

Test Procedure for the NCP5424EVB Evaluation Board

ON Semiconductor®



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1.0 Equipment

- Oscilloscope (100 MHz, 120 V)
- DC power supply (5.0 V, 5.0 A)
- DC power supply (3.3 V, 5.0 A)
- DC power supply (12 V, 0.5 A)
- 2 DC ammeters (0 – 5.0 A)
- DC ammeter (0 – 1.0 A)
- DC ammeter (0 – 20 A)
- DC voltmeter (0 – 5.0 V)
- Load:

Electronic (capable of sinking 20 A at 1.5 V)

OR

Resistive (0.088 Ω parallel resistor array capable of dissipating 30 W
i.e. 15 1.33 Ω , 2 W resistors in parallel)

2.0 Test Configuration

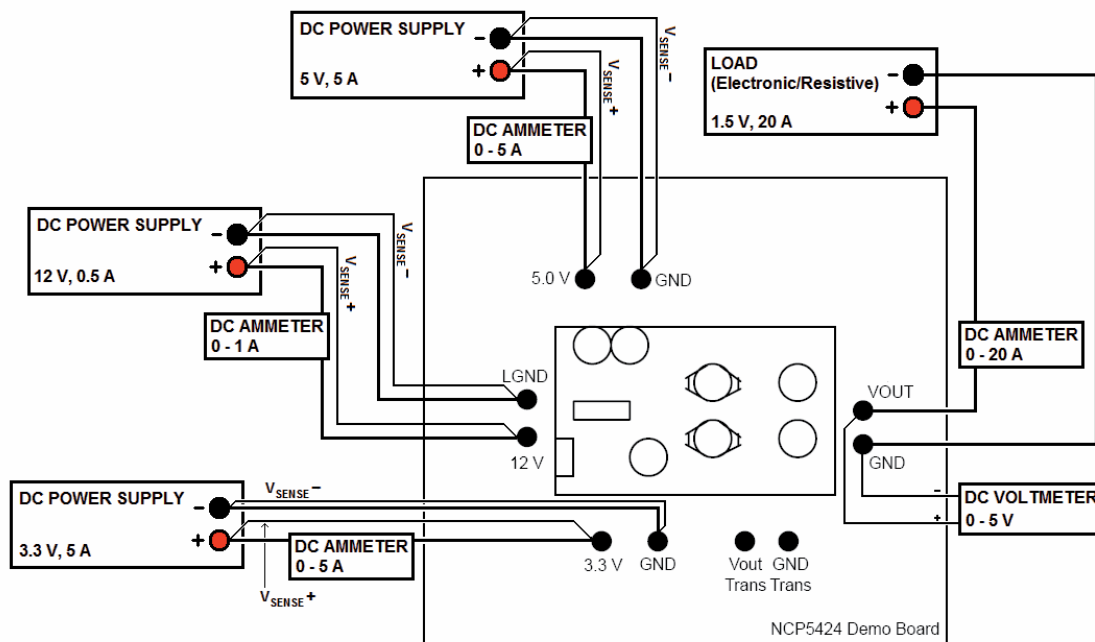


Figure 1. NCP5424EVB Test Configuration.

3.0 Procedure

- 3.1** Configure equipment as shown in Figure 1. Set current limits for DC supplies as listed in section 1.0.
- 3.2** Turn on power supplies in the following order: 12 V, 5 V, 3.3 V. Verify that input currents do not exceed current limits.
- 3.3** Apply 17 A constant current electronic load or resistive load as described in section 1.0. Verify that output maintains 1.5 V \pm 10% while under load.
- 3.4** Ground oscilloscope to any GND and probe switch nodes on 3.3 V and 5 V sides. Verify that switching frequency is 300 kHz \pm 10% and that there is no excessive jitter.
- 3.5** Remove load. Briefly short V_{OUT} to GND. Verify that board does not destabilize while shorted (no hissing, squealing, or excessive heat dissipation).
- 3.6** Turn off power supplies in the following order: 3.3 V, 5 V, 12 V.