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# Test Procedure for the NCP4305 Put-In Board D2PAK DN05070

ON Semiconductor®



02/03/2015

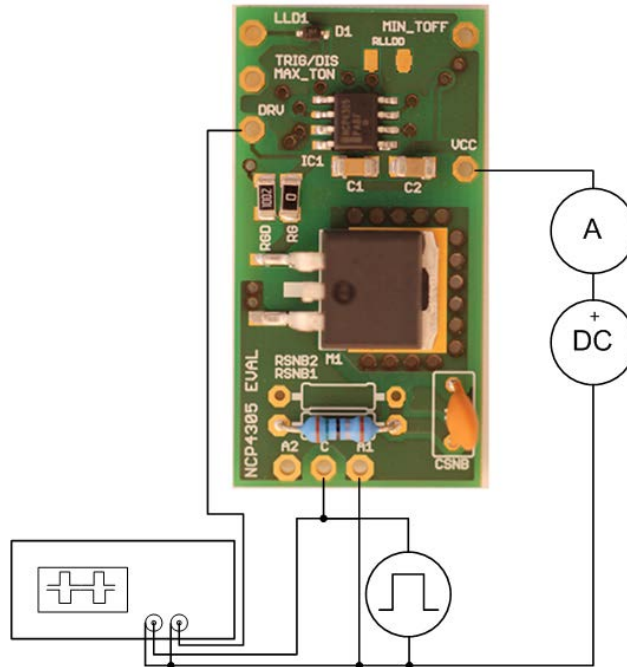


Figure 1: Test Setup

The following steps describe the test procedure for all these boards:

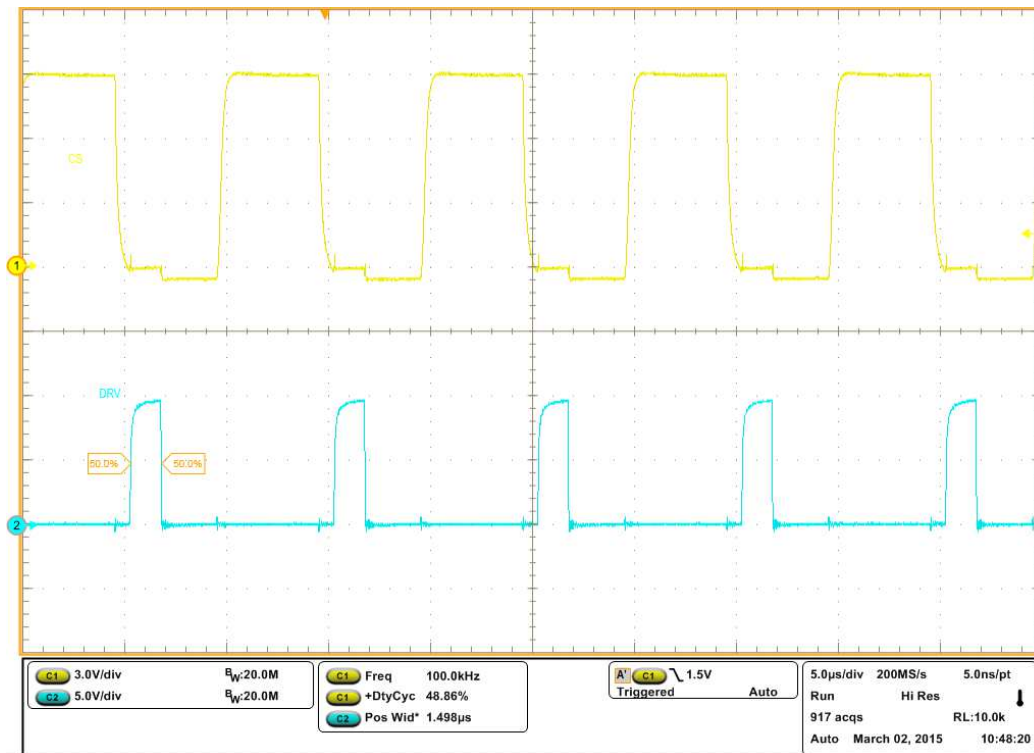
## Required Equipment:

DC voltage source (e.g. STATRON 2229) .....	1pc
DC Amp-Meter (e.g. KEITHLEY 2000).....	1pc
Function generator (e.g. AFG3252) .....	1pc
2 channel oscilloscope .....	1pc

## Test Procedure:

1. Connect the test setup as shown in figure 1.
2. Apply an supply voltage,  $V_{CC} = 12\text{ V}$
3. Apply pulse from generator (pulse,  $f = 100\text{ kHz}$ ,  $DC = 50\%$ ,  $V_{LOW} = -1\text{ V}$ ,  $V_{HIGH} = 9\text{ V}$ , output impedance = high Z)
4. Check that  $I_{CC} = 9.4\text{ mA}$ , waveforms look like in figure 2 (DRV pulse may oscillate between 1.5 us and 5 us)
5. Set DC to 17%

6. Check that  $I_{CC} = 1.4 \text{ mA}$ , waveforms look like in figure 3 (no DRV pulses)
7. Set DC to 90%
8. Check that  $I_{CC} = 9.4 \text{ mA}$ , waveforms look like in figure 4 (DRV pulses width is  $1.5 \text{ us}$ )
9. Set DC to 97%, frequency to  $5 \text{ kHz}$
10. Check that  $I_{CC} = 1.4 \text{ mA}$ , waveforms look like in figure 5 (DRV pulses width is  $\sim 5 \text{ us}$ , DRV amplitude decrease to  $\sim 5 \text{ V}$ )
11. Set DC to 99%, frequency to  $1 \text{ kHz}$ ,  $V_{CC} = 9 \text{ V}$
12. Check that  $I_{CC} = 75 \text{ uA}$ , waveforms look like in figure 6 (no DRV pulses)
13. Turn off  $V_{CC}$
14. End of the test



**Figure 2:  $V_{CC} = 12 \text{ V}$ ,  $f = 100 \text{ kHz}$ ,  $DC = 50\%$ ,  $V_{LOW} = -1 \text{ V}$ ,  $V_{HIGH} = 9 \text{ V}$**

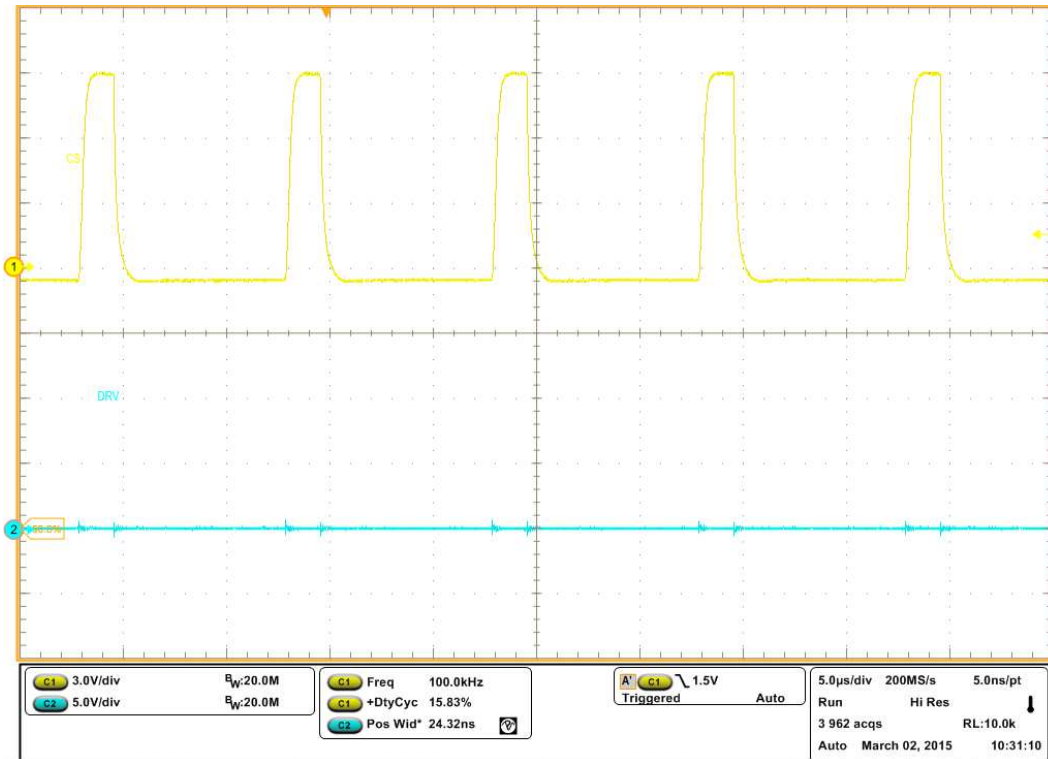


Figure 3:  $V_{CC} = 12\text{ V}$ ,  $f = 100\text{ kHz}$ ,  $DC = 17\%$ ,  $V_{LOW} = -1\text{ V}$ ,  $V_{HIGH} = 9\text{ V}$

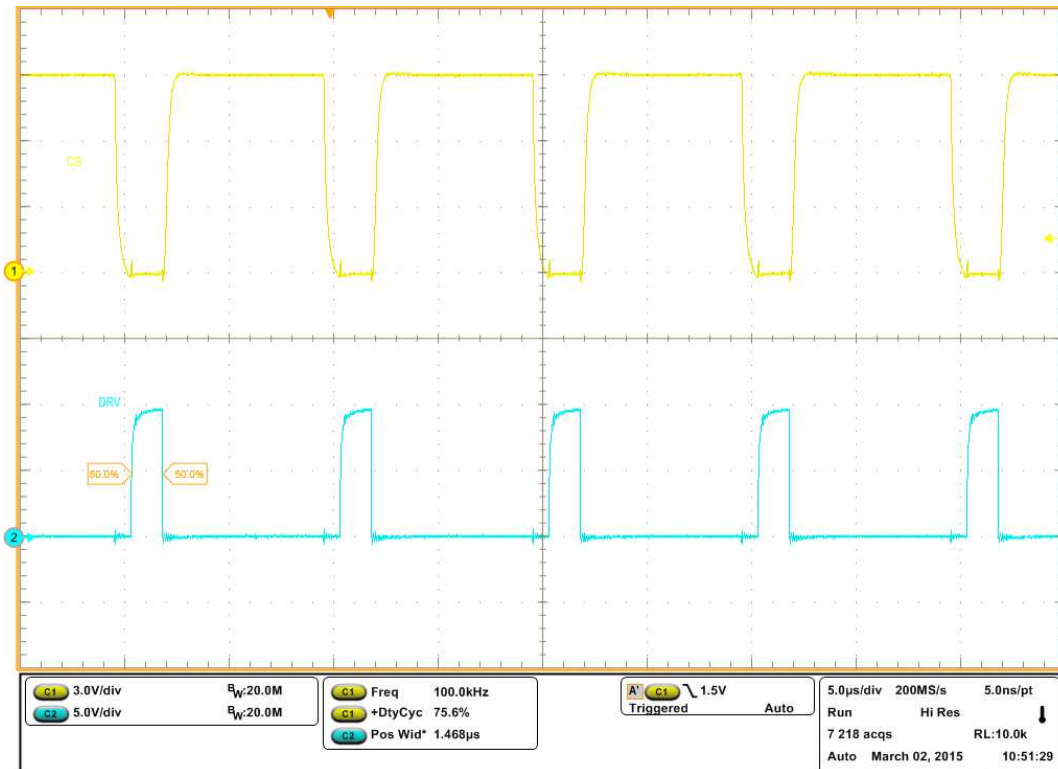


Figure 4:  $V_{CC} = 12\text{ V}$ ,  $f = 100\text{ kHz}$ ,  $DC = 90\%$ ,  $V_{LOW} = -1\text{ V}$ ,  $V_{HIGH} = 9\text{ V}$

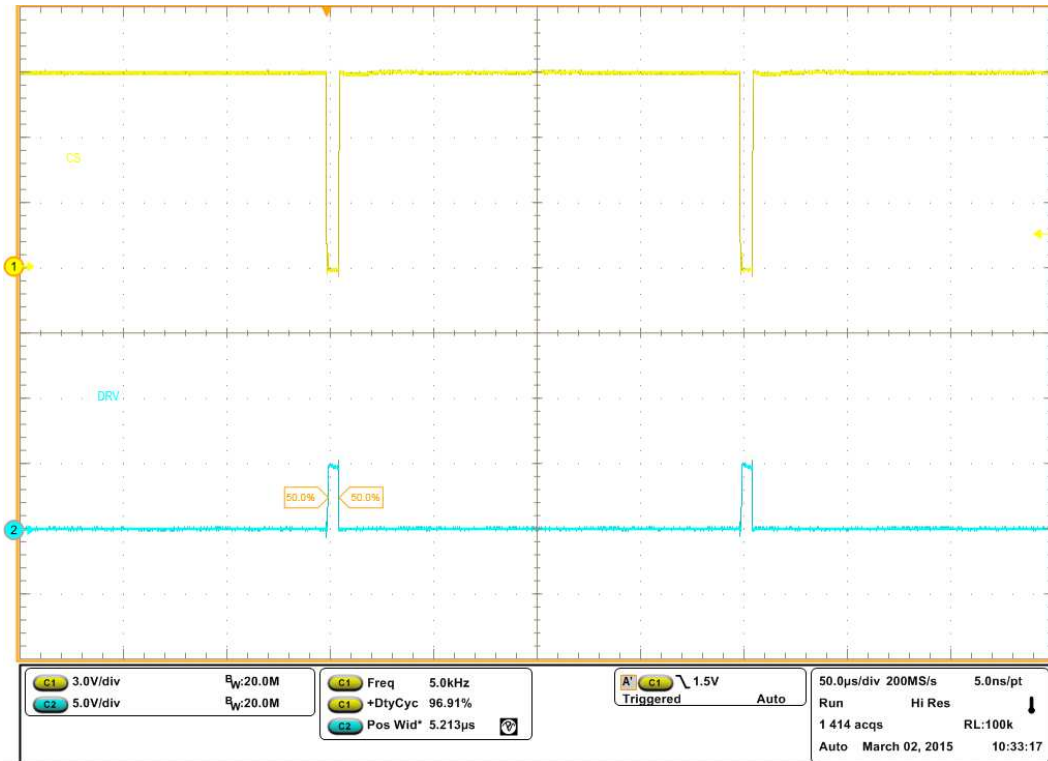


Figure 5:  $V_{CC} = 12\text{ V}$ ,  $f = 5\text{ kHz}$ ,  $DC = 97\%$ ,  $V_{LOW} = -1\text{ V}$ ,  $V_{HIGH} = 9\text{ V}$

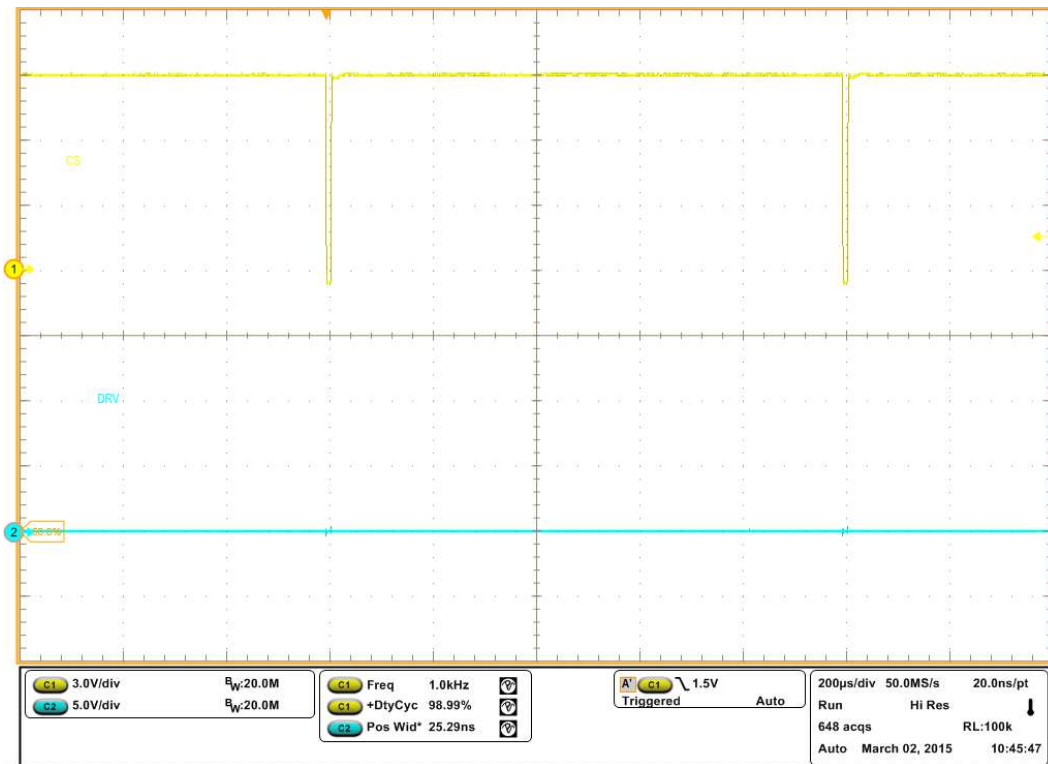


Figure 6:  $V_{CC} = 9\text{ V}$ ,  $f = 1\text{ kHz}$ ,  $DC = 99\%$ ,  $V_{LOW} = -1\text{ V}$ ,  $V_{HIGH} = 9\text{ V}$