



Test Procedure for the NCP1014LEDGTGEVB Greenpoint® LED Driver Evaluation Board

Introduction:

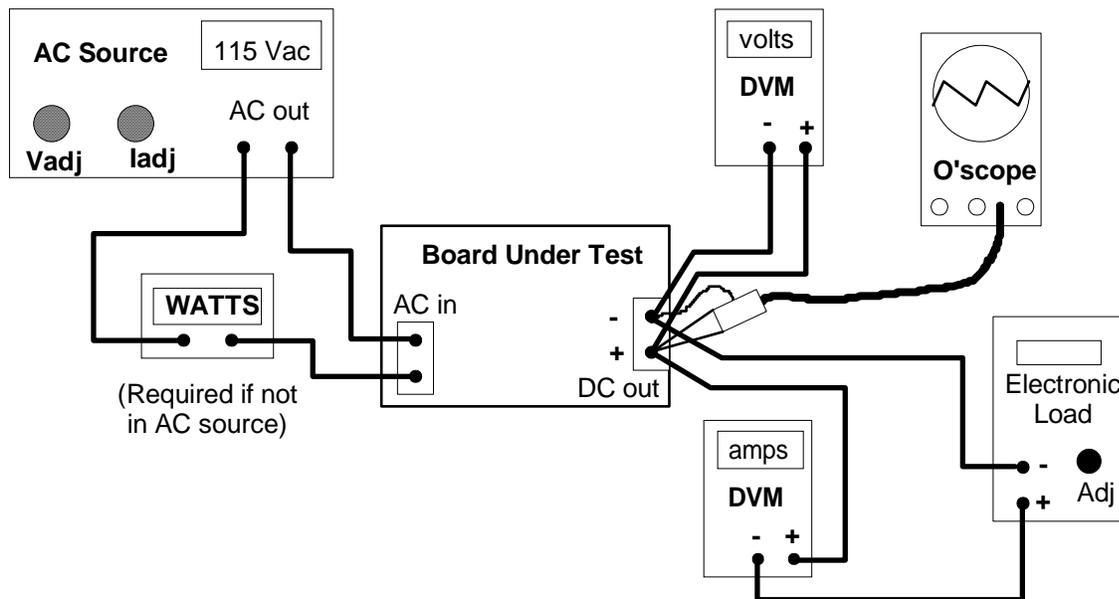
The NCP1014 Greenpoint LED Evaluation Board is a universal input, high power factor, off-line power supply intended to provide a constant current output for powering strings of LEDs. The output has a open load protection. The evaluation board is configured to provide a nominal current of 630 mA with an open LED clamp voltage of ~20V. The switching topology is a continuous flyback converter operating at 100 kHz

Test Equipment Required:

1. Adjustable, isolated AC power source capable of zero to 265 Vac output at up to 500mA. AC source should have the capability of measuring delivered power in watts. If not, an AC line analyzer or AC wattmeter should be used. Wattmeter should be capable of reading down to 50 mW (for standby power measurements.)
2. Digital volt/amp meters to measure output current and voltage to the electronic load.
3. A variable electronic load or rheostat capable of up to a 5 amp load at 24 volts. If an electronic load is used it is preferable to have it operate in a constant resistance load mode.
4. Oscilloscope with probe to monitor output ripple on the demo converter.

Setup Procedure:

Set the equipment as shown in the diagram on the next page so that the output voltage and current to the demo board can be measured. The oscilloscope should be set up so that the output ripple can be monitored.



Test Procedure:

1. Switch the electronic load on, set to constant resistance mode and the load adjust to zero load; switch all of the digital meters on (assuming they are wired properly for voltage and current sensing); turn the oscilloscope on with sensing in AC mode and 200 mV per division vertical and a sweep rate of 1 mS per division. Connect the scope probe to the demo board's output terminals.
2. With the AC source OFF, set the current limit on the AC source to 500 mA and the output voltage to 115 Vac.
3. Turn on the AC source. At no load, the power supply demo board output voltage should be between 19 and 22 volts on the DVM.
4. Adjust the electronic load from no load slowly up until the output voltage reduces to 12 to 13 volts. The output current should be within 600 to 710 mA. Figure 1 shows a typical voltage/current regulation curve for this driver operating at 115 Vac input. The output ripple on the oscilloscope should be less than 1 V peak-to-peak including spikes.
5. Reduce the AC input to 90 Vac and make sure the conditions of test 4 above still hold.
6. Return the input to 115 Vac and continue to increase the load slowly and the current should remain constant within 600 to 710 mA as voltage collapses (constant current output.) The current should be in range from 17 volts down to about 5 volts.
7. Set the electronic load to back to zero and the output voltage should be 19 to 22 volts.
8. Check the AC input power at zero load current. It should be below 1W.
9. Adjust the AC input to 230 Vac and repeat tests (3) through (7).
10. Set the electronic load to zero and switch the AC source off.

End of Test.



Aspen Typical Regulation

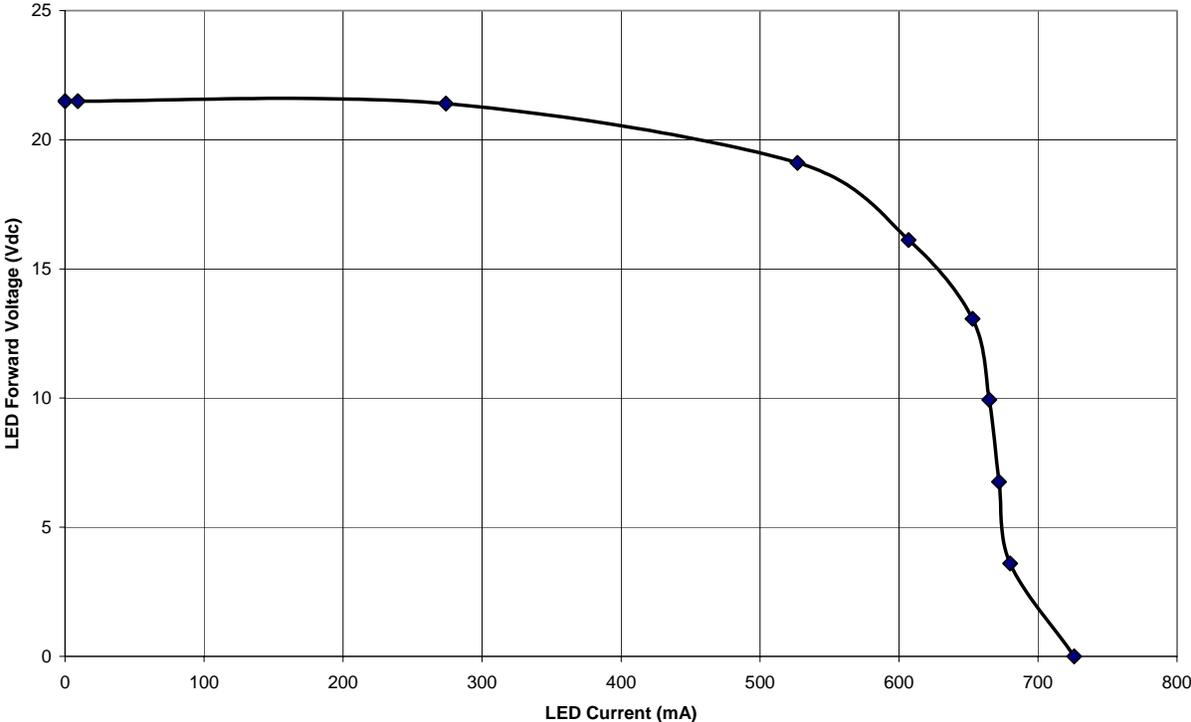


Figure 1