



Test Procedure for the CAT4240AGEVB Evaluation Board

Test Procedure:

1. Initial Setup and Jumper Configuration

- 1.1. Verify that jumper K1 is open.
- 1.2. Connect an LED string (consisting of 6 LEDs in series) to the CAT4240. Connect the anode end of the LED string to test point T7 (VOUT). Connect the cathode end of the LED string to test point T6 (LED). The LEDs should have a 350mA or greater current rating.
- 1.3. Set the cursor of potentiometer R2 to the mid-scale position.

2. Power Supply

- 2.1. Connect an external 5V DC power supply between the test points 'VIN' and 'GND'. Connect the positive terminal of the supply to pin VIN and the negative terminal to pin GND. There is no protection against reverse voltage on the VIN and GND terminals.
- 2.2. Connect an external 12V DC power supply between the test points 'VL' and 'GND'. Connect the positive terminal of the supply to pin VL and the negative terminal to pin GND. There is no protection against reverse voltage on the VL and GND terminals.

3. Test Procedure

- 3.1. Turn on the external power supplies. Turn on the 5V supply first and then the 12V supply.
- 3.2. Install a shunt on jumper K1. The CAT4240 will be enabled and the LEDs should light up.
- 3.3. Rotate the cursor on potentiometer R2. The LEDs' brightness will change.
- 3.4. Verify the internal switching frequency ($F_{SW} \sim 1.0\text{MHz}$ - typically) using an oscilloscope probe connected between test points T5 (SW) and T4 (GND).
- 3.5. Measure the voltage at test points T7 (VOUT), T6 (LED), and T5 (SW) with respect to GND using a voltmeter. They should measure around 18 – 21 VDC, or approximately 6 times the forward voltage of each LED connected to the output.
- 3.6. Remove the shunt from jumper K1. The CAT4240 will be disabled and the LEDs should turn off.
- 3.7. Turn off the external power supplies. Turn off the 12V supply first and then the 5V supply.