

Test Procedure for the NCV680x1 Evaluation Board

The NCV680x1 devices are Reverse Polarity Protection and Ideal Diode NMOS Controllers, intended as lower loss and lower forward voltage replacements for power rectifier diodes. The controllers operate in conjunction with an N-channel MOSFET. The applications offer protection against Reverse Current Flow and Negative Supply. The devices have an integrated Undervoltage Lockout feature and an Enable pin for turning off the controller for minimal current consumption. The NCV68011 also has an Open-Drain active low Status Output pin for indicating the current state of the charge pump. These devices are suitable for harsh automotive environments.

Necessary Equipment:

- 1x Power Supply or Sourcemeter up to 50 V with current limitation up to 5 A or according to the external load connected to the application
- 1x 5 V Power Supply for Enable (optional)
- 1x Power Supply according to the desired logic high voltage level of the Status Output pin (for NCV68011 only)
- 2x DC Volt-Meter able to measure up to 50 V DC
- 1x Arbitrary function generator (optional)
- 1x Oscilloscope (optional)

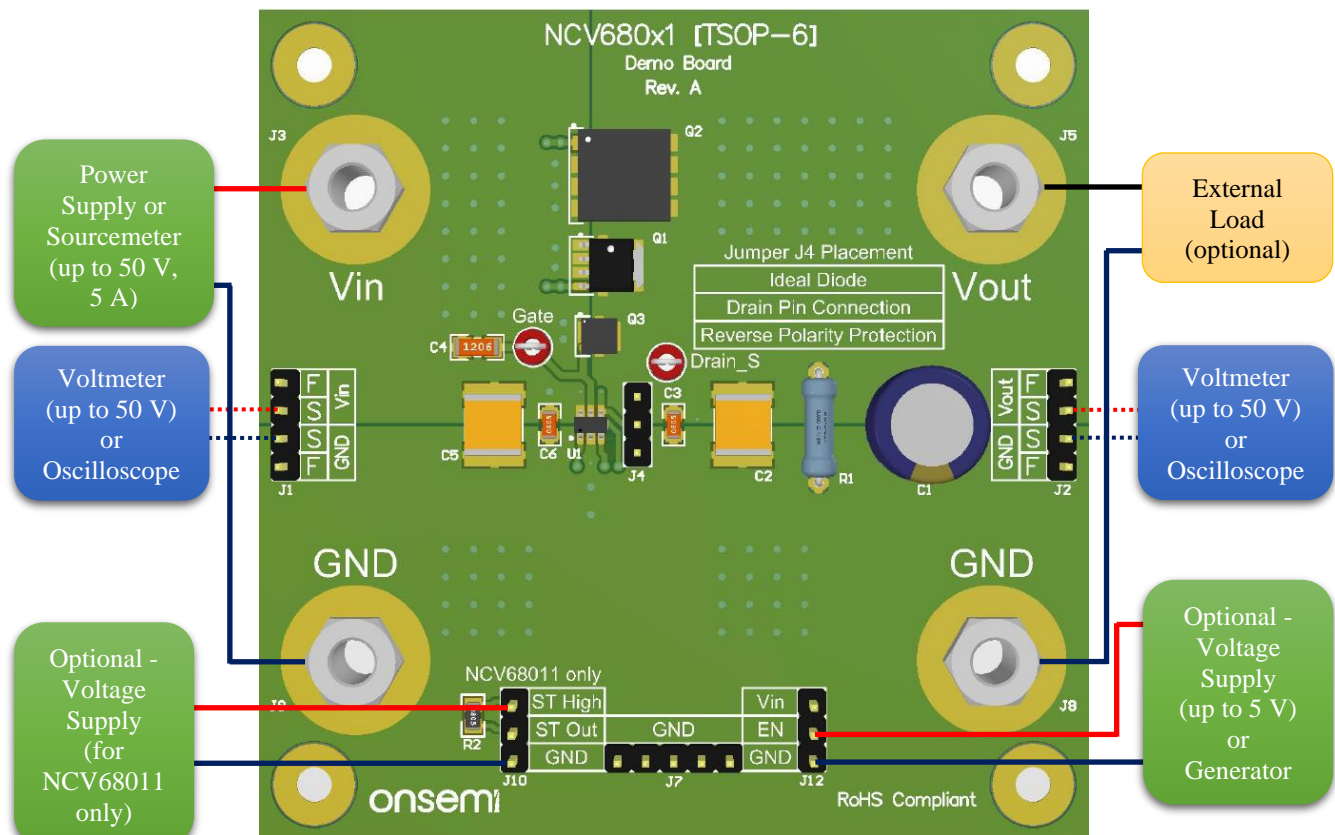


Figure 1. – Test setup



Test Procedure:

1. Connect the test setup as shown in Figure 1.
2. Set the Vin Power Supply to any value between -18 V and 45 V, without exceeding the devices maximum ratings.
3. Select the desired protection mode via Jumper J4 – Ideal Diode or Reverse Polarity Protection only.
4. Optional for the NCV68011 only – set the external voltage on the ST High pin according to the desired logic high voltage level on the Status Output pin.
5. Turn on the Vin Power Supply.
6. Turn on the device by connecting Jumper J12 to the Vin or apply an external voltage to the EN pin.
7. Measure the desired voltages or currents in the circuit.
8. Turn off the Power Supplies connected to the device.
9. End of test.