

# Test Procedure for the NCP5425 Single Output Evaluation Board

ON Semiconductor®



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## 1.0 Diagrams

### 1.1 Test Configuration

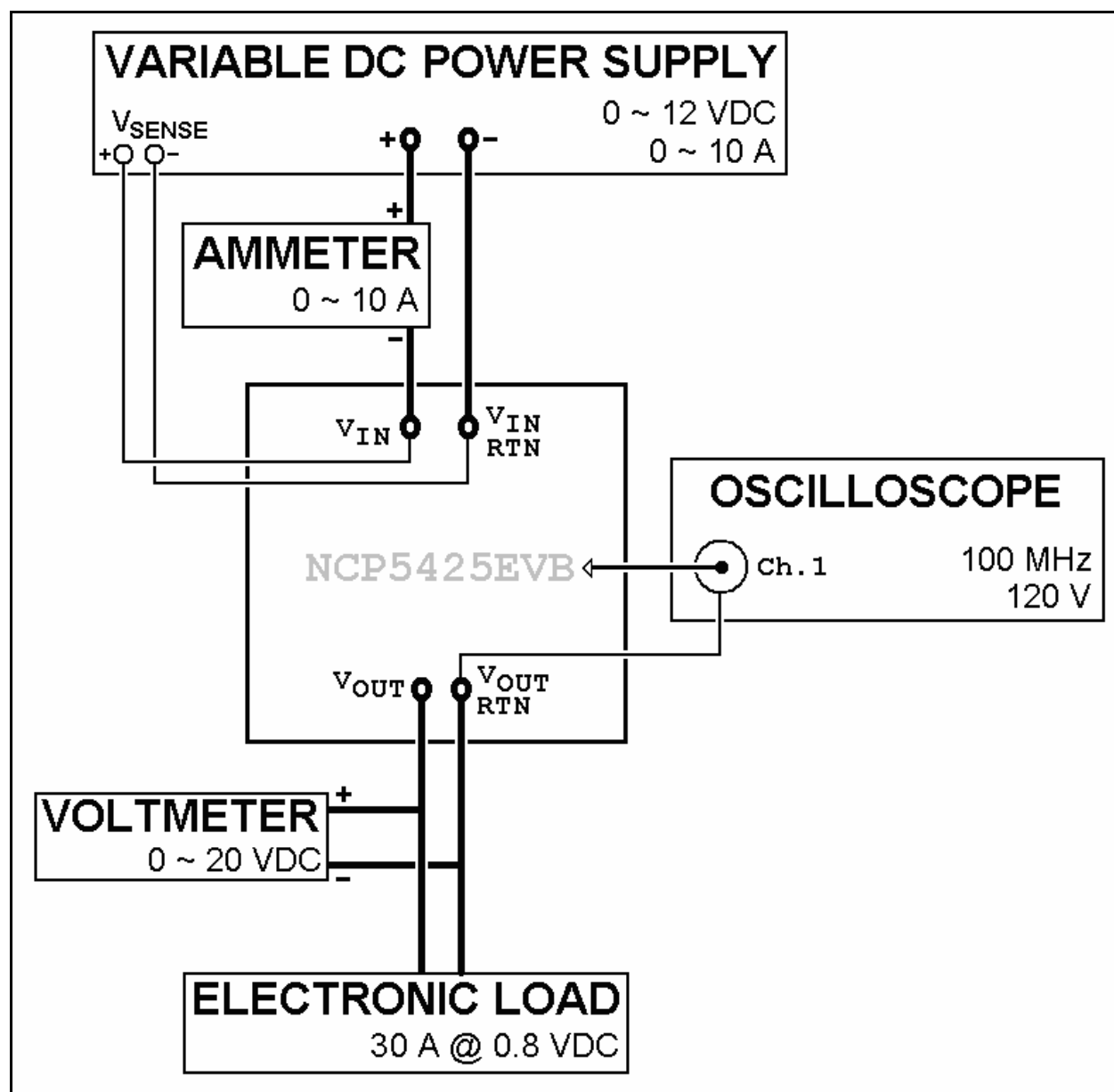


Figure 1. NCP5425EVb Single Output Test Configuration.

## 1.2 Test Points

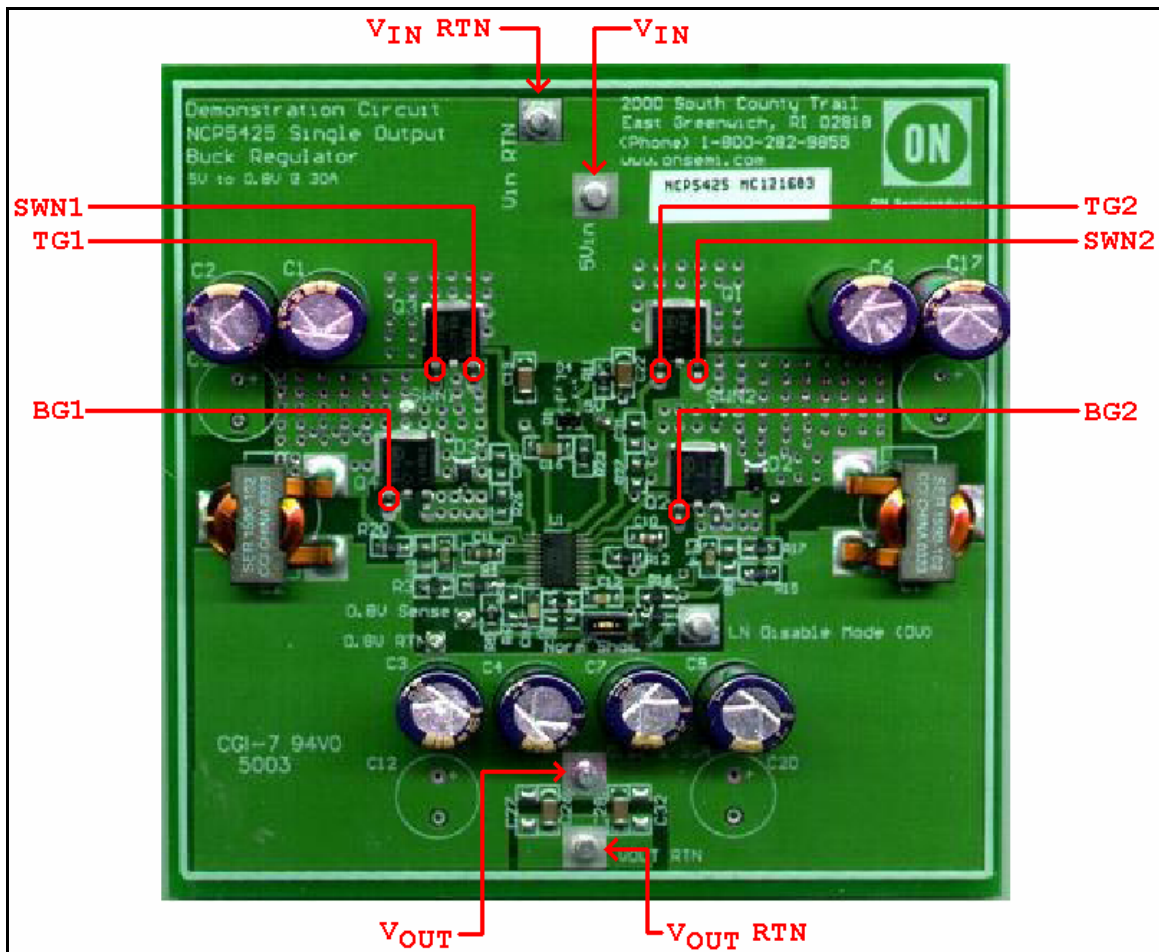


Figure 2. NCP5425EV Single Output Test Points.

## 2.0 Equipment

- Variable DC power supply (0 ~ 12 V<sub>DC</sub>, 10 A)
- Ammeter (0 ~ 10 A)
- Voltmeter (0 ~ 20 V<sub>DC</sub>)
- Electronic Load (capable of sinking 310 A at 0.8 V<sub>DC</sub>)  
OR  
Resistive Load (0.027 Ω, 30 W)
- Oscilloscope (100 MHz, 120 V)

### 3.0 Procedure

- 3.1 Configure equipment as shown in Figure 1.
- 3.2 With no load connected, set supply current limit to 1.0 A. Increase supply voltage to 5.0 V, and verify that  $V_{OUT} = 0.8 \text{ V} \pm 5.0\%$ .
- 3.3 Increase supply current limit to 8.0 A. Apply full 30 A load. Verify again that  $V_{OUT} = 0.8 \text{ V} \pm 5.0\%$ .
- 3.4 Probe test points SWN1, TG1, BG1, SWN2, TG2, and BG2 with oscilloscope. Verify that the switching frequency is 224 – 376 kHz and that there is no excessive jitter.
- 3.5 Remove load. Briefly short  $V_{OUT}$  to  $V_{OUT}$  RTN. Verify that input current does not exceed 8.0 A and that output returns to regulation when short is removed.

### 4.0 Notes

- 4.1 The board should not produce audible noise during normal operation.
- 4.2 A parallel array of high-power resistors is recommended as a test load.