Test Procedure for the NCP 5006

ON Semiconductor®

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Table 1: Required Equipment

DC power supply, minimum 3.6 V/500 mA, Preferred TEKTRONIX PS2520G	Oscilloscope, 100 MHz bandwidth, minimum of two channels, Preferred TEKTRONIX TDS784	Analogue probes, 100 MHz bandwidth minimum, Preferred TEKTRONIX P6139A
Current probe, Preferred TEKTRONIX TCP202	Digital voltmeter, Preferred FLUKE	One NCP5006 Evaluation Board

Test Procedure:

1. **Make sure the power supply is OFF.**
2. **Make sure the power supply is preset to 3.60 V.**
3. **Make sure the power supply is current limited to 500 mA.**
4. **Connect the power supply to the banana plugs. Positive supply to Vbat, negative supply to GND.**

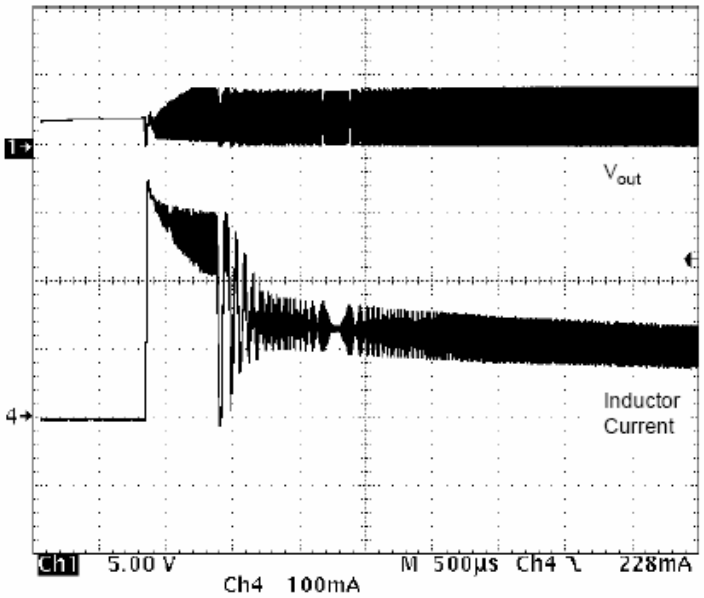
5. **If current monitor is necessary, connect a short jumper (5 cm) across JP1 to read current and connect the current sensor.**

6. **Connect one analogue probe to pin Vout to read the output voltage.**

7. **Connect a short DVM cable to pin FB to read the feedback voltage.**
   Note: Since this pin is internally connected to a very high impedance circuit, care must be observed to minimize noise pick–up as such noise will downgrade the operating performances. In case of doubt with the waveforms captured with the current probe, remove the DVM probe from the FB pin and double check the operation.

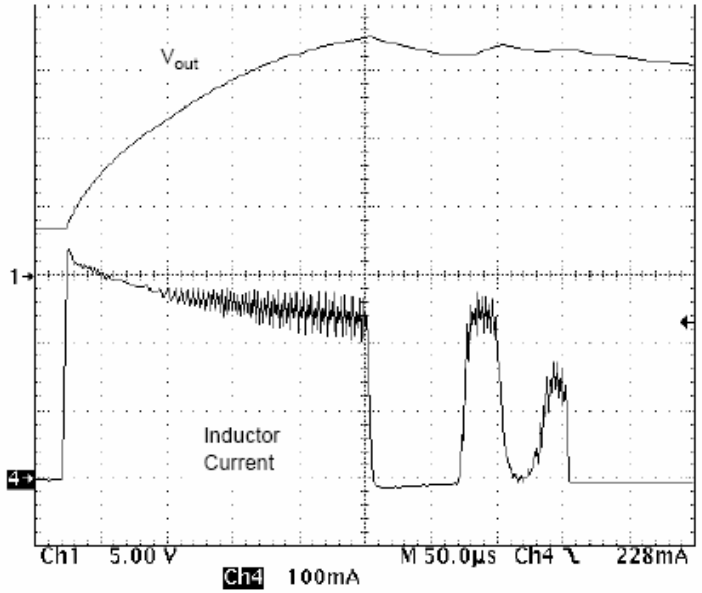
8. **Turn ON the power supply: the LED shall come up and you can observe the waveforms as depicted in the NCP5006 data sheet (and given below).**

Typical Operating Waveforms



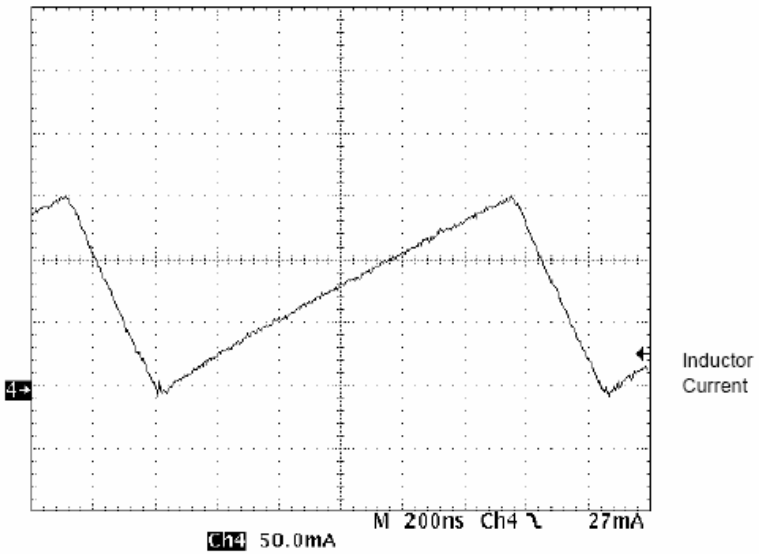
Conditions: V_{bat} = 3.6 V, L_{out} = 22 µH, 5 LED, I_{out} = 15 mA

Figure 20. Typical Power Up Response



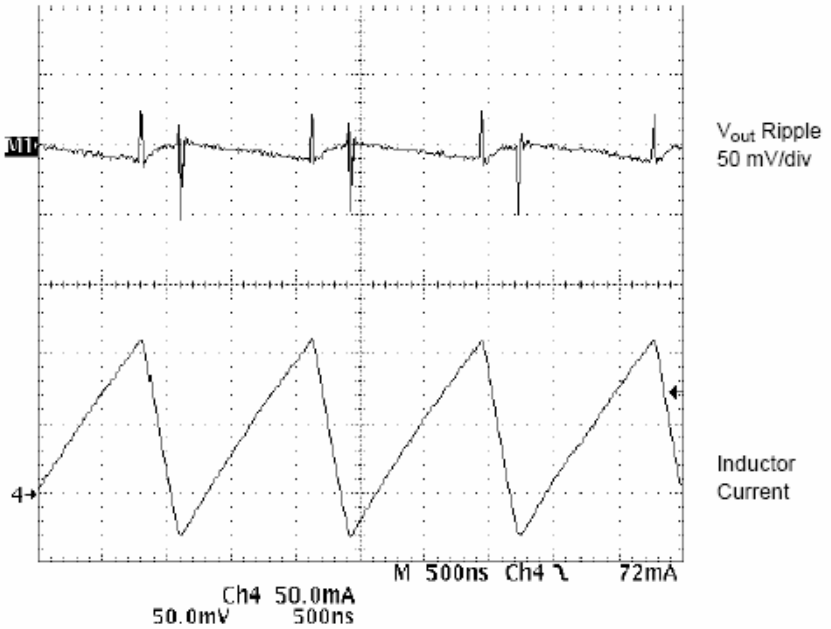
Conditions: V_{bat} = 3.6 V, L_{out} = 22 µH, 5 LED, I_{out} = 15 mA

Figure 21. Typical Start−Up Inductor Current and Output Voltage



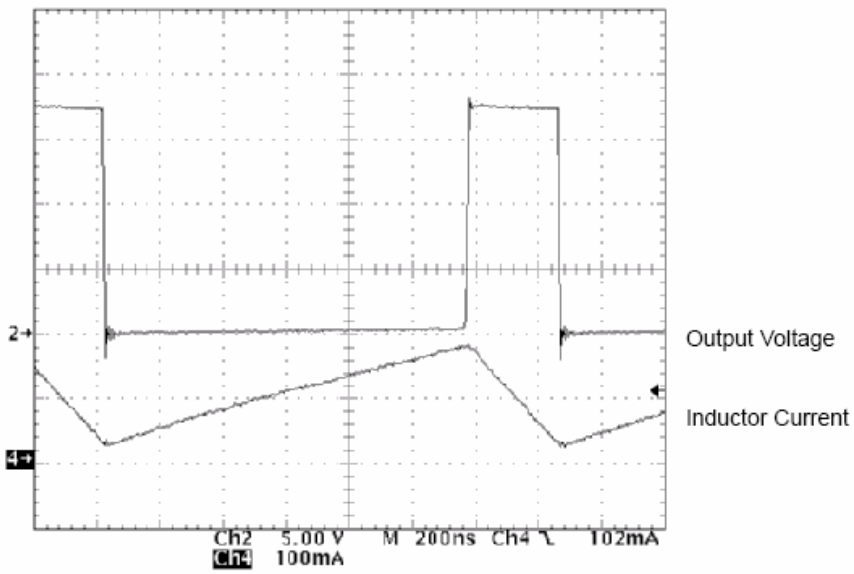
Conditions: V_{bat} = 3.6 V, L_{out} = 22 µH, 5 LED, I_{out} = 15 mA

Figure 22. Typical Inductor Current



Conditions: V_{bat} = 3.6 V, L_{out} = 22 µH, 5 LED, I_{out} = 15 mA

Figure 23. Typical Output Voltage Ripple



Test Conditions: L = 22 µH, I_{out} = 15 mA, V_{bat} = 3.6 V, Ambient Temperature

Figure 24. Typical Output Peak Voltage