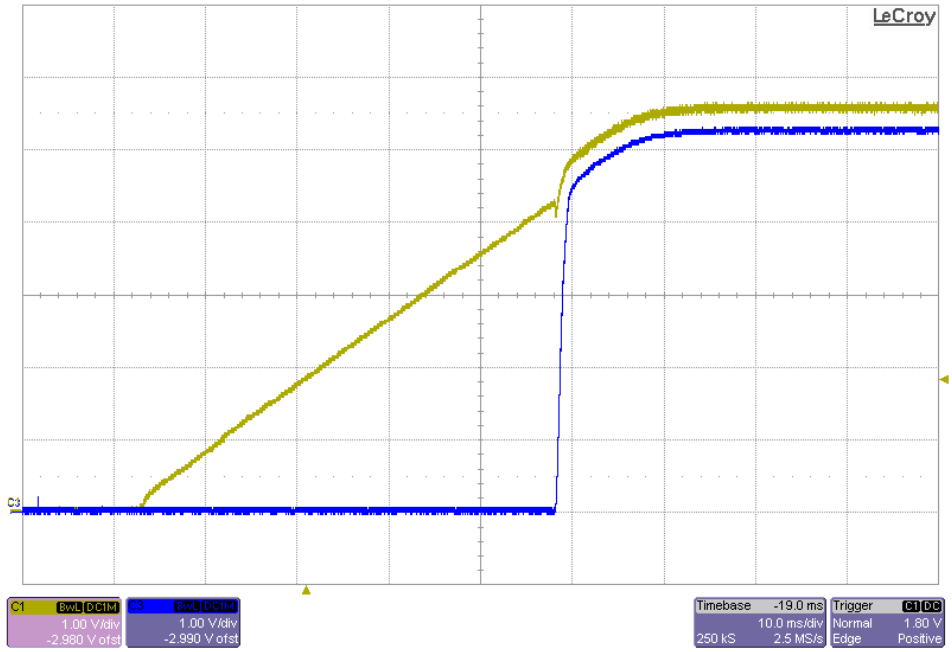
PMP9080D Test Results

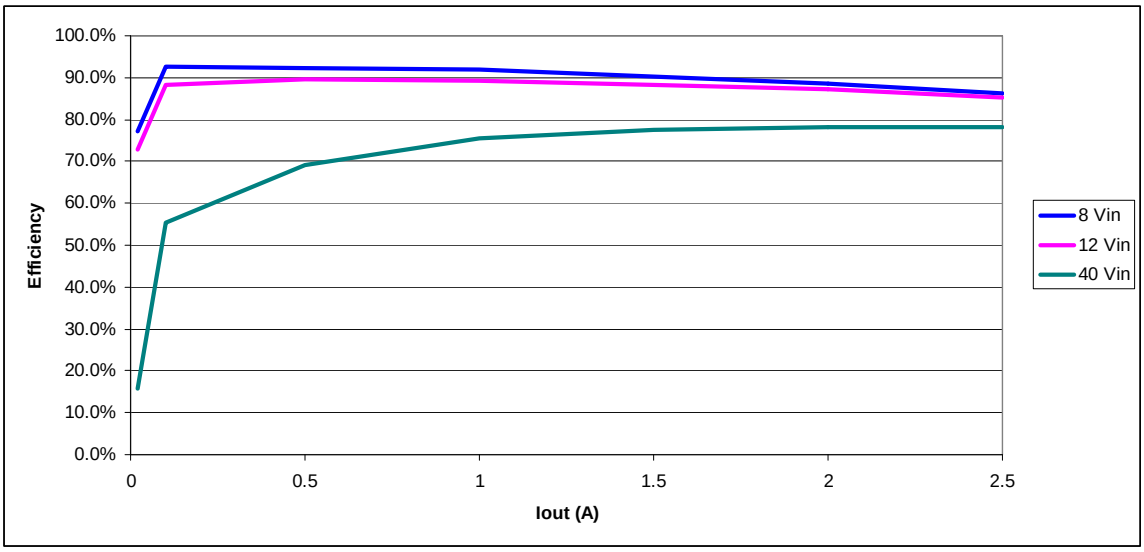
1 Startup

The startup waveform is shown in the figure below. The input voltage was set at 12V, with 1 A load on the output. Yellow is TP7, Blue is Vout.



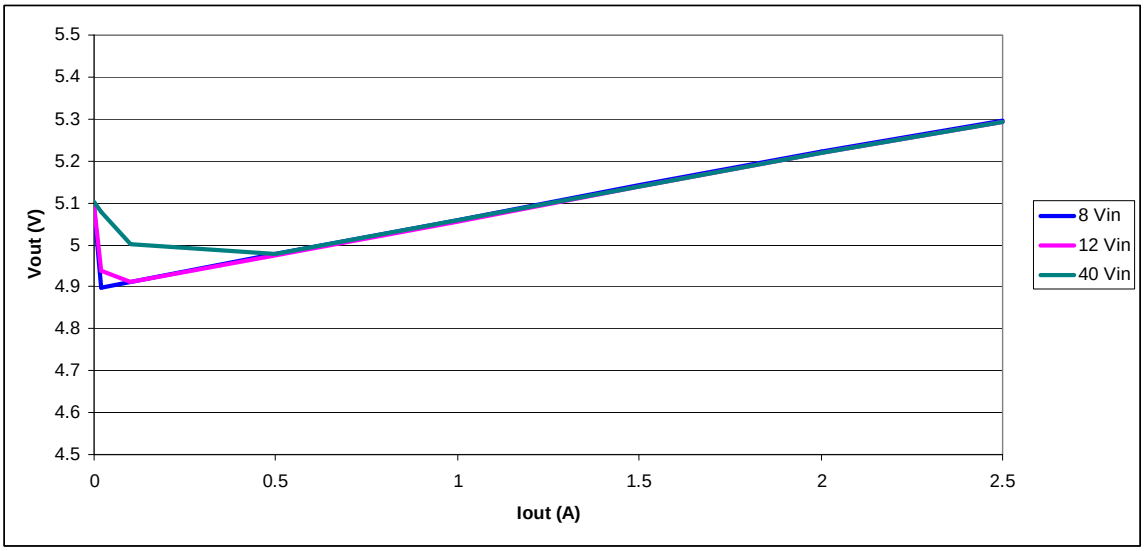
2 Efficiency

The efficiency is shown in the figure below.



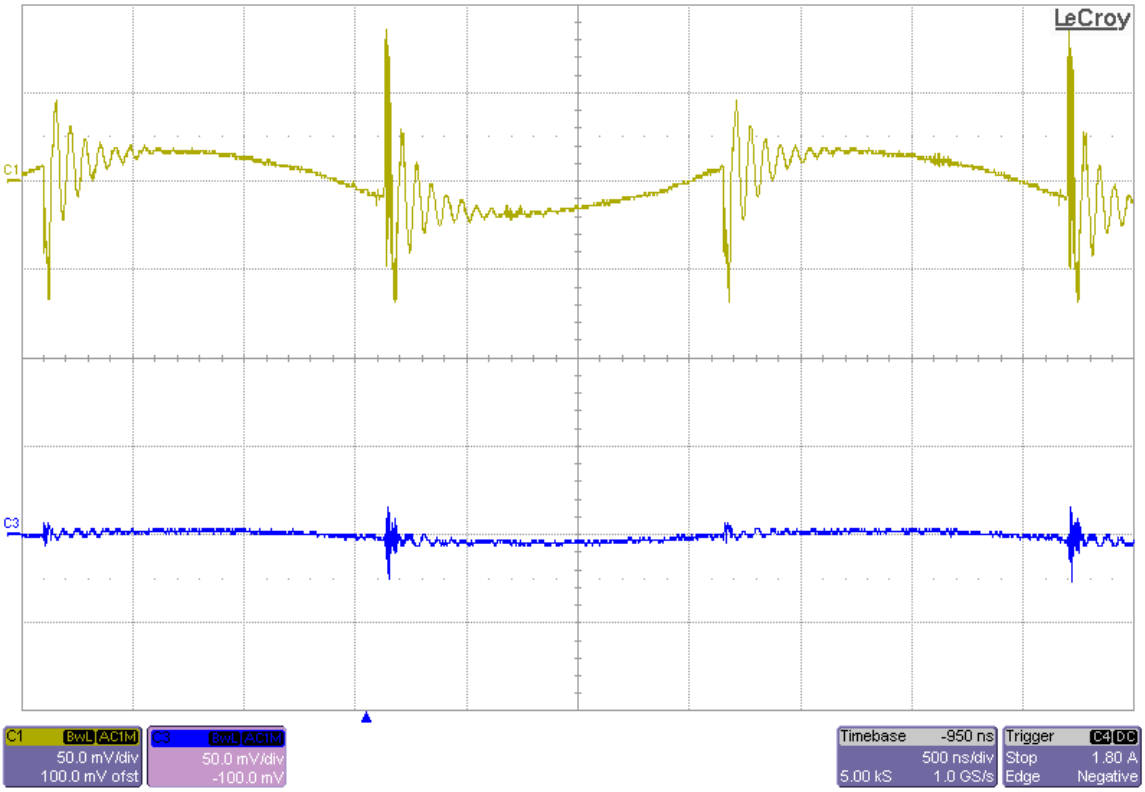
3 Load Regulation

The load regulation of the output is shown in the graph below. This design compensates for 0.3 volts of cable drop between the power supply and load



4 Output Ripple Voltage

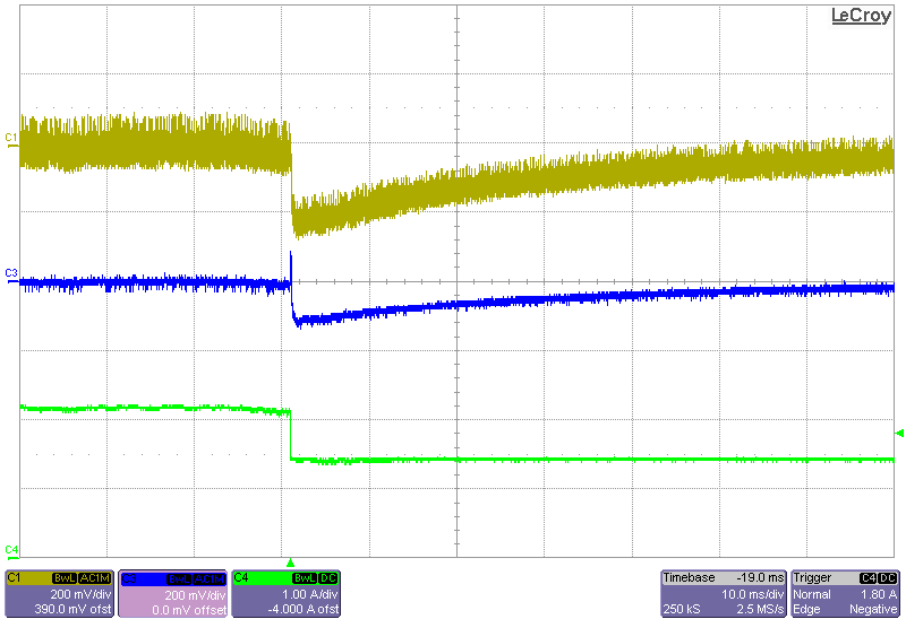
The output ripple voltage is shown in the figure below. The image was taken at 2.5A. 50 mV/div Vertical and 0.5 uS/div Horizontal. Yellow is TP7, Blue is Vout.

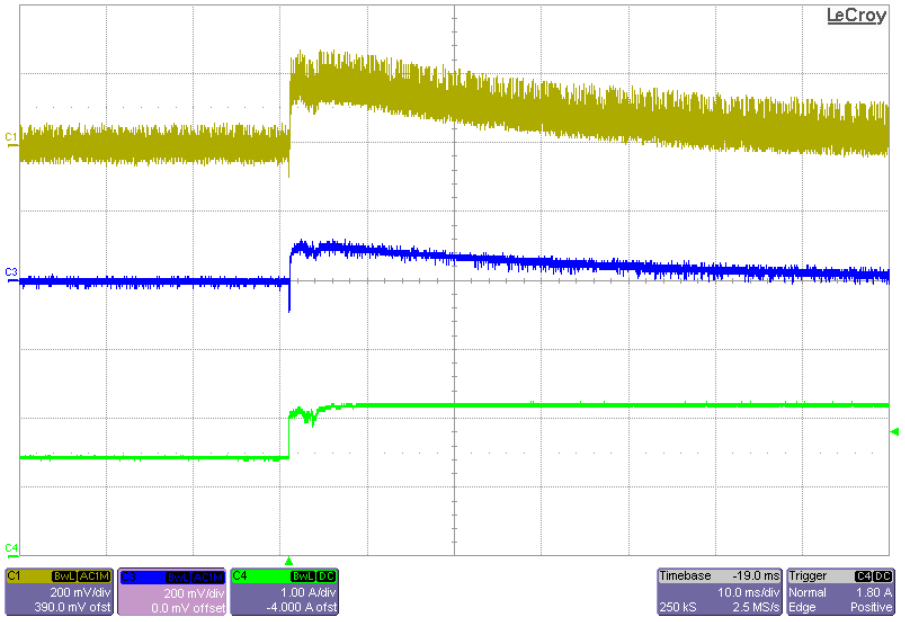


5 Load Transients

The figures below show the output response to load transients. The input voltage was set to 12V.

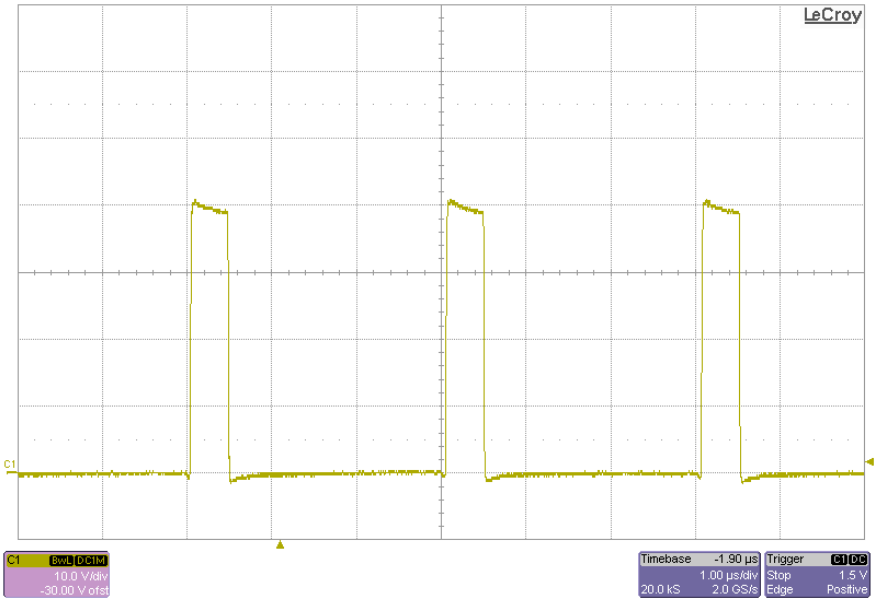
Channel 1 Yellow: TP7 (AC Coupled)
Channel 3 Blue: Vout (AC coupled)
Channel 4 Green: Load current





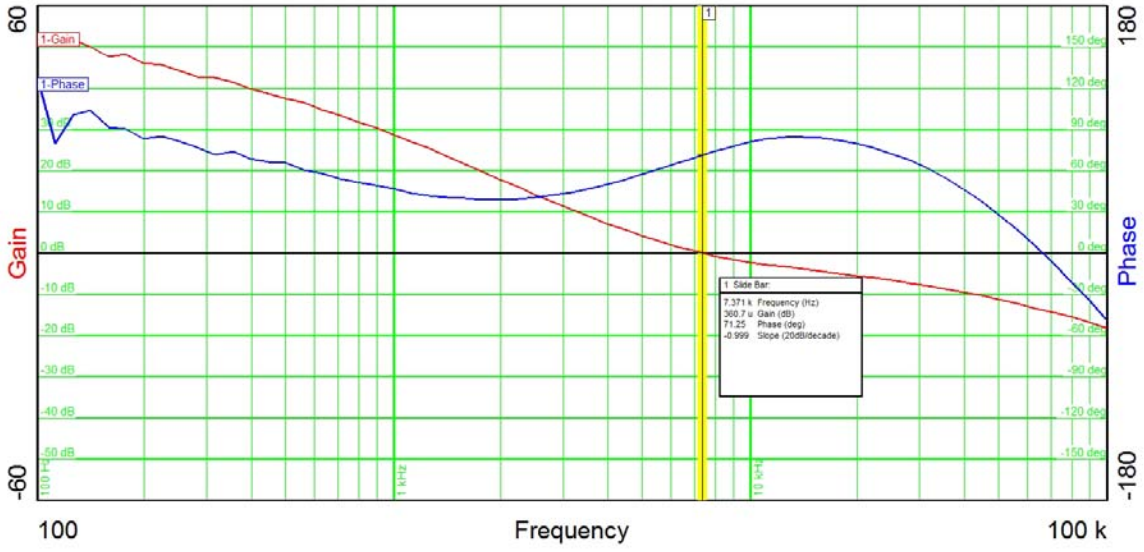
6 Switch Node Waveforms

The following figure shows the switch node at 40Vin and 2.5 amp out.



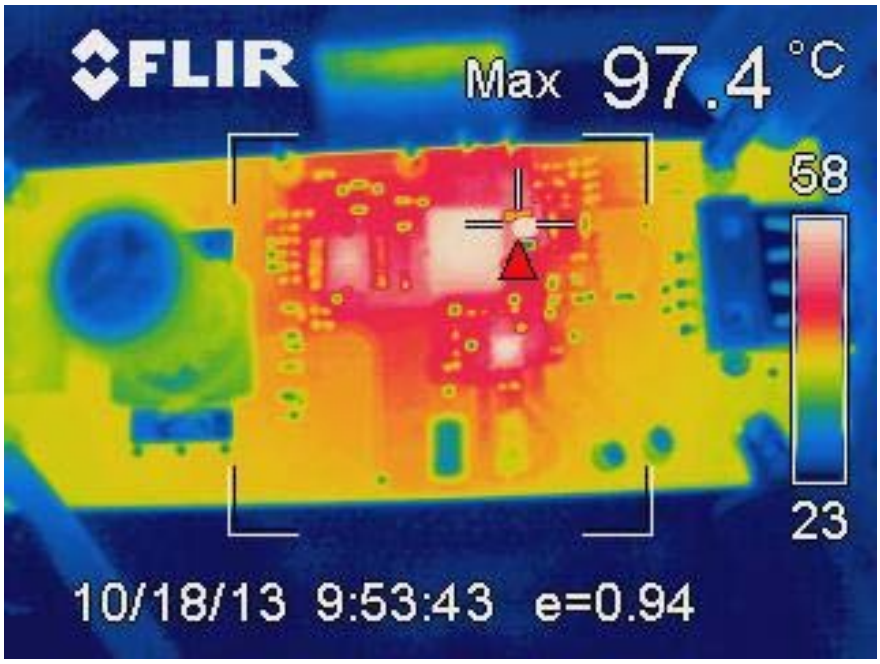
7 Control Loop Response

The following figure shows loop gain with good phase and gain margin.



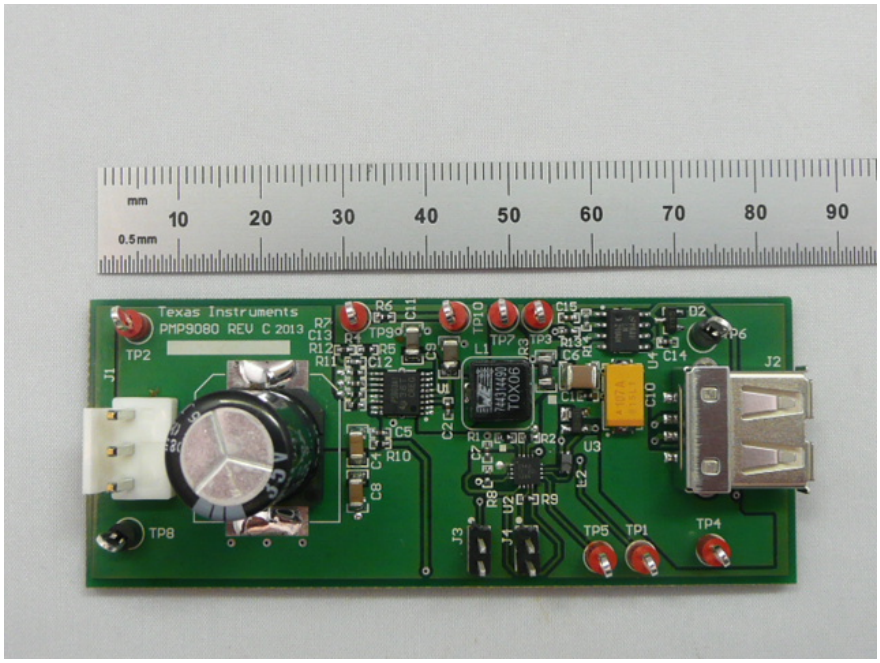
8 Thermal Image

The output inductor is 58 °C. The current sense resistor is 97 °C. 2.5 Amps out, 12 Vin.



9 Circuit Board Picture

This is the same orientation as the thermal image.



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