QUICK START GUIDE

DC381A is used to evaluate the LTC3201 low noise charge pump LED driver.

- Before turning on the power supply, connect a 3.3V, 500mA bench power supply to the VIN terminal. Connect ground from the power supply to the GND terminal.
- Disconnect jumpers from D0,D1,D2. This sets the DAC output to maximum LED current. D0,D1,D2 pull high to VIN. Connecting all 3 jumpers puts the part into shutdown mode. Note that the 300K pull-up resistors connected to D0,D1,D2 will draw some current.
- Turn on bench power supply. LEDs should light up. Voltage at FB terminal should measure about 0.62V. VOUT terminal should measure approximately 4.22V (0.62V + 3.6V forward drop of the LED5).
- Change D0,D1,D2 DAC input terminals that and notice LED current change accordingly. Also note that each LSB change causes an approximate 90mV change at the FB pin.
- When measuring input/output voltage ripple, care must be taken to avoid a long ground return for the oscilloscope probe. After removing the grabber and outer plastic sleeve from the scope probe, measure the input voltage ripple by touching the probe tip to the VIN terminal and simultaneously touching the probe ground casing to the GND terminal. VOUT ripple is measured similarly between VOUT and its adjacent GND.
- When measuring VIN ripple, note the importance of the impedance of the bench power supply plus the impedance of the connectors from the supply to the part. The VIN voltage ripple will depend on the ripple current of the LTC3201 times the total impedance mentioned above. In order to see the true effect of the low input noise of the LTC3201, the user should connect the actual application BATTERY. Make sure that the connector between the battery and the DC381A is very short and made with heavy gauge wire. Measure VIN terminal. This ripple now represents the input ripple of the LTC3201 times the impedance of the battery.