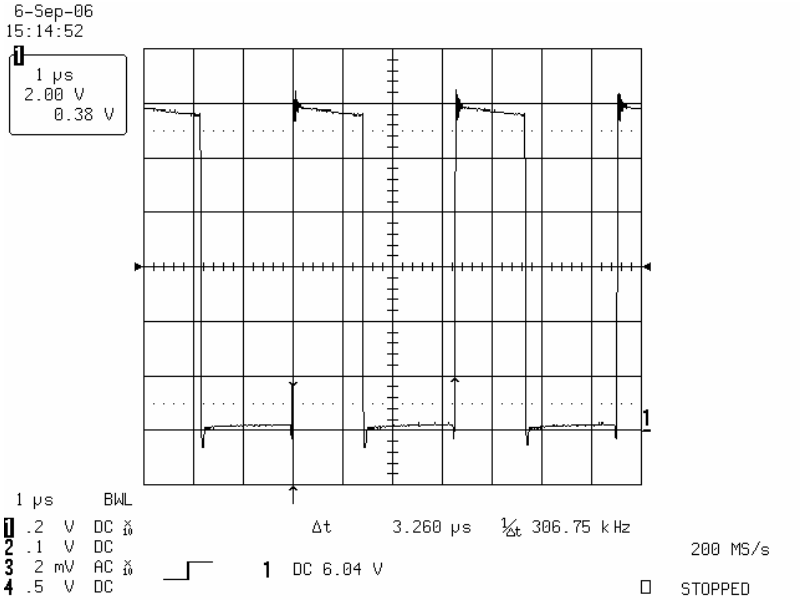
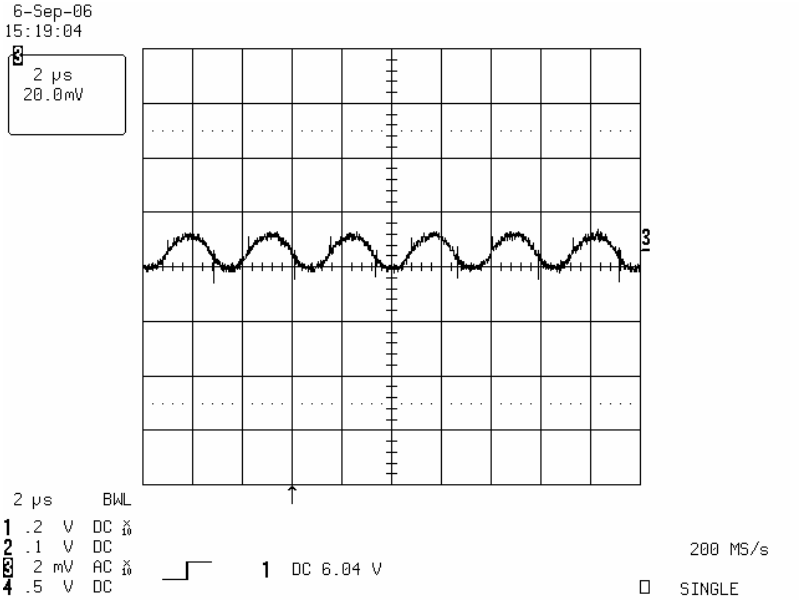
1 Switch Node Waveform (5V)

The photo below is of the switching node waveform. The input voltage is 12Vand the output is loaded to 6A. The converter is running at 306KHZ.



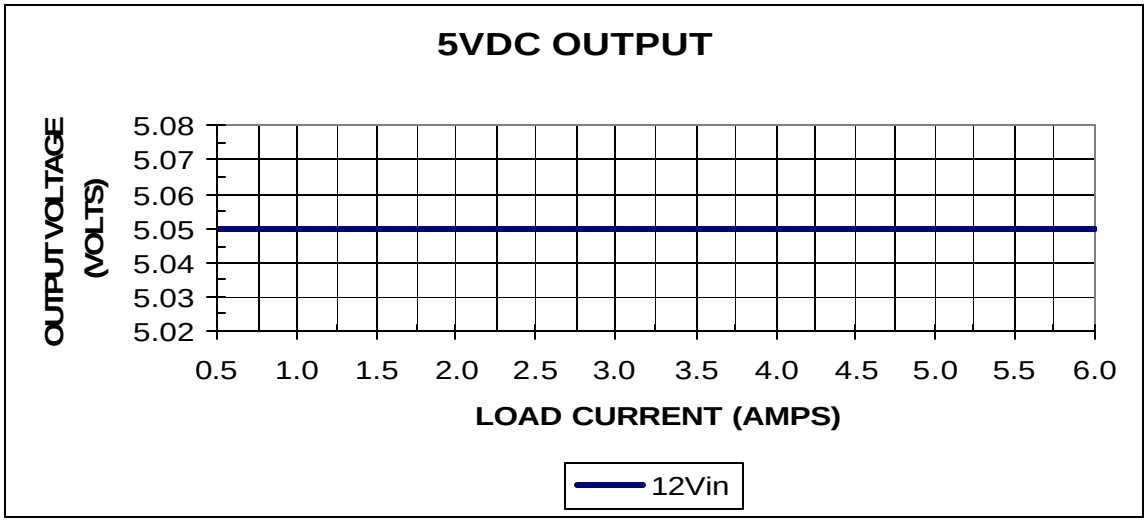
2 Output Ripple Voltage (5V)

The 5V output ripple voltage is shown in the figure below. The image was taken with the output loaded to 6A and the input voltage set to 12Vdc.



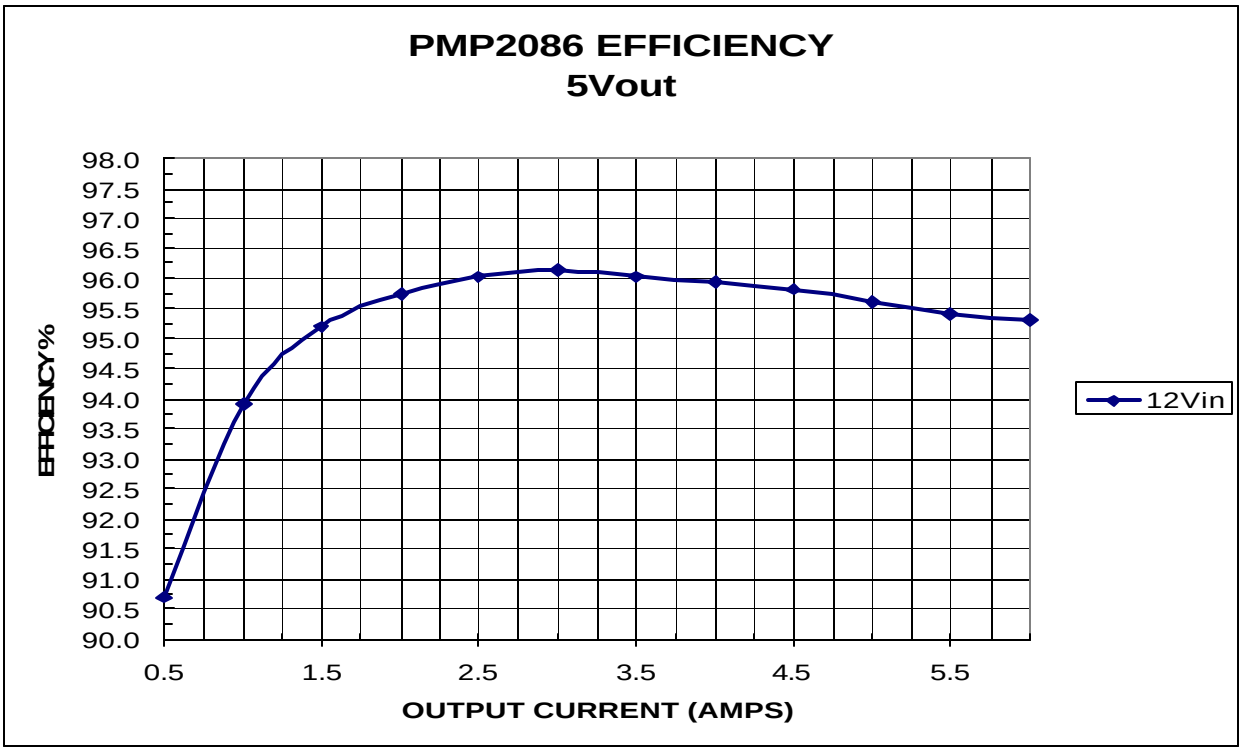
3 Load/Line Regulation (5V output)

The converter regulation over load and line are shown in the figures below.



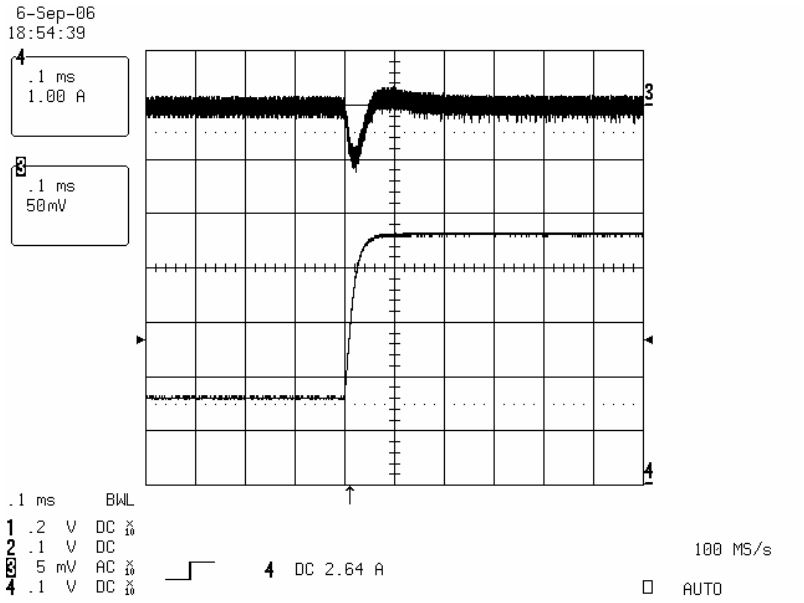
4 Efficiency (5V output)

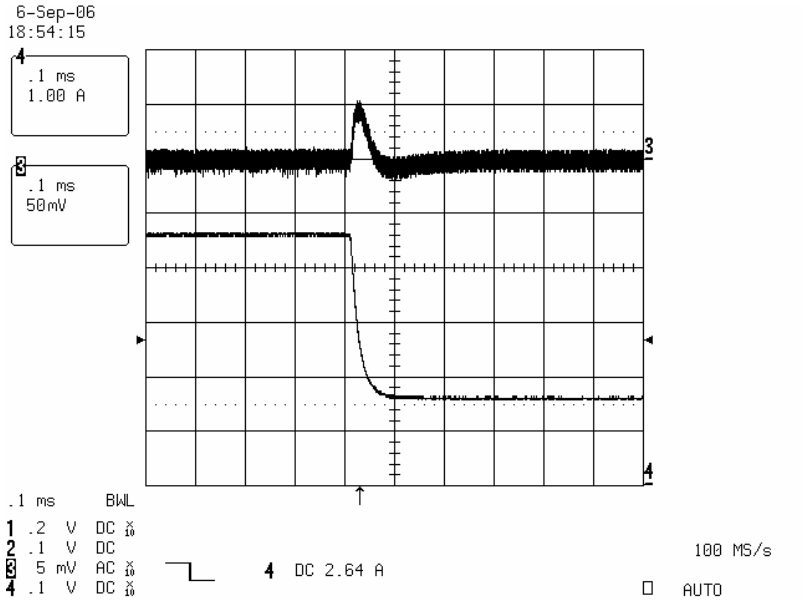
The converter regulation over load and line are shown in the figures below.



5 Load Transient (5V)

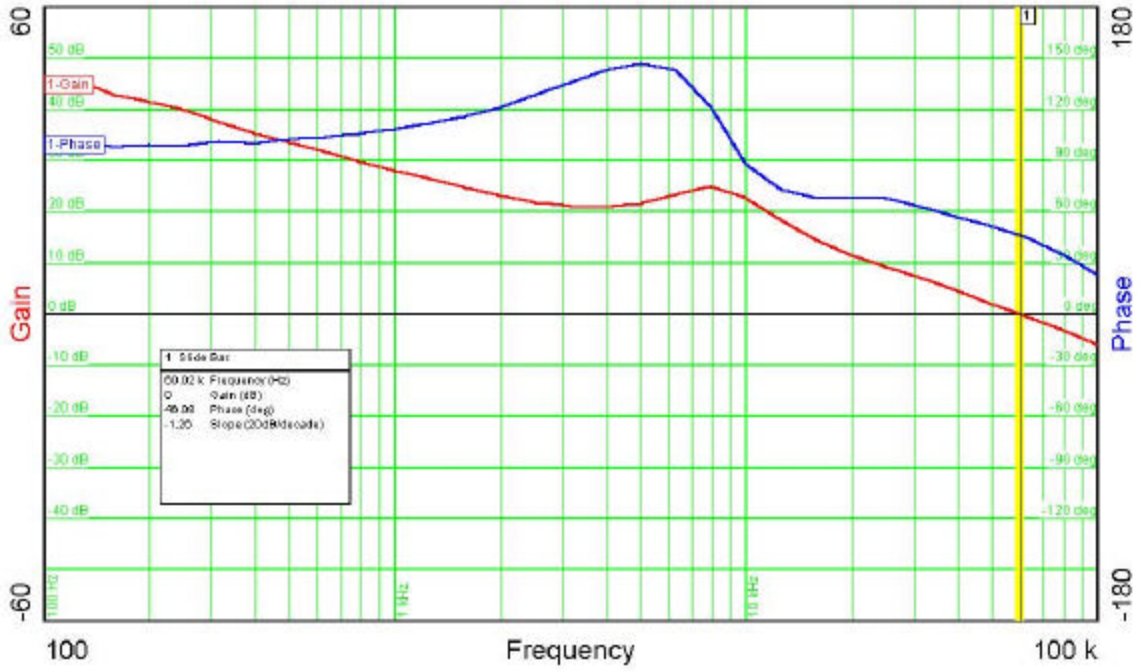
The photo below shows the 5V output voltage when the load current is pulsed between 1.5A (25%) and 4.5A (75%).
Vin = 12Vdc.



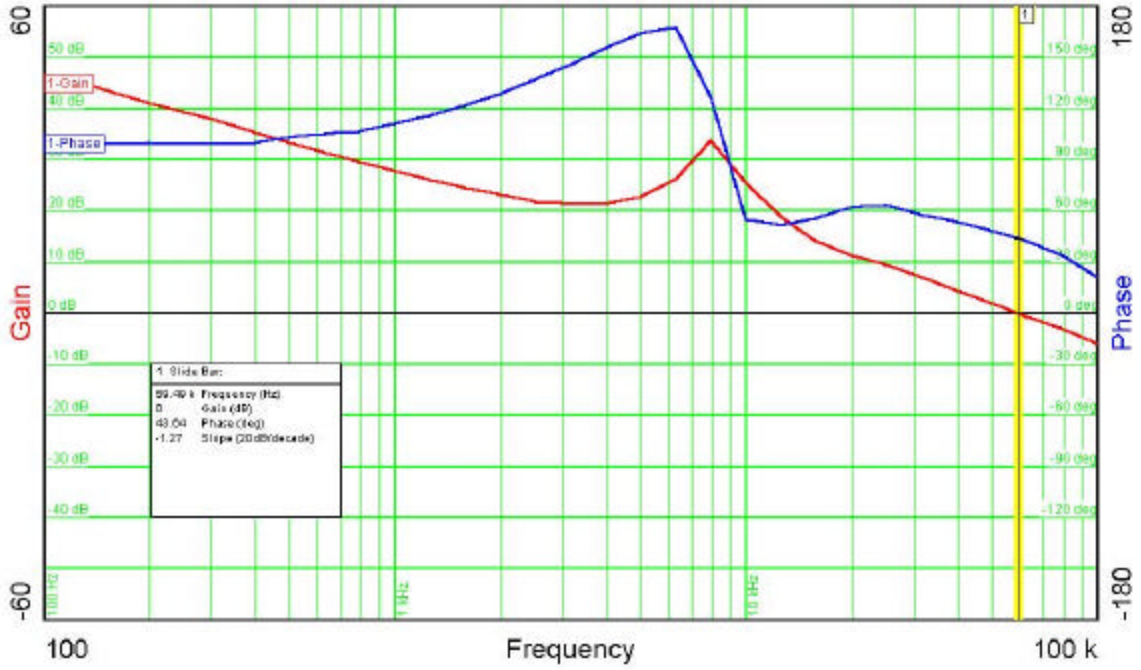


6 Control Loop Gain / Stability (1.2V)

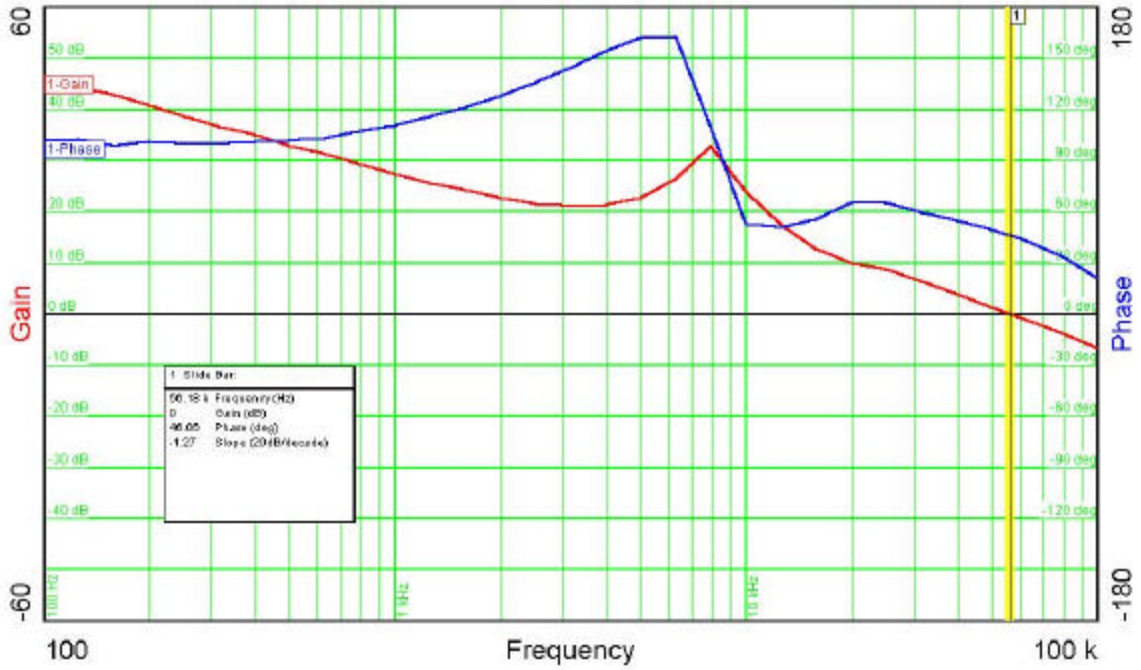
The plot below shows the loop gain and phase margin with output voltage set to 5V. The output was loaded to 0A. Vin = 12V



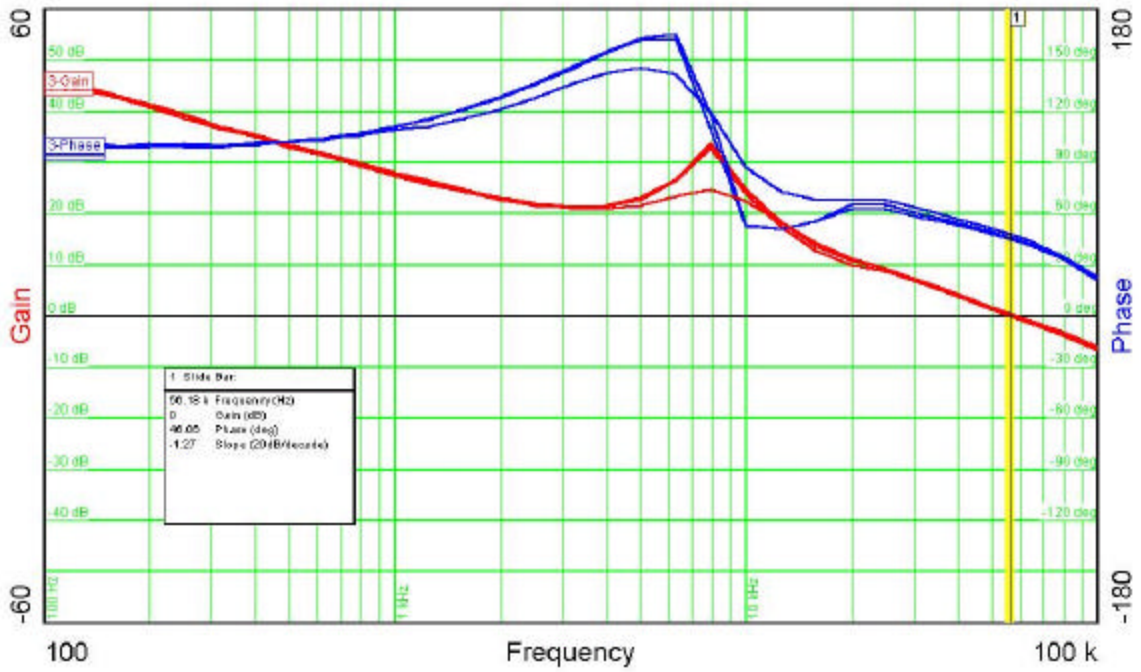
The plot below shows the loop gain and phase margin with output voltage set to 5V. The output was loaded to 3A. Vin = 12V



The plot below shows the loop gain and phase margin with output voltage set to 5V. The output was loaded to 6A. Vin = 12V



The plot below shows the loop gain and phase margin with output voltage set to 5V. The output shows all 3 variations on one graph.

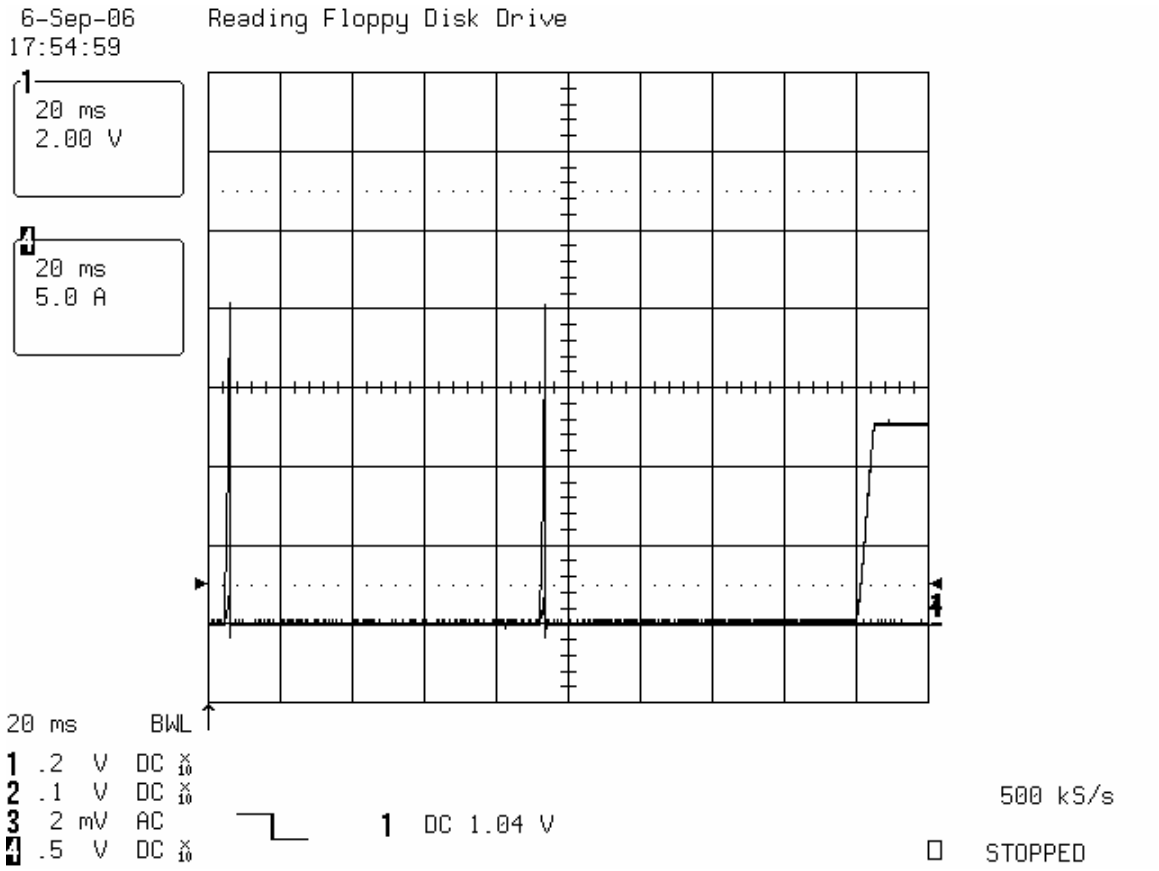


7 Output Current Limit (5V)

The output current limit when Vout begins to stop regulating is 20A.

8 Short Circuit Current and Recovery (5V)

The short circuit current and recovery time are shown on the graph below. The short circuit current show on the graph below is approx. 20A.

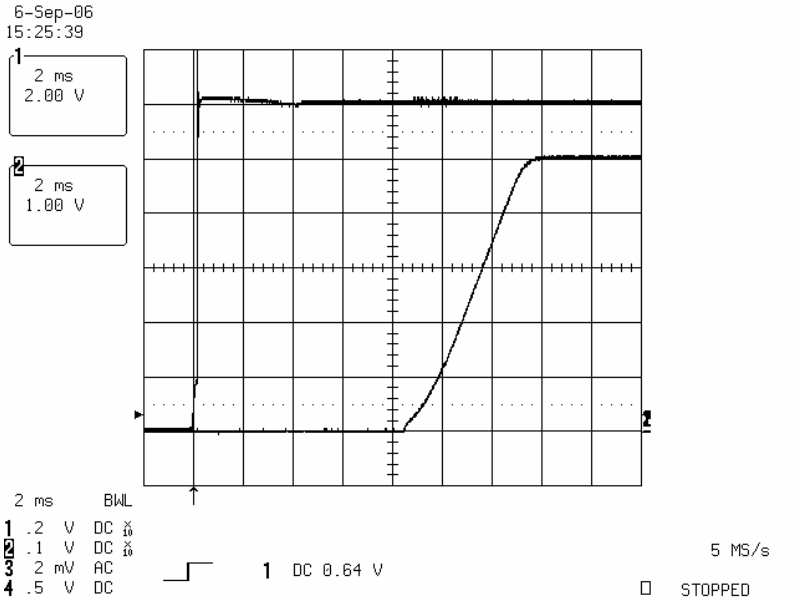


9 Short Circuit Power Dissipation (5V)

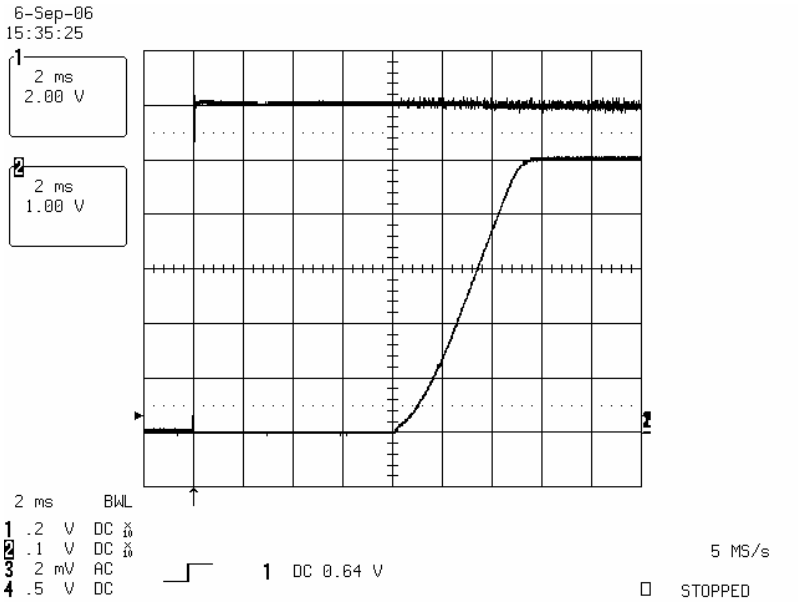
The short circuit power dissipation drew 13mA for a power dissipation of 156mW.

10 Startup/Shutdown (5V)

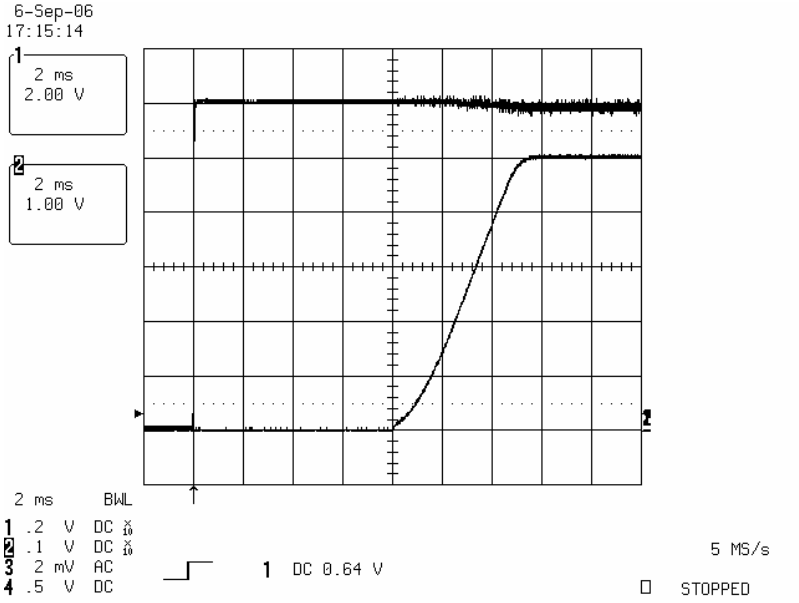
The photo below shows the 5V output voltage (Ch2) startup waveform after the application of 12Vdc in (Ch1). The output was loaded to 0A.



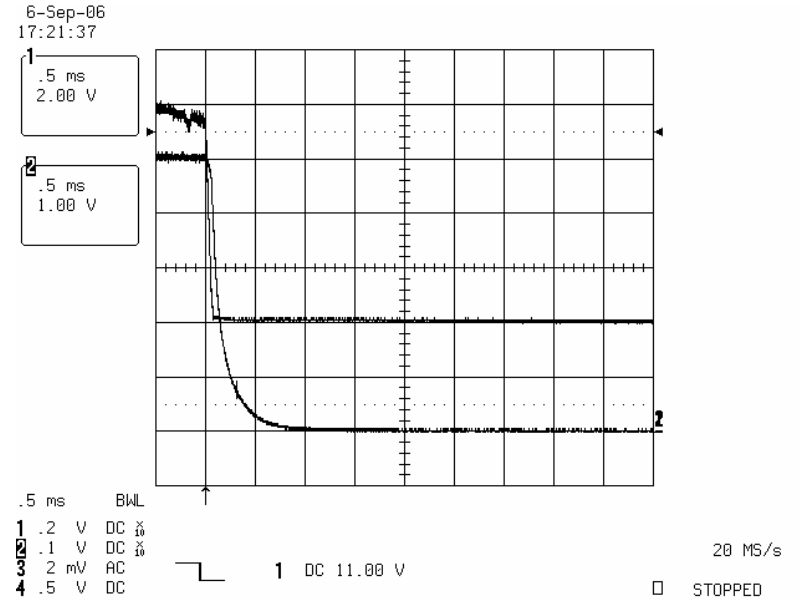
The photo below shows the 5V output voltage (Ch2) startup waveform after the application of 12Vdc in (Ch1). The output was loaded to 3A.



The photo below shows the 5V output voltage (Ch2) startup waveform after the application of 12Vdc in (Ch1). The output was loaded to 6A.



The photo below shows the 5V output voltage (Ch2) shutdown waveform after the removal of 12Vdc in (Ch1). The output was loaded to 6A.



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