1 Startup

The startup waveform is shown in Figure 1. The input voltage is set at 5.0V, with no load on the 14V output.

Channel C1: **input voltage**
5V/div, 20ms/div

Channel C2: **output voltage**
5V/div, 20ms/div

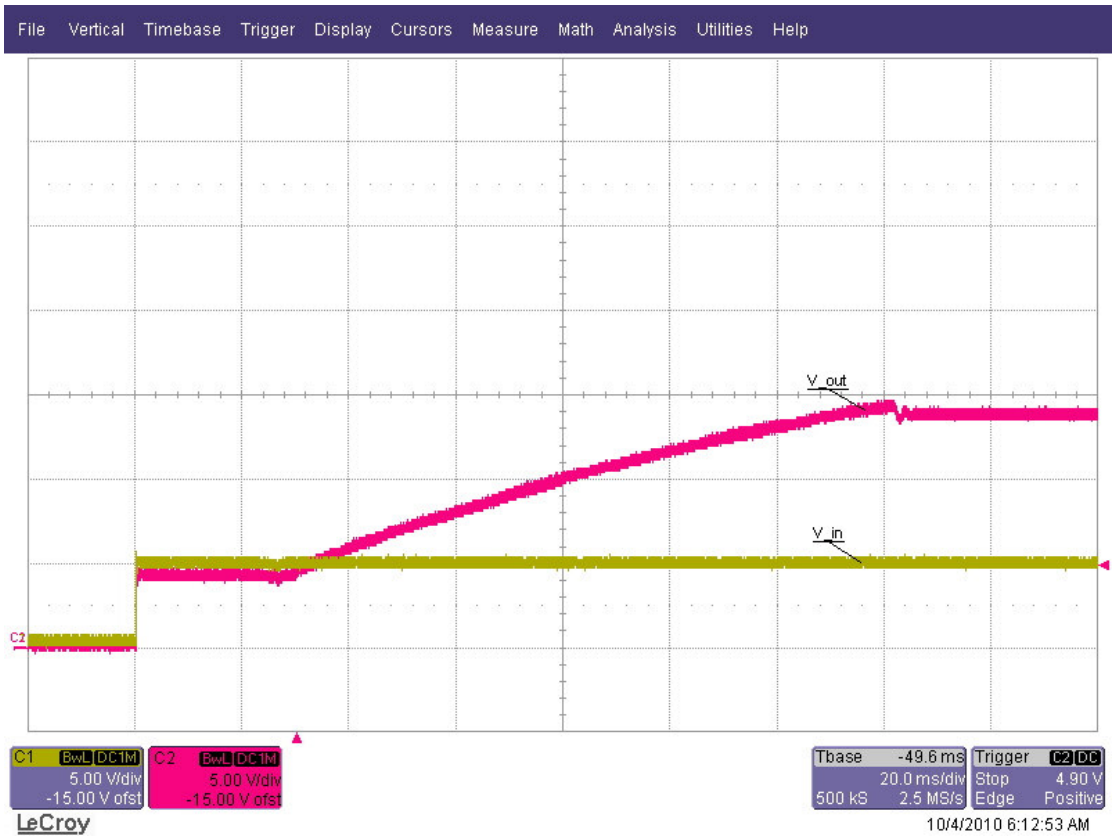

Figure 1

2 Shutdown

The shutdown waveform is shown in Figure 2. The input voltage is set at 5.0V with a 0.1A load on the 14V output.

Channel C1: **input voltage**
5V/div, 500us/div

Channel C2: **output voltage**
5V/div, 500us/div

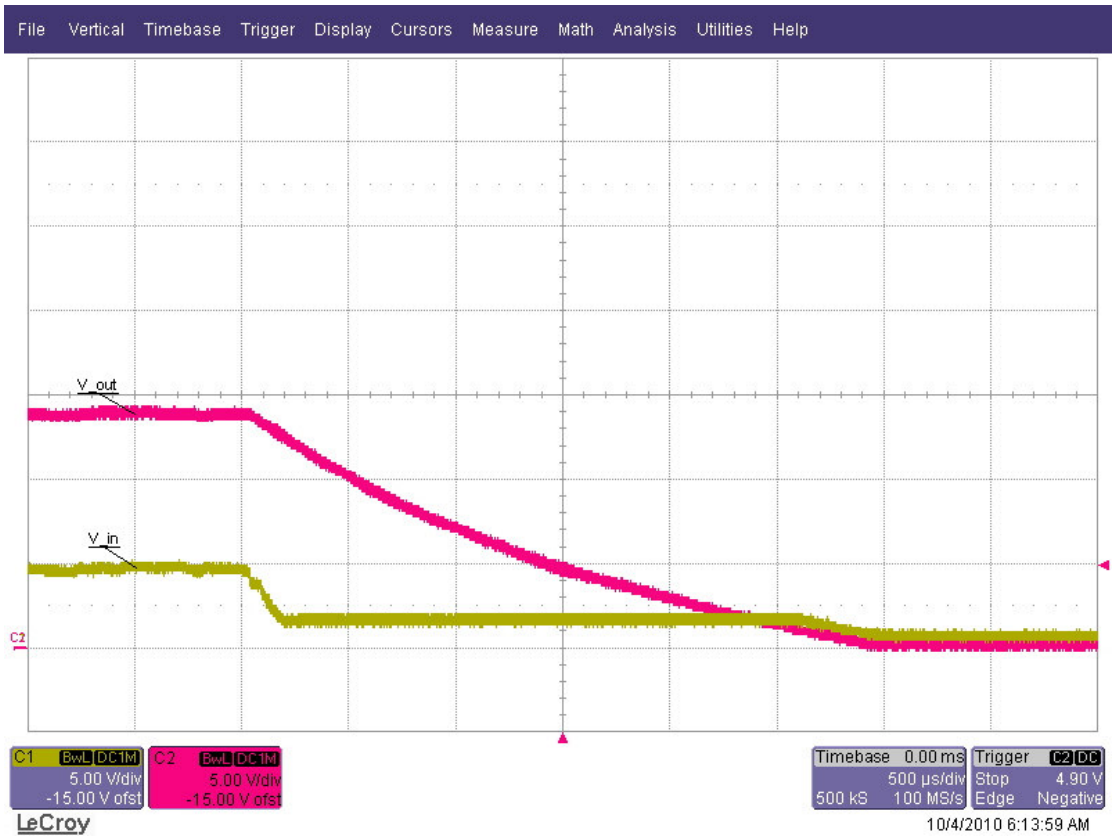

Figure 2

1. Efficiency

The efficiency is shown in Figure 3.

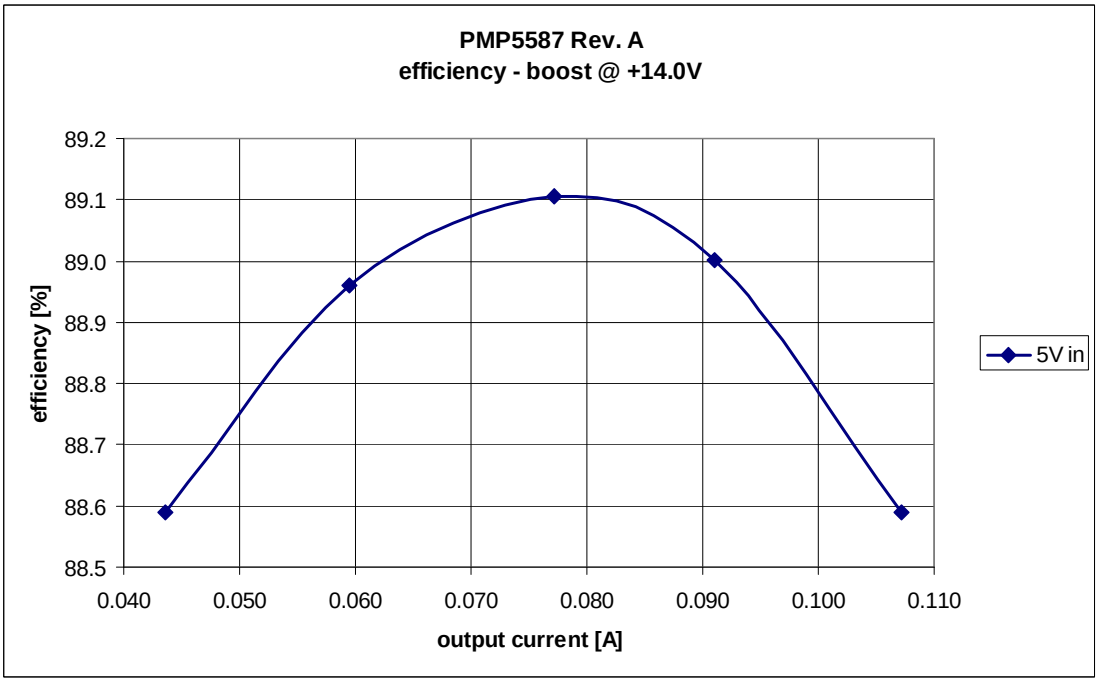

Figure 3

3 Load regulation

The load regulation of the 14V output is shown in Figure 4.

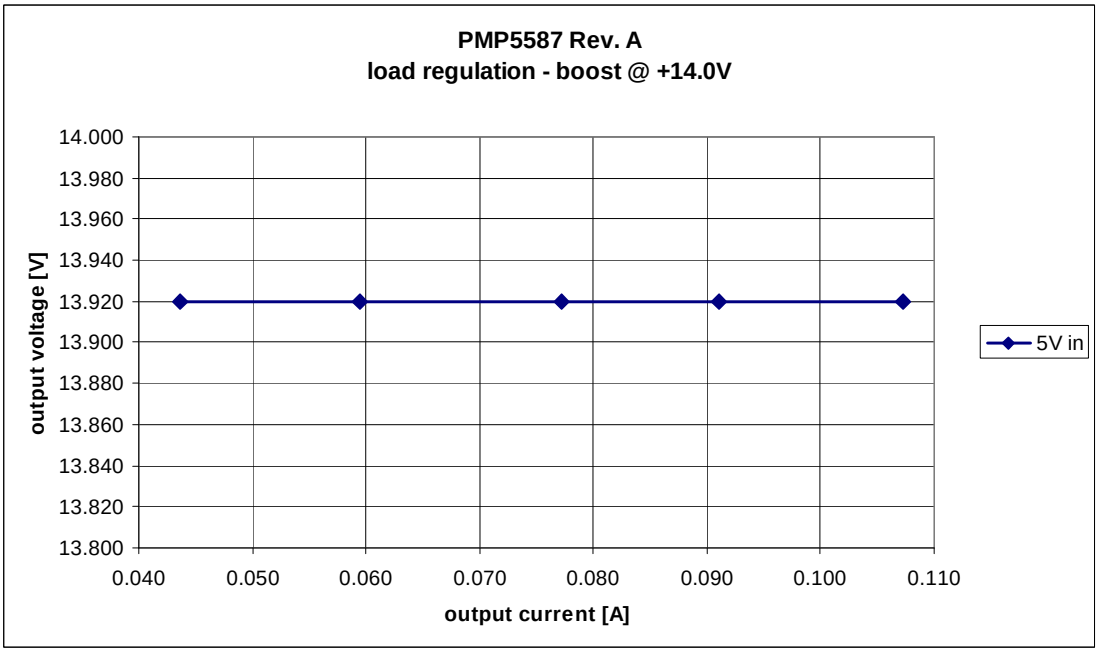

Figure 4

4 Output ripple voltage

The output ripple voltage at 0.1A load and 5.0V input voltage is shown in Figure 5.

Channel C2: **output voltage**, 13mV peak-peak
20mV/div, 1us/div, AC coupled

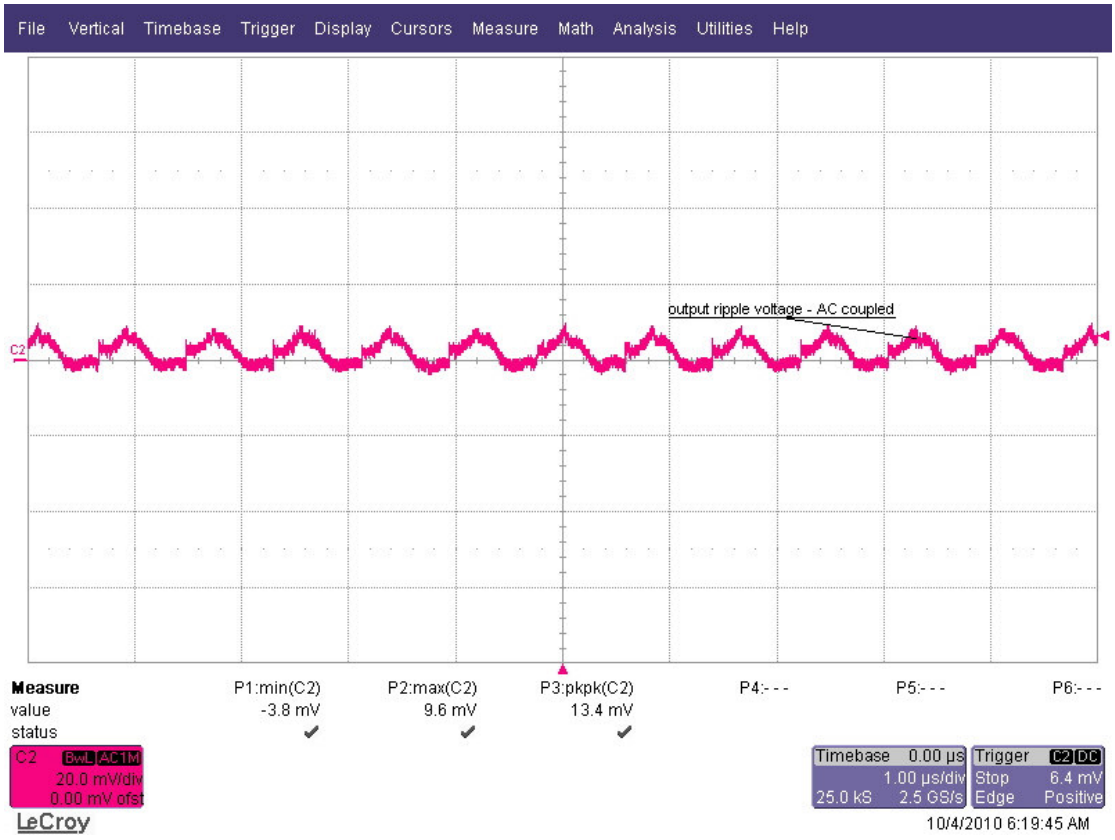

Figure 5

5 Load transients

The response to a load step and a load dump at an input voltage of 5.0V is shown in Figure 6 and Figure 7.

Channel C2: **output voltage**, -150mV undershoot, 50mV overshoot
100mV/div, 200us/div, AC coupled
load step from 50mA to 100mA

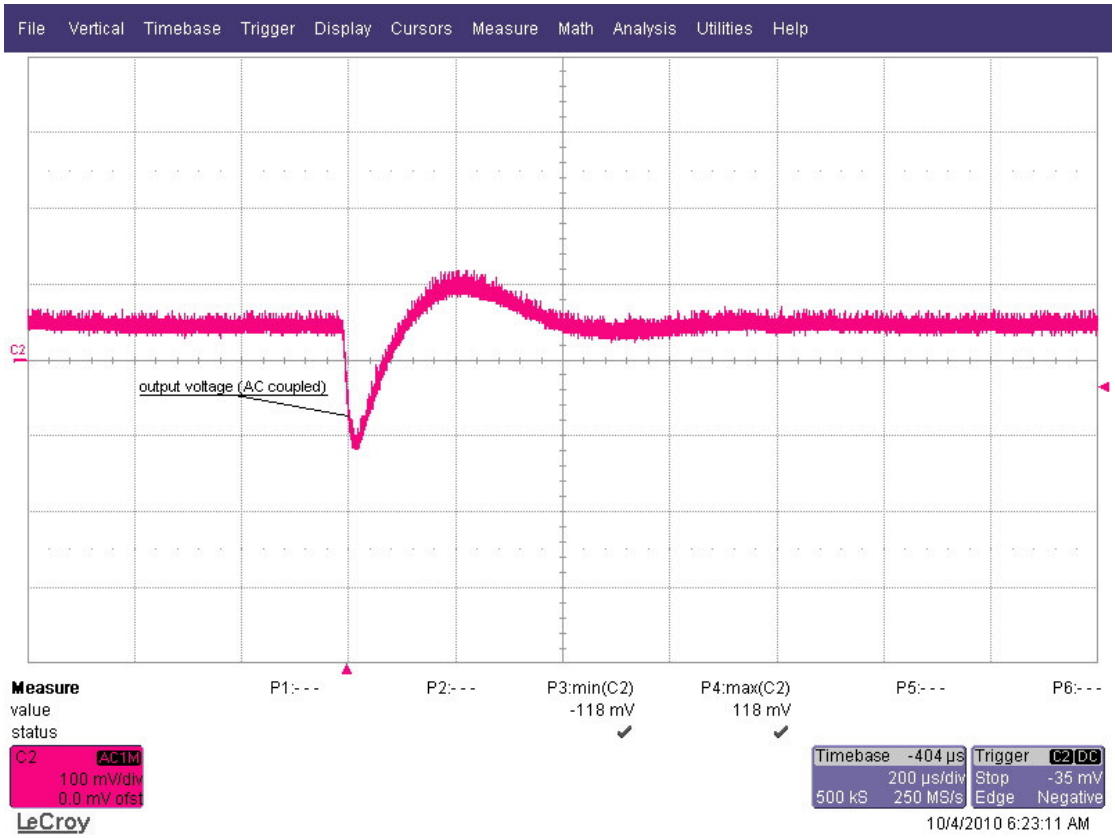

Figure 6

Channel C2: **output voltage**, -5mV undershoot, 20mV overshoot
20mV/div, 200us/div, AC coupled
load dump from 100mA to 50mA

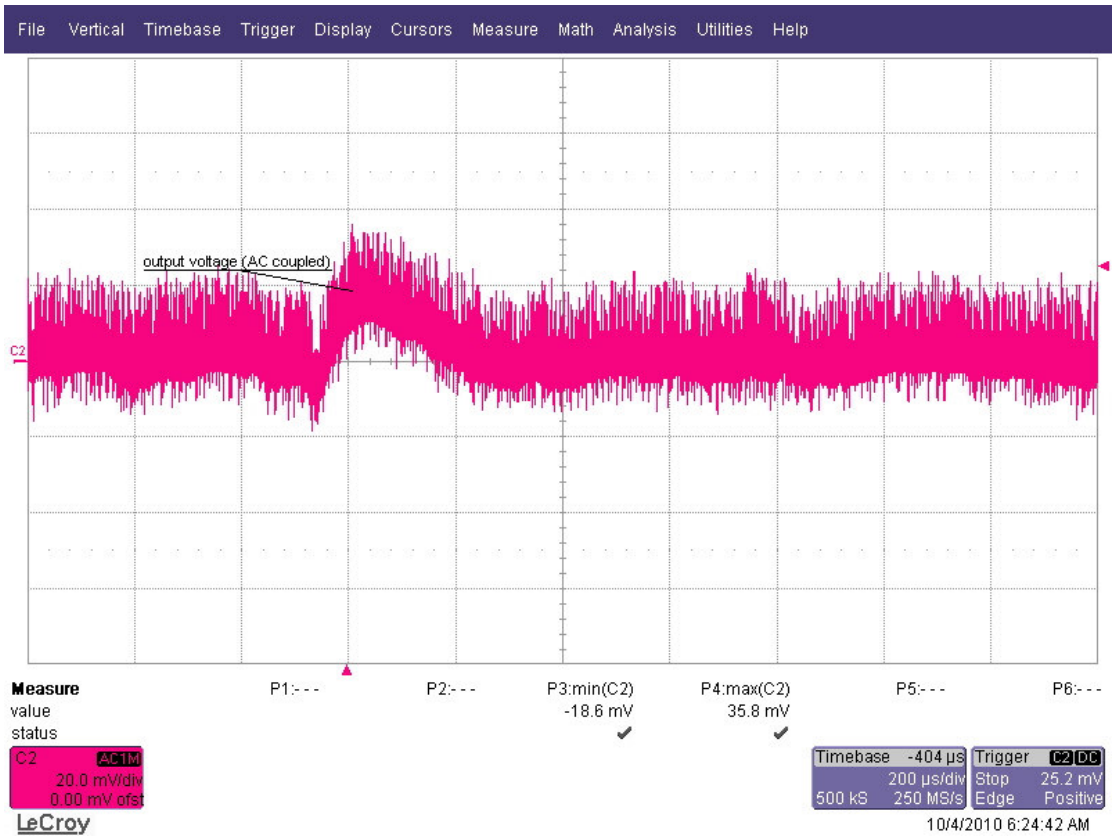

Figure 7

6 Frequency response

Figure 8 shows the loop response of the 14V output with 5.0V input and a 0.1A load.

53 deg phase margin @ crossover frequency 2.1 kHz

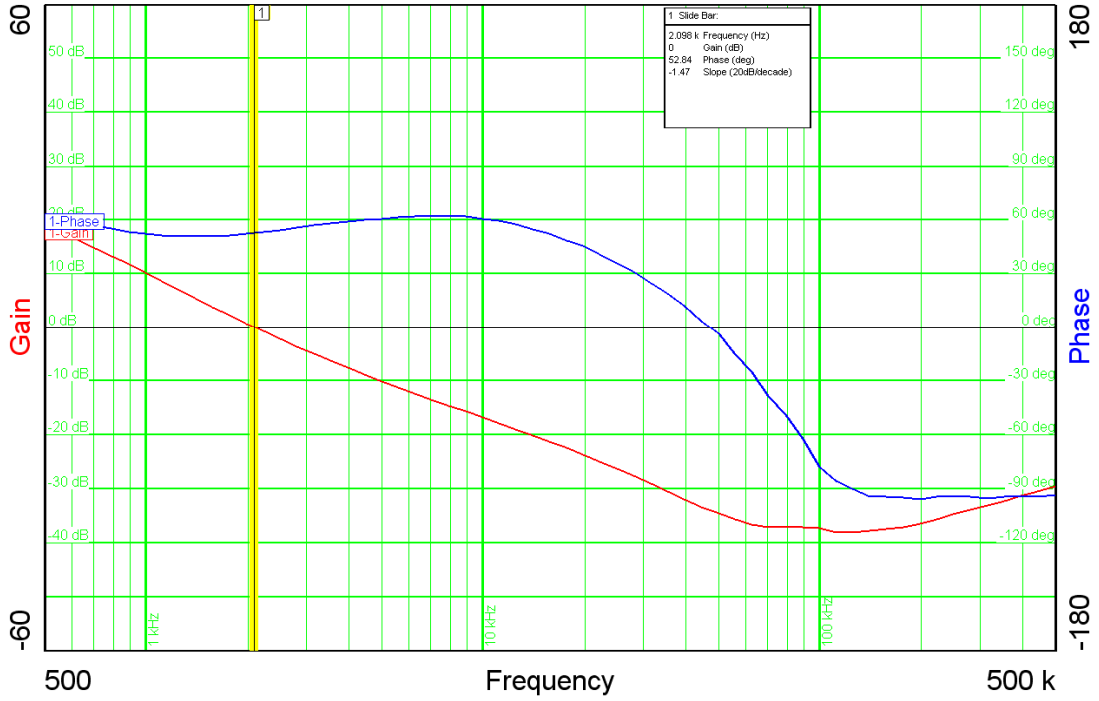

Figure 8

7 Miscellaneous waveforms

The drain-source voltage on the switching node is shown in Figure 9. The image was captured with a 5.0V input and a 0.1A load.

Channel C2: **drain-source voltage**, -0.5V minimum voltage, 16.0V maximum voltage 5V/div, 1us/div

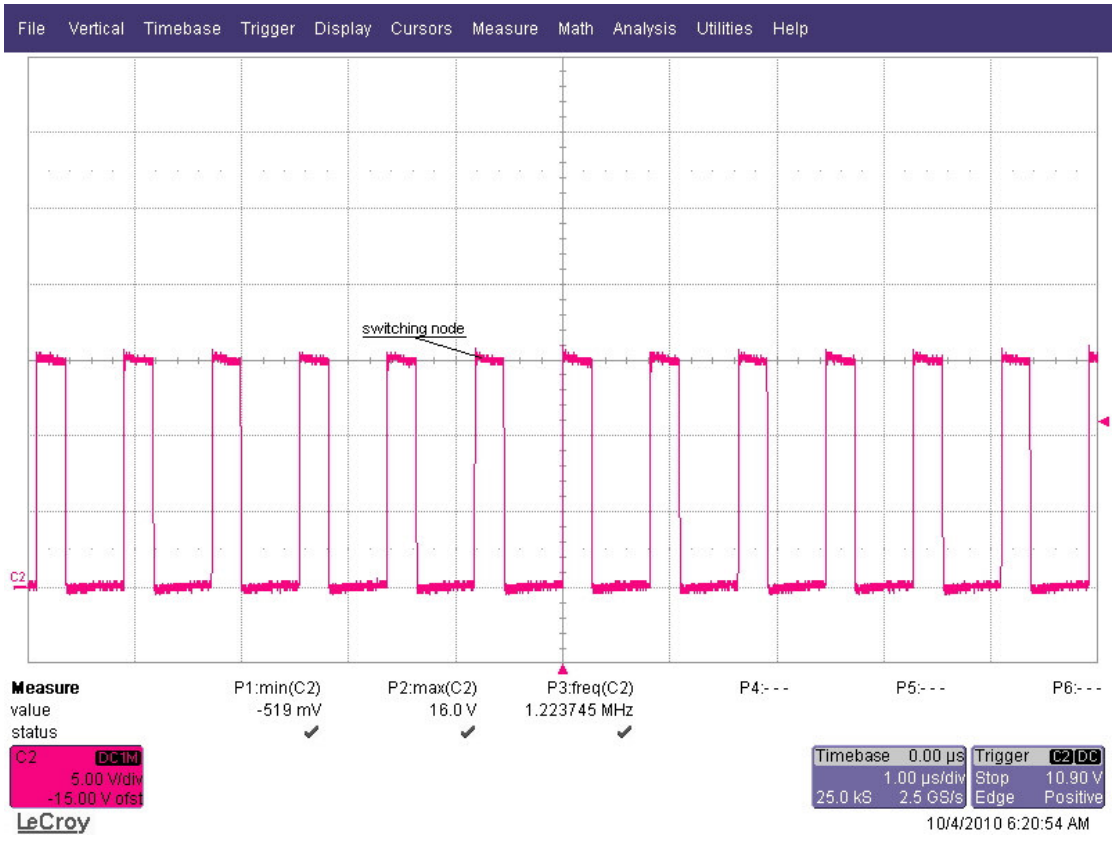

Figure 9

8 Thermal measurement

The thermal image (Figure 10) shows the circuit at an ambient temperature of 21 °C with an input voltage of 5.0V and a load of 6.0A.

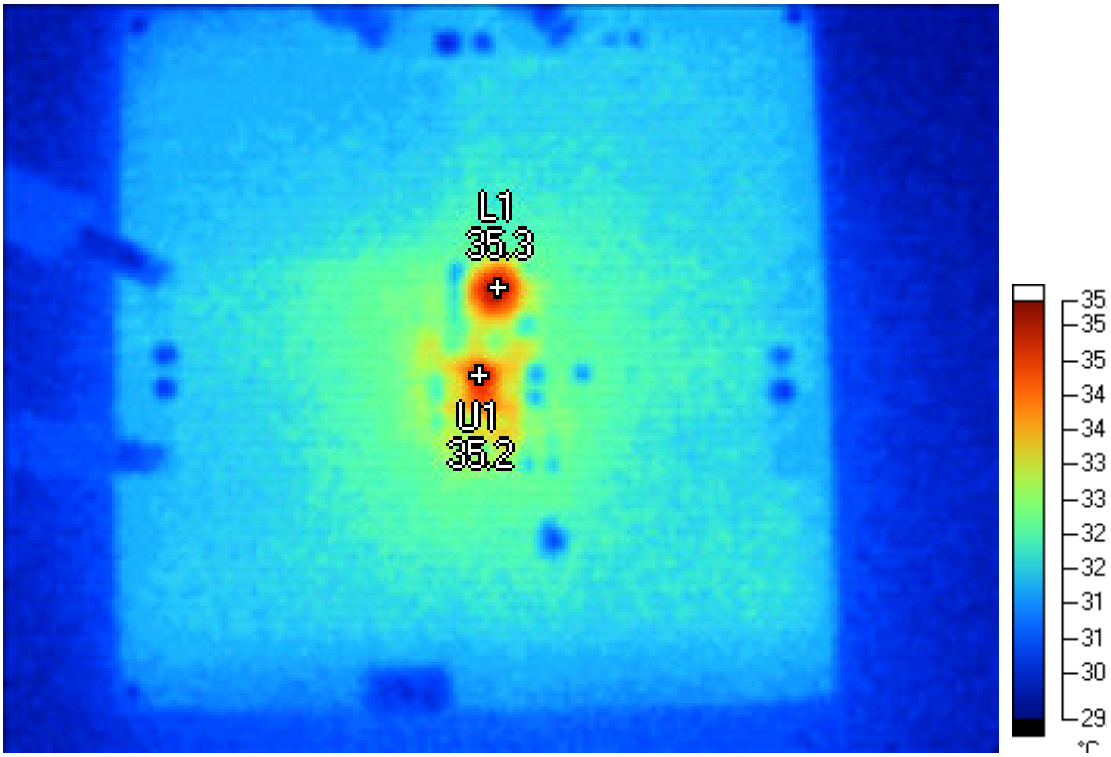

Figure 10

device	measured temp. @ 21 °C
L1	35.3 °C
U1	35.2 °C

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