Test Procedure for the NCP6334GEVB

ON Semiconductor®

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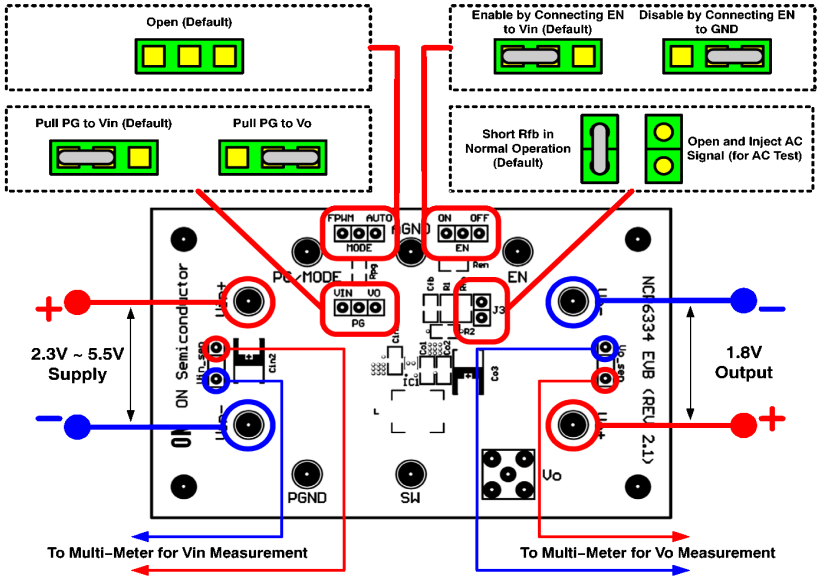
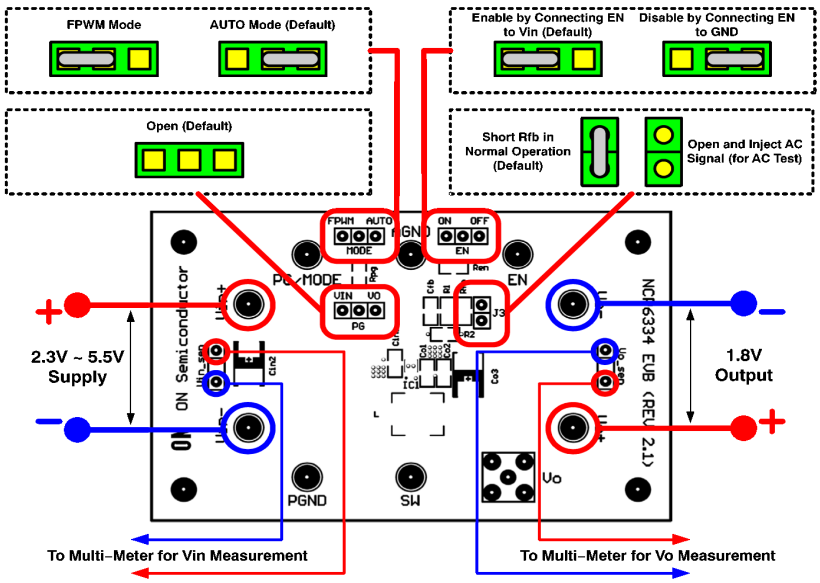
Connections and Jumper Setup

There are two main configurations of the demo board for two different devices, which are NCP6334B (PG device) and NCP6334C (Mode device). External connections and jumper setup for both configurations are shown in Figure 4. The default configuration of NCP6334B/C demo board is for NCP6334B devices.



(a) NCP6334B (Default)

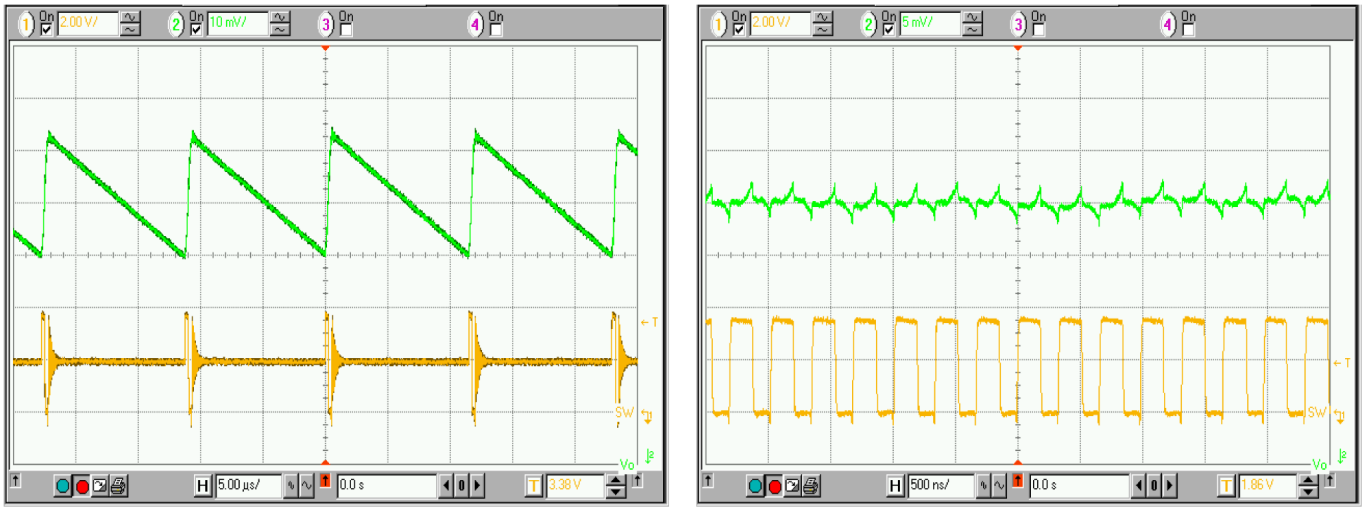


(b) NCP6334C

Figure 4. Connections and Jumper Setup of NCP6334B/C Demo Board

Test Procedure of Demo Board

1. Prepare equipments as below list.
    a. DC power supply
    b. Electronic load
    c. Multimeters
    d. Oscilloscope & Differential Probe
2. Check jumper setup to make sure it is a right default configuration for the device under test.
3. Set the power supply to 3.6 V with a current limit higher than 1 A, and then disable the output of the power supply.
4. Connect the power supply to the demo board's connectors Vin+ and Vin−.
5. Disable output of the electronic load and connect it to the demo board's connectors Vo+ and Vo−.
6. Enable the output of the power supply and check the 1.8 V output voltage of the demo board.
7. Set the electronic load to 10 mA and enable its output. Typical input supply current is about 6mA.
8. Monitor the output voltage and SW node signal using an oscilloscope. The converter should operate in DCM with similar waveforms as shown in Figure 5(a). Note that a Differential Probe is recommended to view the SW waveform, where as the Vout waveform can be measured using an ordinary probe.
9. Increase the electronic load to 1.0 A. Typical input supply current is about 565 mA.
10. Monitor the output voltage and SW node signal using the oscilloscope. The converter should operate in CCM with similar waveforms as shown in Figure 5(b). The switching frequency is about 3 MHz.
11. After the test is done, make sure to disable the output of power supply before remove power connectors to protect the device from damage caused by possible high voltage spike in input.



(a) Io = 10 mA

(b) Io = 1000 mA

Figure 5. Typical Operation Waveforms of NCP6334B/C Demo Board