

Test Procedure for the NCP4305 Put-In Board D2PAK DN05070

ON Semiconductor®



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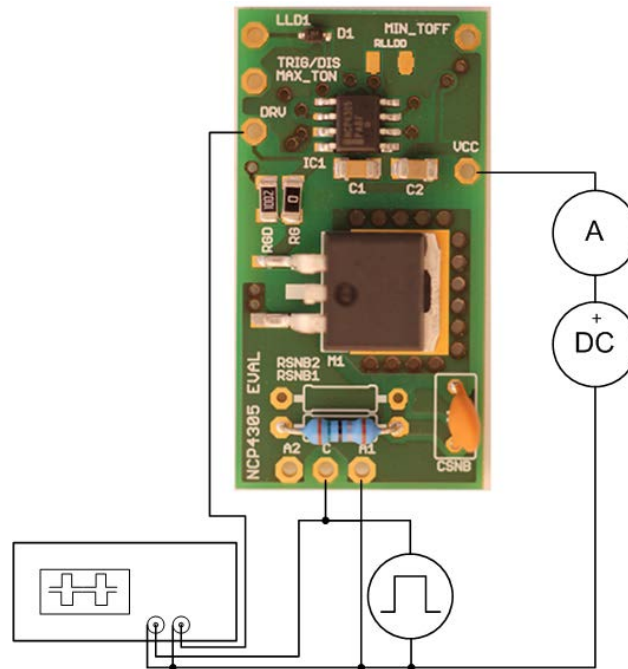


Figure 1: Test Setup

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 oscilloscope1pc

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 us)
9. Set DC to 97%, frequency to 5 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 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

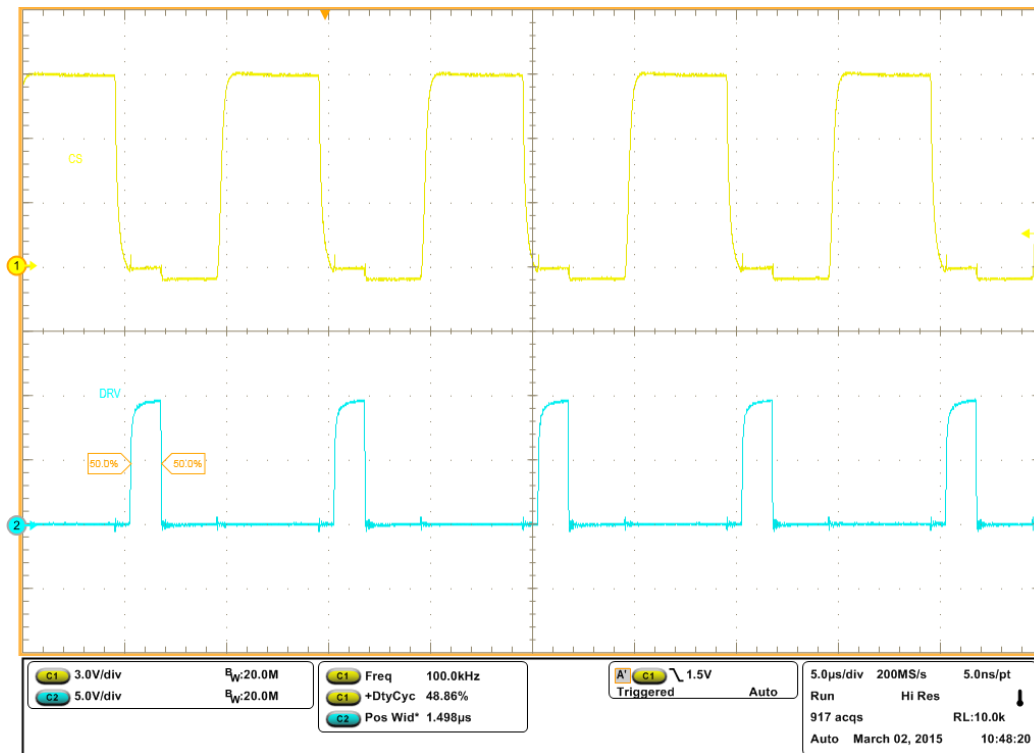


Figure 2: $V_{CC} = 12 \text{ V}$, $f = 100 \text{ kHz}$, $\text{DC} = 50\%$, $V_{\text{LOW}} = -1 \text{ V}$, $V_{\text{HIGH}} = 9 \text{ V}$

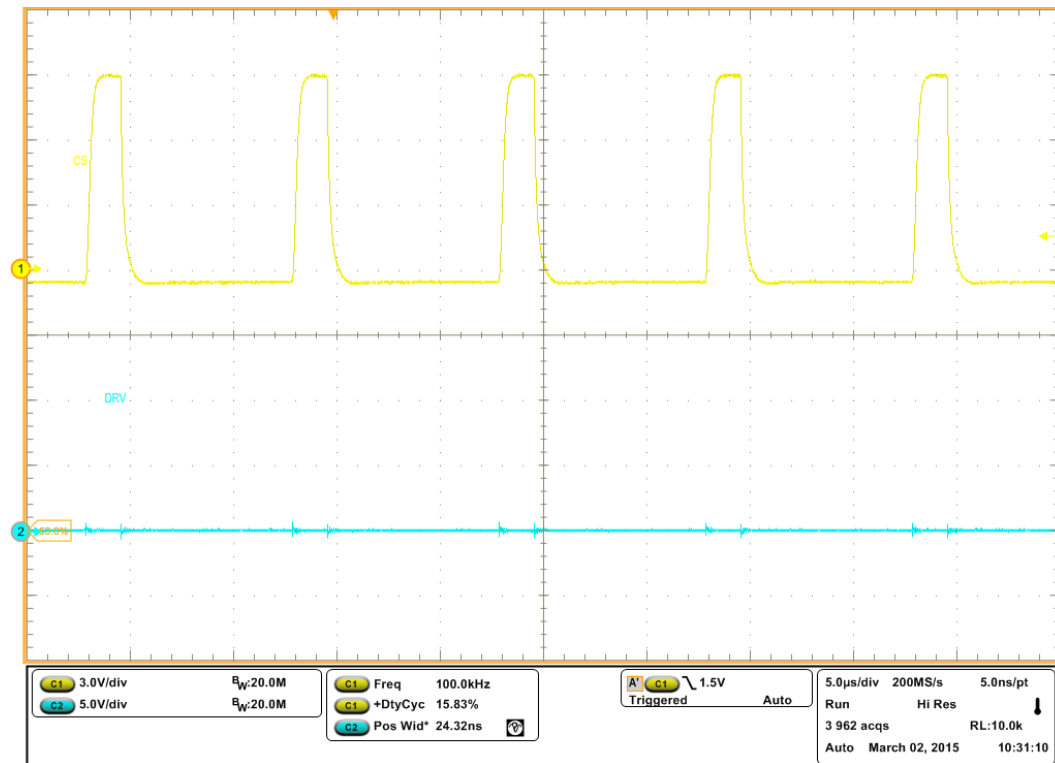


Figure 3: $V_{CC} = 12\text{ V}$, $f = 100\text{ kHz}$, DC = 17%, $V_{LOW} = -1\text{ V}$, $V_{HIGH} = 9\text{ V}$

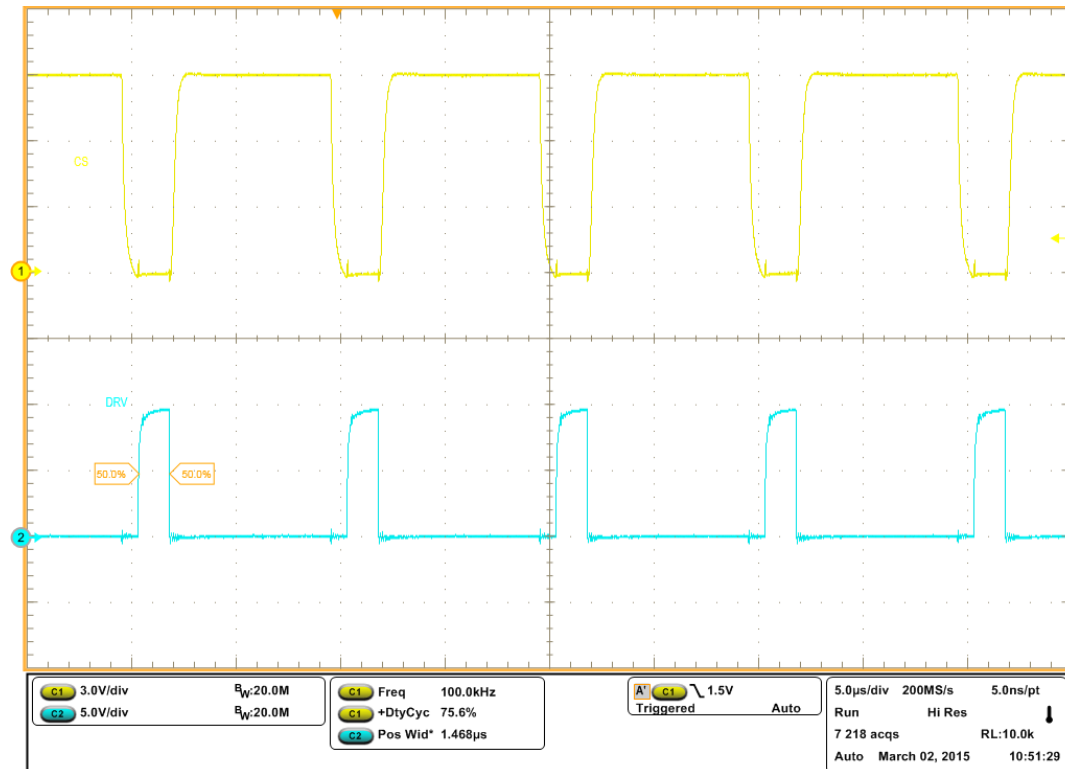


Figure 4: $V_{CC} = 12\text{ V}$, $f = 100\text{ kHz}$, DC = 90%, $V_{LOW} = -1\text{ V}$, $V_{HIGH} = 9\text{ V}$

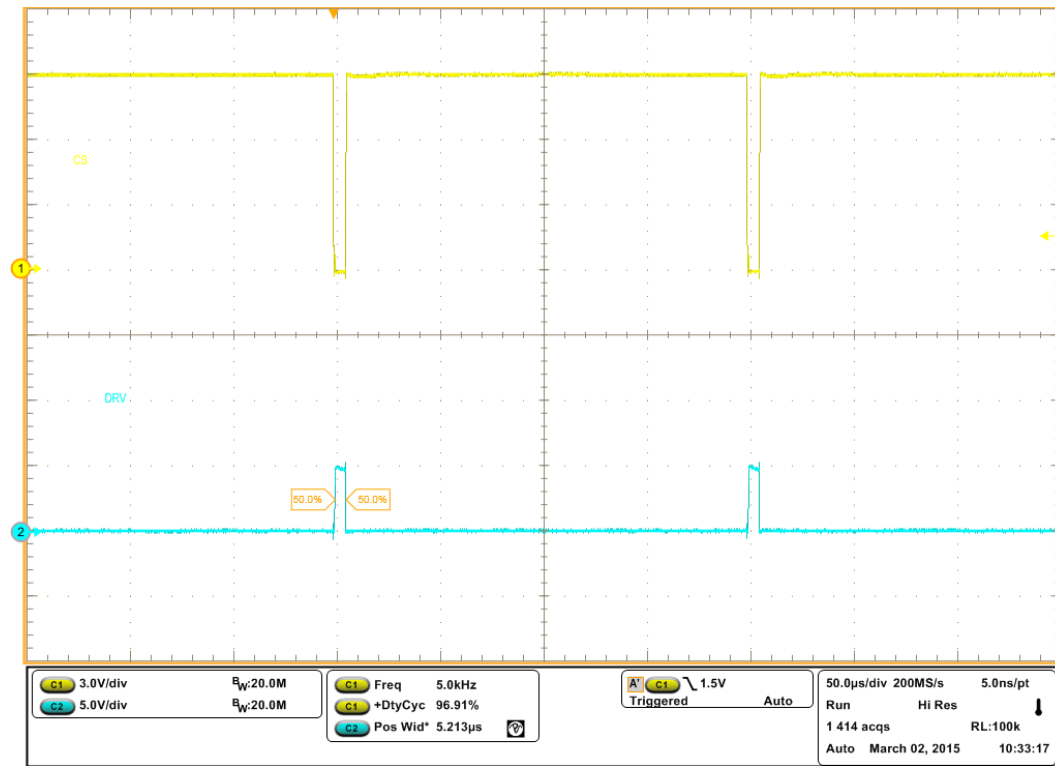


Figure 5: $V_{CC} = 12\text{ V}$, $f = 5\text{ kHz}$, $DC = 97\%$, $V_{LOW} = -1\text{ V}$, $V_{HIGH} = 9\text{ V}$

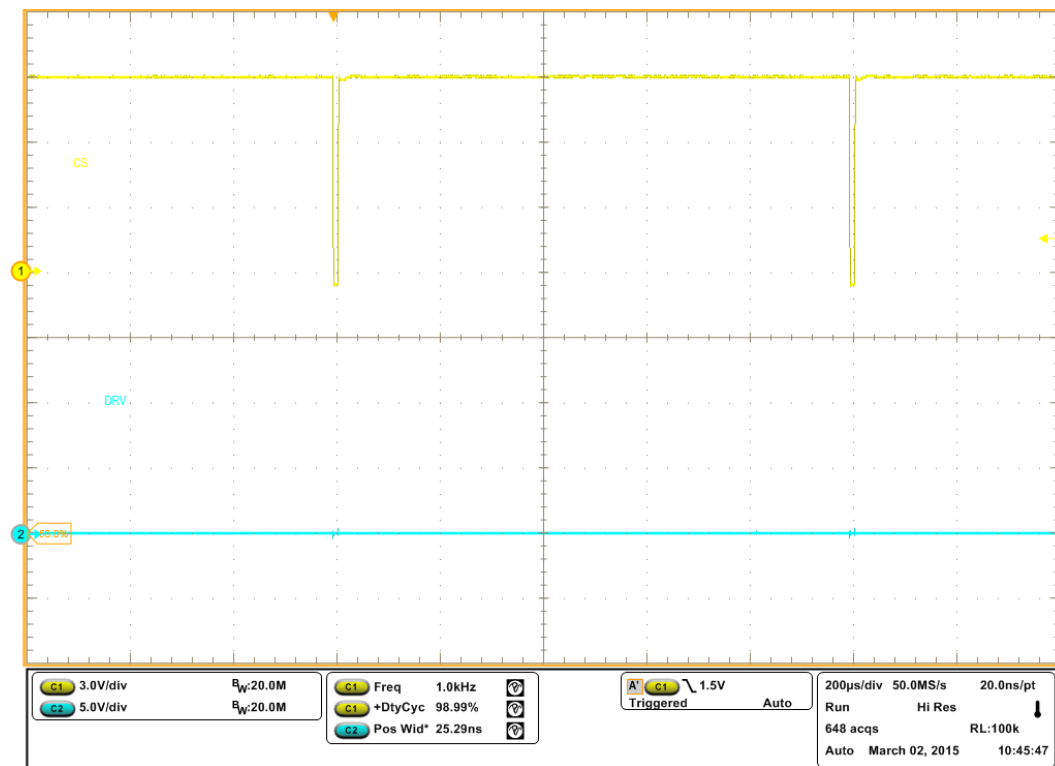


Figure 6: $V_{CC} = 9\text{ V}$, $f = 1\text{ kHz}$, $DC = 99\%$, $V_{LOW} = -1\text{ V}$, $V_{HIGH} = 9\text{ V}$