

DC224A Quick Start Guide

Demonstration circuit DC224A is a multipurpose, 3 amp synchronous step-down switching regulator using the LT1339. The input voltage range is 4.5V to 60V. The output voltage is jumper selectable for 3.3V, 5V, 7V or 12V. The board includes a small SEPIC converter based on the LT1082 that provides 12V for the LT1339 with any input voltage of 4V to 60V. This demonstration board allows evaluation of the LT1339 in a modest power environment to determine its suitability for various applications.

Quick Start

1. Refer to Figure 1 for proper test setup. Connect the input power supply to the Vin and Gnd terminals. Connect the output load to the Vout and Gnd terminals. For greatest accuracy, connect input and output voltmeters directly to the PCB terminals. Note that most ammeters have a significant voltage drop that can affect efficiency measurements if the meters are connected elsewhere.

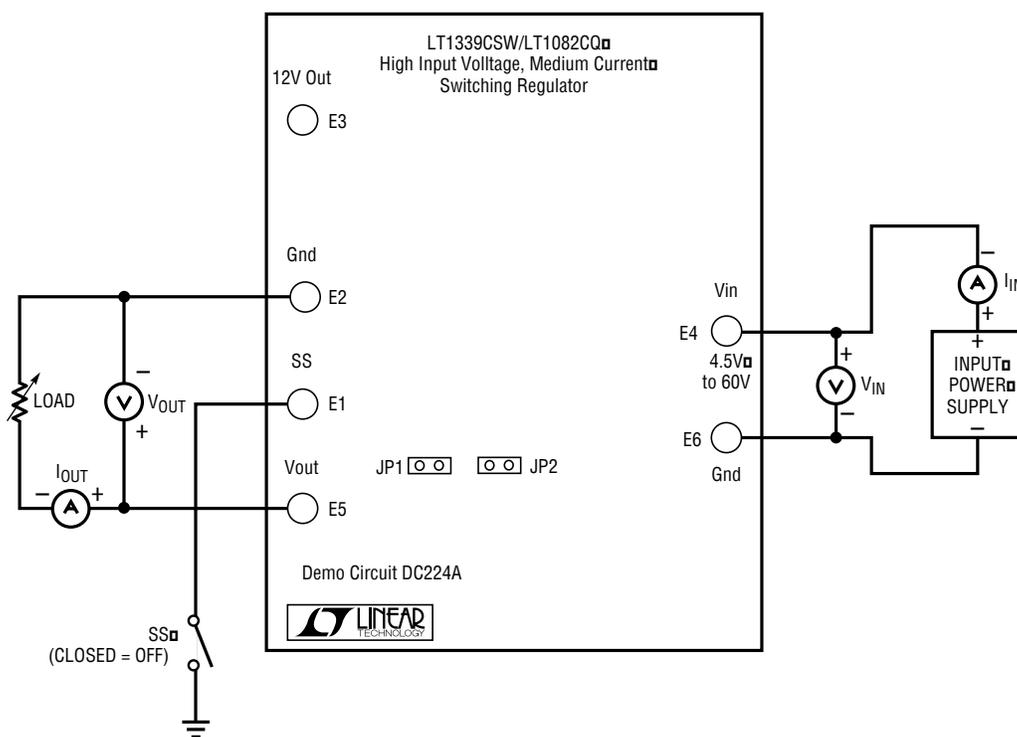


Figure 1. DC224A Test and Measurement Diagram

2. Adjust the jumpers for the desired output voltage.

V_{OUT}	JP1	JP2
3.3V	OPEN	SHORT
5V	OPEN	OPEN
7V	SHORT	SHORT
12V	SHORT	OPEN

3. Turn on the input power supply and observe the output. If not excessively loaded, the selected output voltage will be observed. The circuit will provide in excess of 3 amps at any output voltage, provided that the input voltage is higher than the output voltage.
4. Short-circuit operation can be tested by putting an ammeter (select the 10 amp scale) directly across the output. Input current drops substantially as the circuit attempts to remain efficient into very low output voltages and hence low output power.
5. The shutdown function can be tested by shorting the SS pin to ground. The 12V SEPIC supply (LT1082) remains active in shutdown. (The LT1082 could be shut down with the same signal by connecting a 1N4148 diode from the V_C pin of LT1082 to SS with the anode on the V_C pin.)

Efficiency in some applications may be improved by adding a Schottky diode, such as a Motorola MBRD360, in parallel with the bottom MOSFET (anode to source and cathode to drain).