



Test Procedure for the NCV308 Evaluation Board

The NCV308 series is one of the ON Semiconductor Supervisory circuit IC families. It is optimized to monitor system voltages from 0.405 V to 5.5 V, asserting an active low open-drain RESET output. The device has a Manual Reset (MR) Input and programmable Reset Delay Rime. The part comes with both fixed and externally adjustable versions.

Necessary Equipment:

- 3x Power Supply up to 10 V with current limitation up to 10 mA
- 2x DC Volt-Meter able to measure up to 10 V DC
- 1x Arbitrary function generator (optional)
- 1x Oscilloscope (optional)

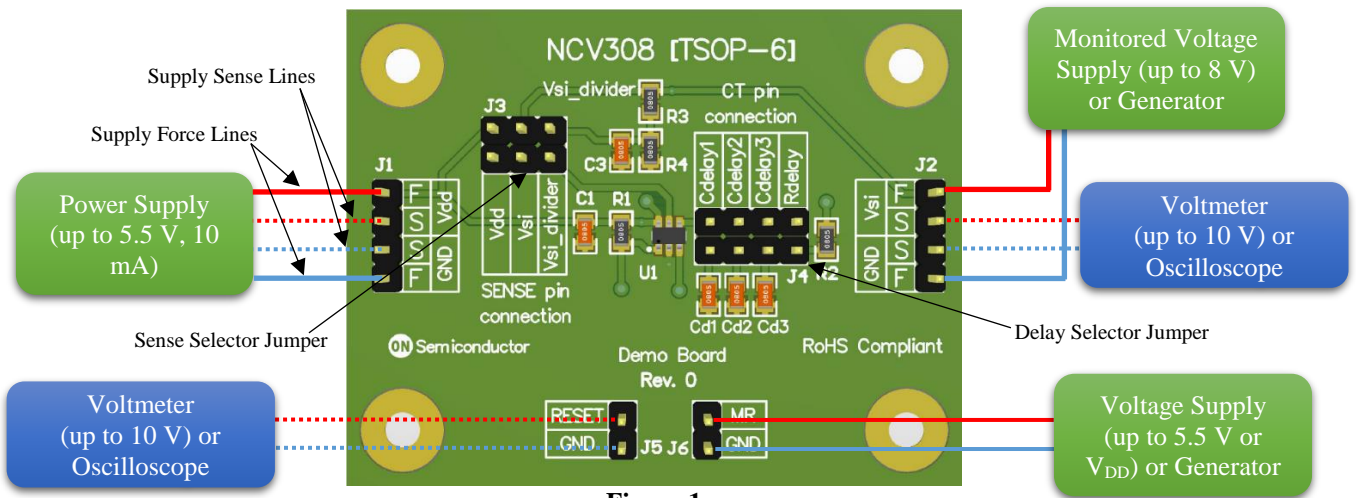


Figure 1

Test Procedure:

1. Connect the test setup as shown in Figure 1.
2. Set the Power Supply to any value between 1.6 and 5.5 V with current limitation of 10 mA.
3. Select the monitored voltage rail with jumper J₃ – the circuit’s own V_{DD}, an external V_{si} signal or V_{si} through a voltage divider (the default dividing ratio is 1:2, but resistors R₃ and R₄ could be replaced to reconfigure the voltage divider).
4. Set jumper J₄ to select the desired Reset Delay Time:
 - Open – fixed ~ 20 ms;
 - R_{delay} – fixed ~ 300 ms;
 - C_{delay1} ~ 1.25 ms;
 - C_{delay2} ~ 6.5 ms;
 - C_{delay3} ~ 5.7 s.

To change the Reset Delay Time, the device should be turned OFF and ON again to clear the internal memory registers. Capacitors C_{d1}, C_{d2} and C_{d3} could be replaced to achieve different delays between 1.25 ms and 10 s.



5. Set the V_{si} voltage above the Sense Threshold Voltage (1.67 V by default) without exceeding the Sense pin's maximum rating at 8 V.
6. Generate Reset Signal:
 - a. Apply voltage pulses below Sense Threshold on V_{si} . The Reset Output shall go low if the applied voltage is lower than the threshold and return to high after the specified delay, if the voltage is above the threshold again.
 - b. Manual Reset can be generated by setting the MR pin to logic low voltage. The Reset Output will return to high after the selected delay, when you release the MR pin. If not used, the MR pin should be left open.
 - c. The expected behavior of the device can be seen in Figure 2.

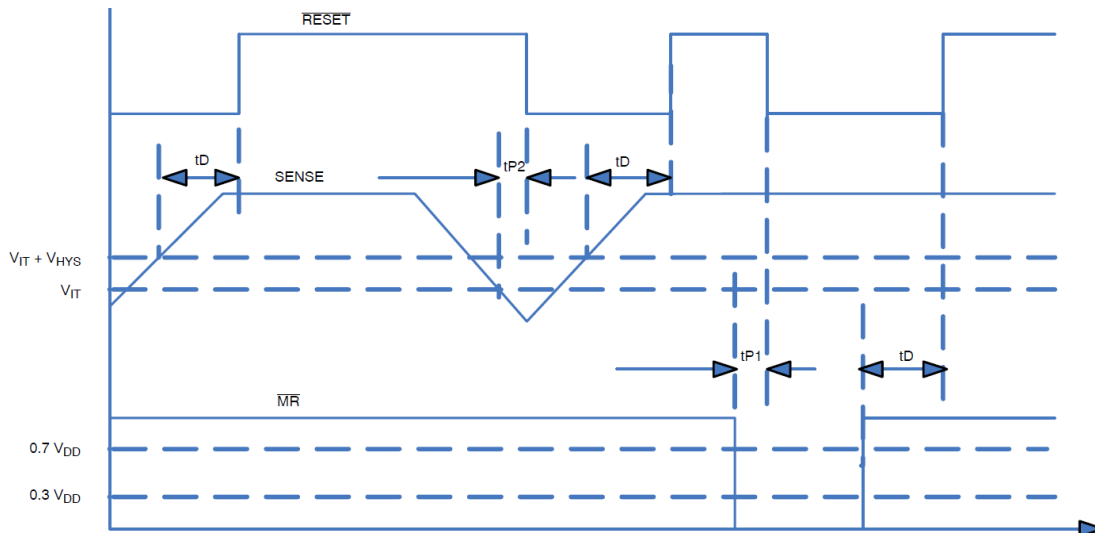


Figure 2

7. Turn of the Power Supplies (or Generator) connected to the device.
8. End of test.