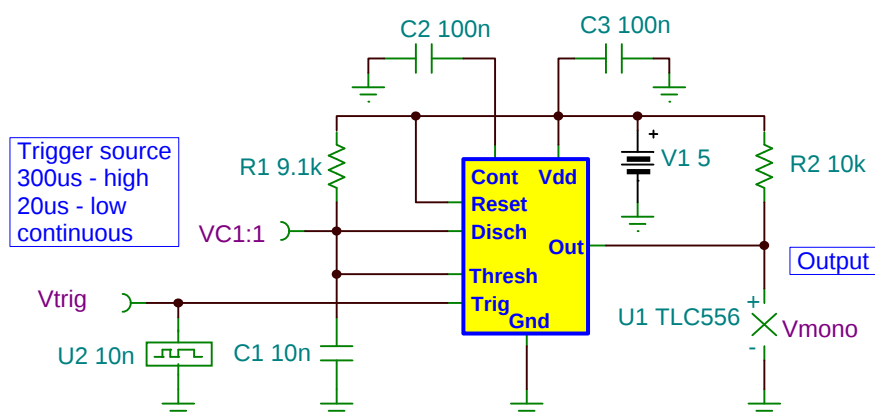


TINA-TI TLC556 Component Level Model Re

Monostable example - 100us output p

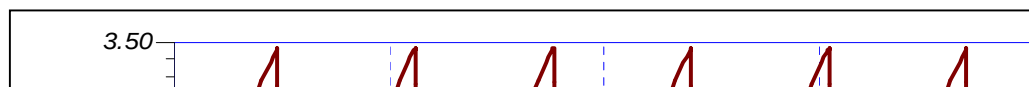


TEST BENCH DESCRIPTION:

1. The TLC556 macro-model is in unencrypted format.
2. This is a TLC556 component level Spice simulation model for TINA-TI. It is much more accurate than the standard model.
3. Above application circuit is developed to test the Monostable mode behaviour of the TLC556.
4. The monostable pulse duration time is approximately equal to: $t_w = 1.1 \times R1 \times C1$
5. The testbench for this model is based on the TLC556 datasheet SLFS047B.
C2 is set to 100nF in this example. When C2 has a value other than zero the time that it takes to stabilize is approximately 20ms with C2 set to 100nF. C2 is often included to help stabilize the output. An analysis time snapshot is made from 28ms to 30ms; after stabilization has occurred.
6. A Transient Analysis should be performed with "zero initial values" set. Otherwise, the simulation results may be affected by the initial conditions imposed by TINA for proper circuit starting.
7. The passive component quality and tolerance for R1 and C1, and C2 to a lesser extent, will affect the output pulse width.
8. If package number (symbol '9') becomes visible on pins of the IC, then to disable it, Go to Component >> Properties >> Package >> Disable.

SIMULATION INFO:

1. Go to Analysis >> Options and enable the following options
>> 'Disable warning for large size analysis'
>> 'Remember diagram settings'
2. Go to Analysis >> Set Analysis Parameters. Click on the hand symbol and Choose 'Default'.
3. For Transient Analysis: Go to Analysis >> Transient >> Choose Start & End Display as 28ms to 30ms. Enable 'Zero initial values'. Ensure that 'Draw excitation' check box is checked. To run simulation, click on the play button.
4. This simulation takes few seconds to complete on a 4 core 2.8GHz machine.
5. If the waveforms are not clearly visible, in Diagram window, go to View >> Normal zoom.



Reference Circuit

Pulse

Title TLC556 DUAL LinCMOS TIMER			
Size	Document No. Datasheet: SLFS047B		Rev 1.0
Date	June 13, 2011	Sheet 1 of 1	

accurate model than the behavioral type simulation models.
556 macro-model.

takes the pulse duration to stabilize. For example, the pulse duration
p reduce noise on the Control (Cont) input. Note that the Transient
mulation may not start. This is not a model problem, but constraints
will affect the monostable mode pulse duration.
> View >> Package Numbers option and uncheck it.

ult'.
25m & 30m respectively.
mulation, click OK.



