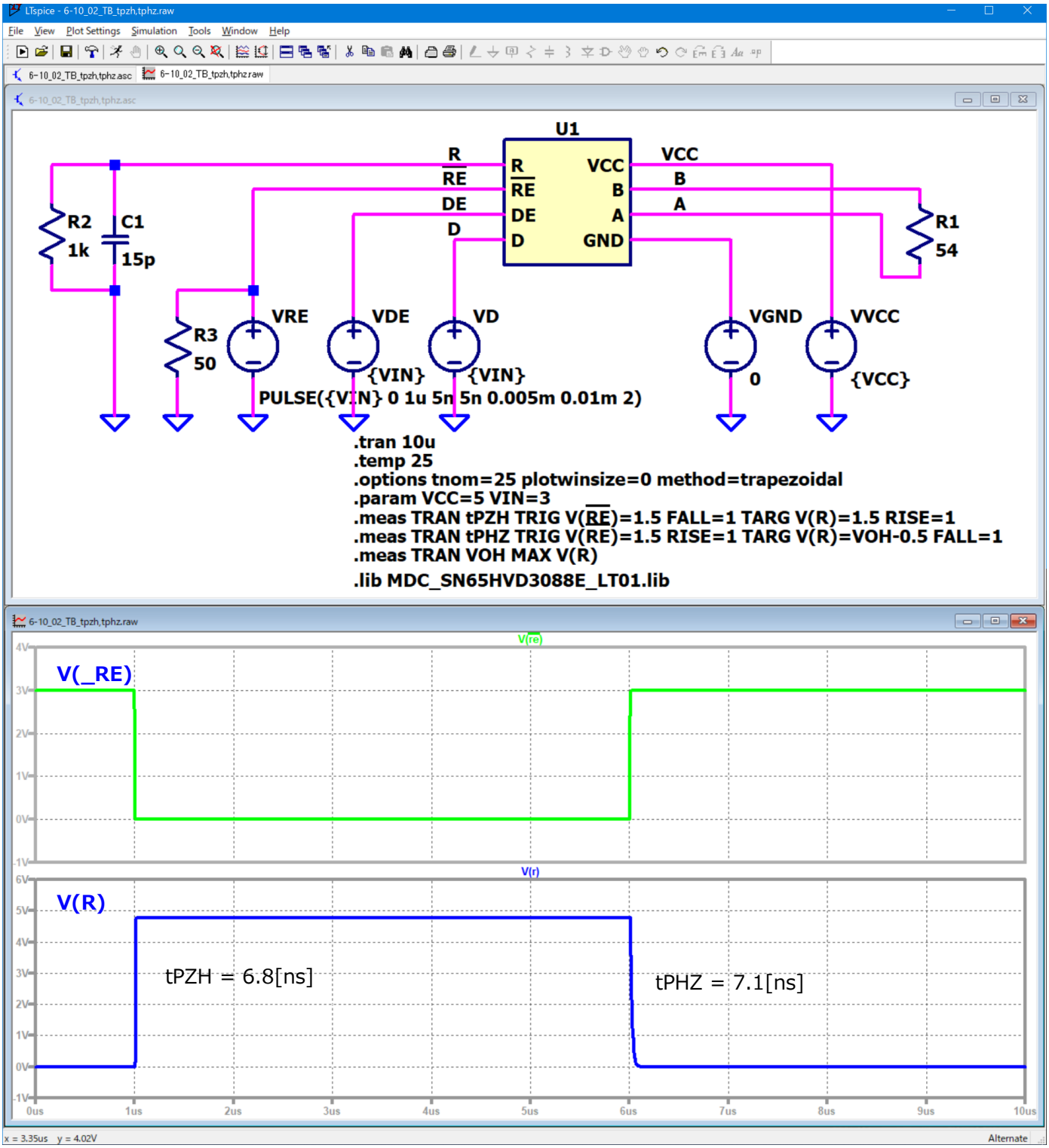
Testbench for tPZL, tPLZ of Driver (Vcc = 5V)



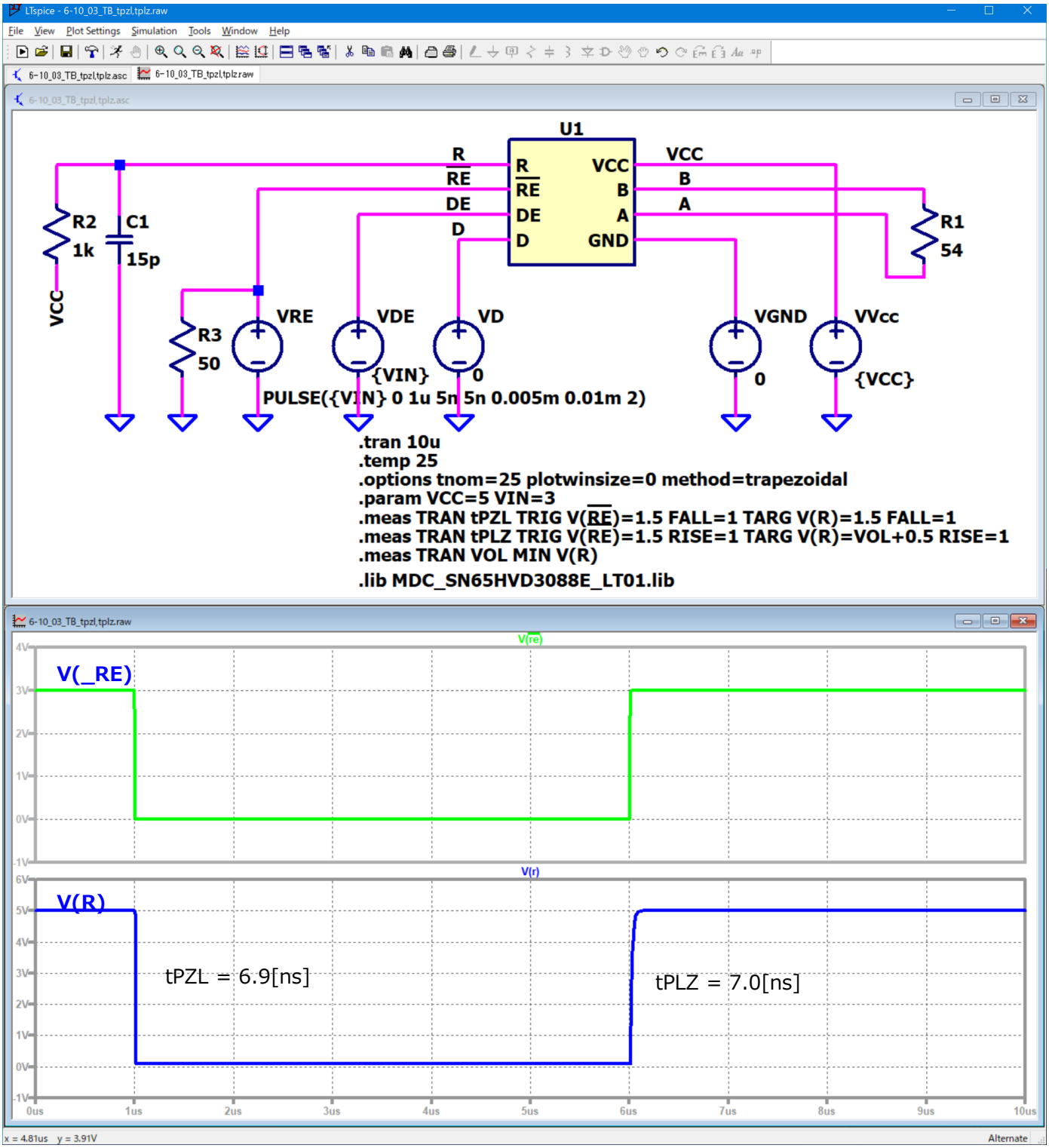
Testbench for tPLH, tPHL, tsk(p), tr, tf of Receiver (Vcc = 5V)



Testbench for tPZH, tPHZ of Receiver (Vcc = 5V)



Testbench for tPZL, tPLZ of Receiver (Vcc = 5V)



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