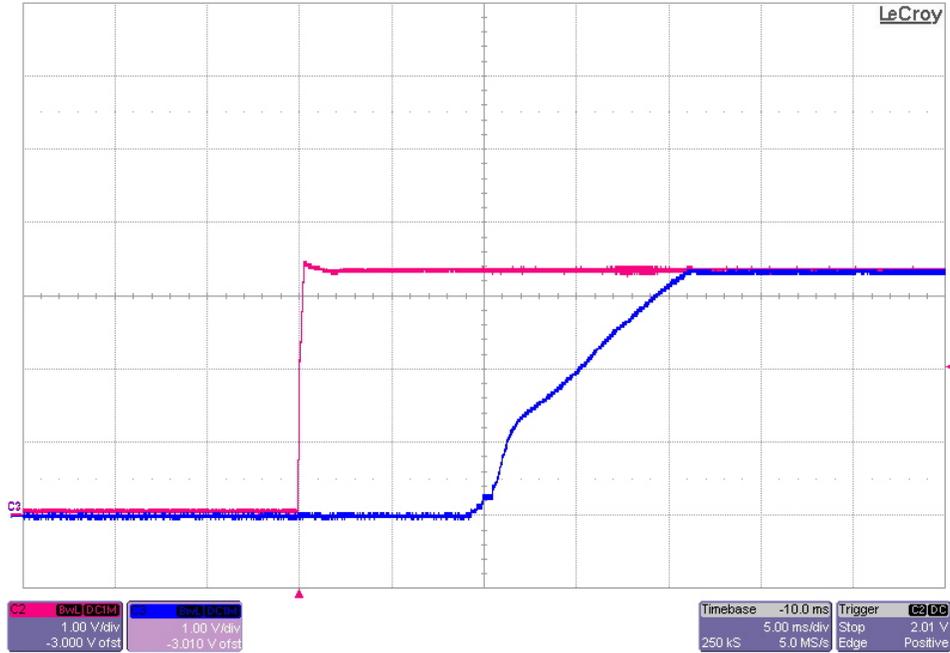
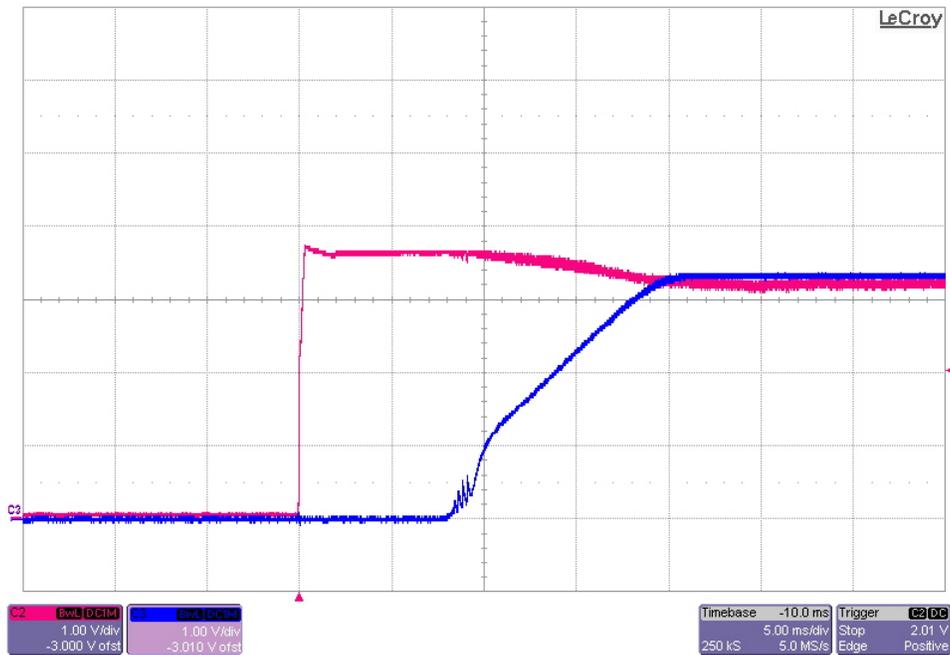


1 Startup

The photo below shows the output voltage startup waveform after the application of 3.3V in. The 3.3V output was loaded to 0A. (1V/DIV, 5mS/DIV)

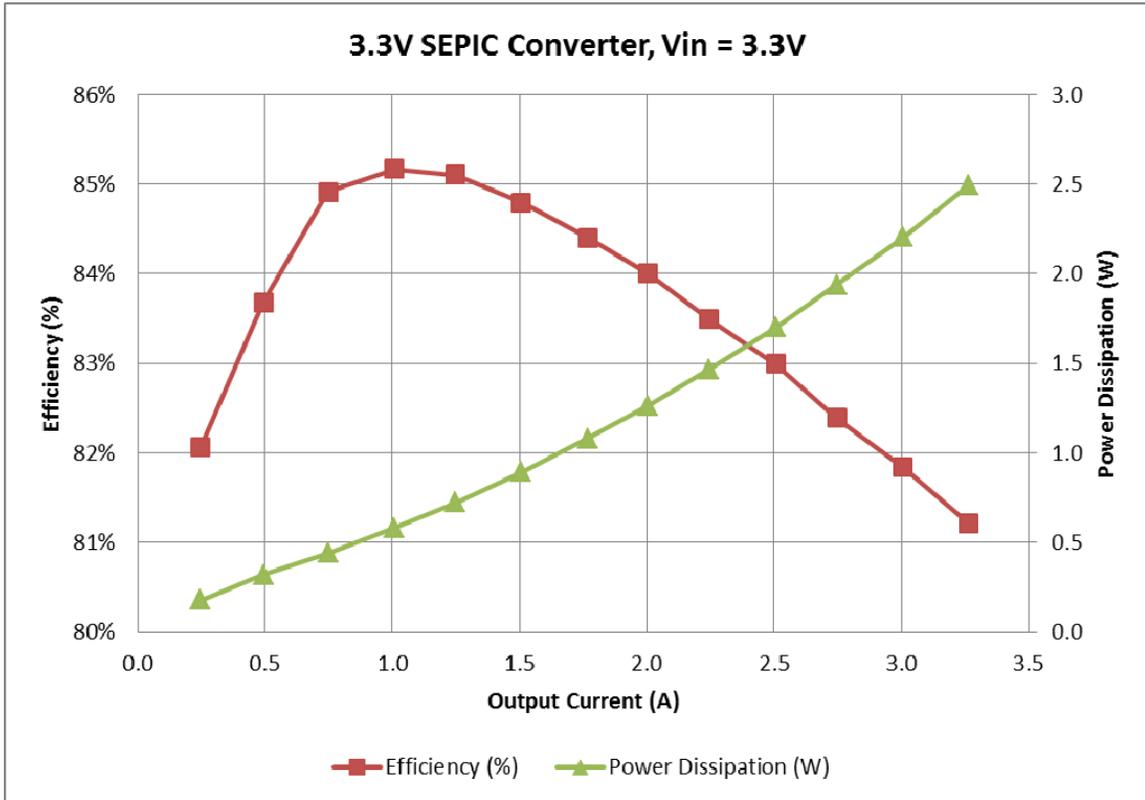


The photo below shows the output voltage startup waveform after the application of 3.3V in. The 3.3V output was loaded to 3.25A. (1V/DIV, 5mS/DIV)



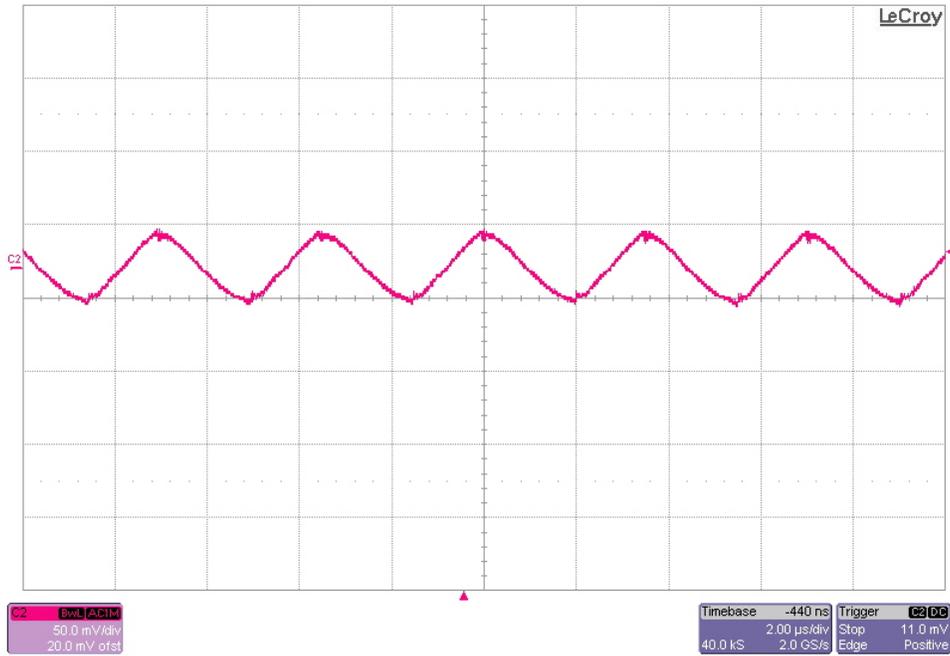
2 Efficiency

The 3.3V SEPIC converter efficiency is shown below.

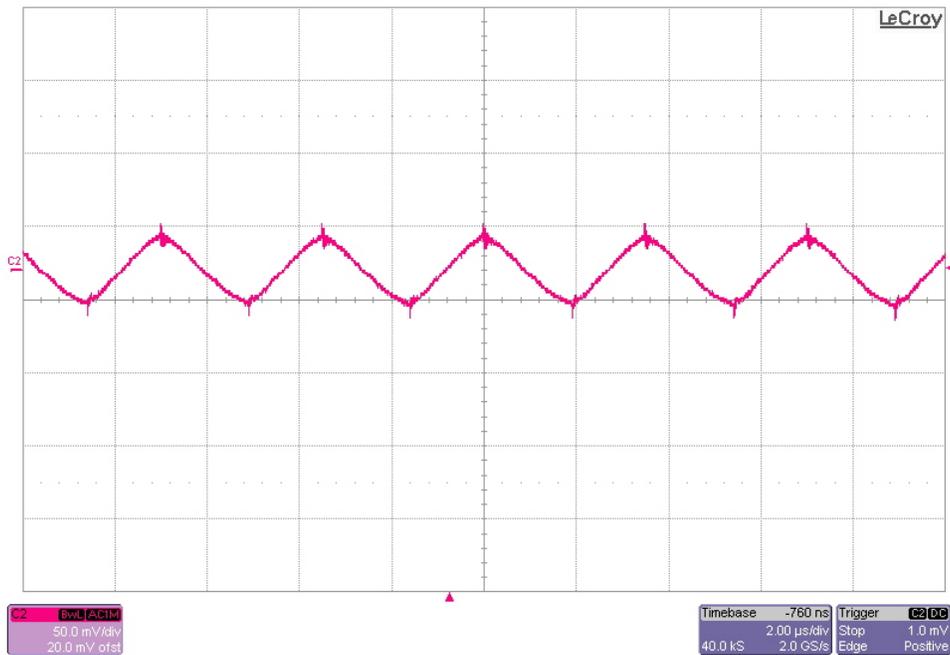


3 Output Ripple Voltage

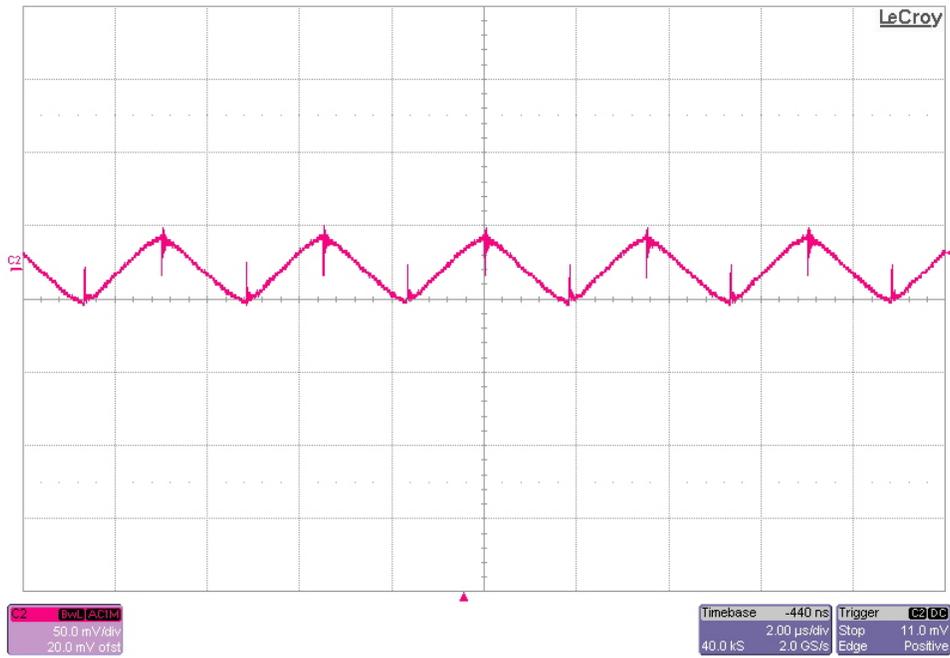
The 3.3V output ripple voltage (AC coupled) is shown in the figure below. The image was taken with the output loaded to 3.25A. The input voltage is set to 3.0V. (50mV/DIV, 2uS/DIV)



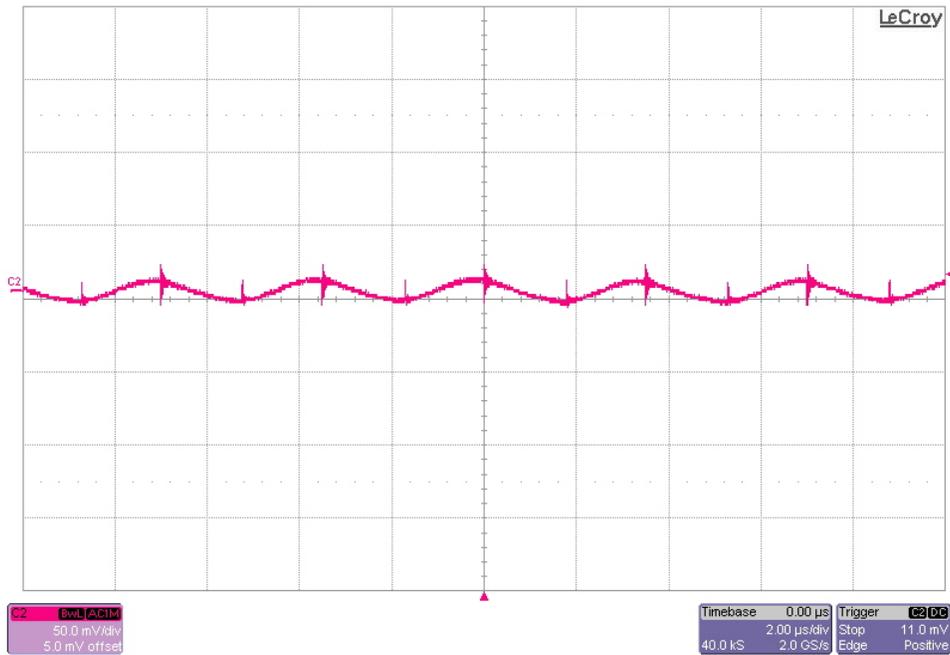
The 3.3V output ripple voltage (AC coupled) is shown in the figure below. The image was taken with the output loaded to 3.25A. The input voltage is set to 3.3V. (50mV/DIV, 2uS/DIV)



The 3.3V output ripple voltage (AC coupled) is shown in the figure below. The image was taken with the output loaded to 3.25A. The input voltage is set to 3.6V. (50mV/DIV, 2uS/DIV)

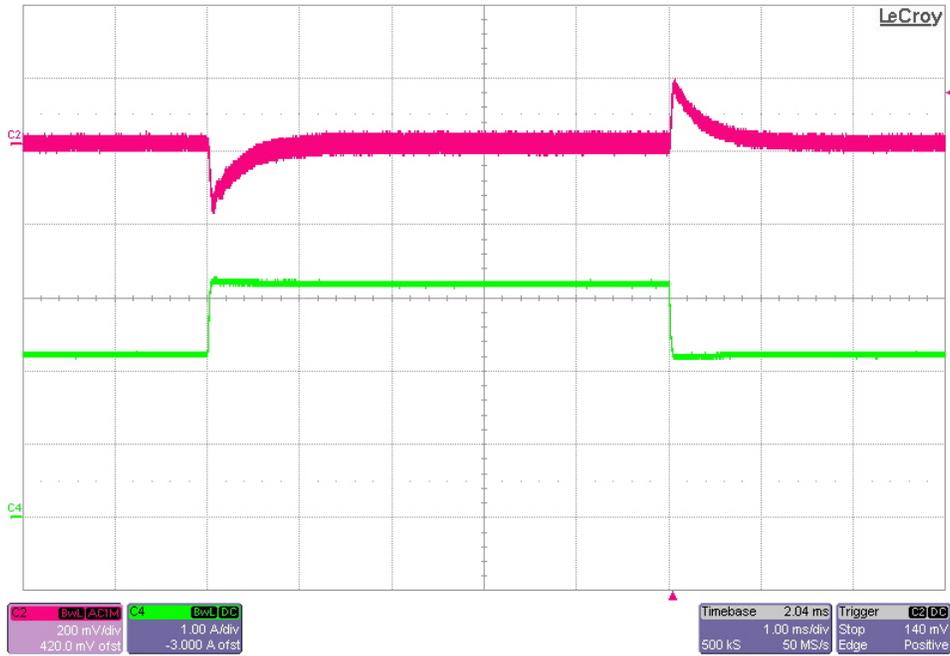


The 3.3V output ripple voltage (AC coupled) is shown in the figure below. The image was taken with the output loaded to 1A. The input voltage is set to 3.3V. (50mV/DIV, 2uS/DIV)

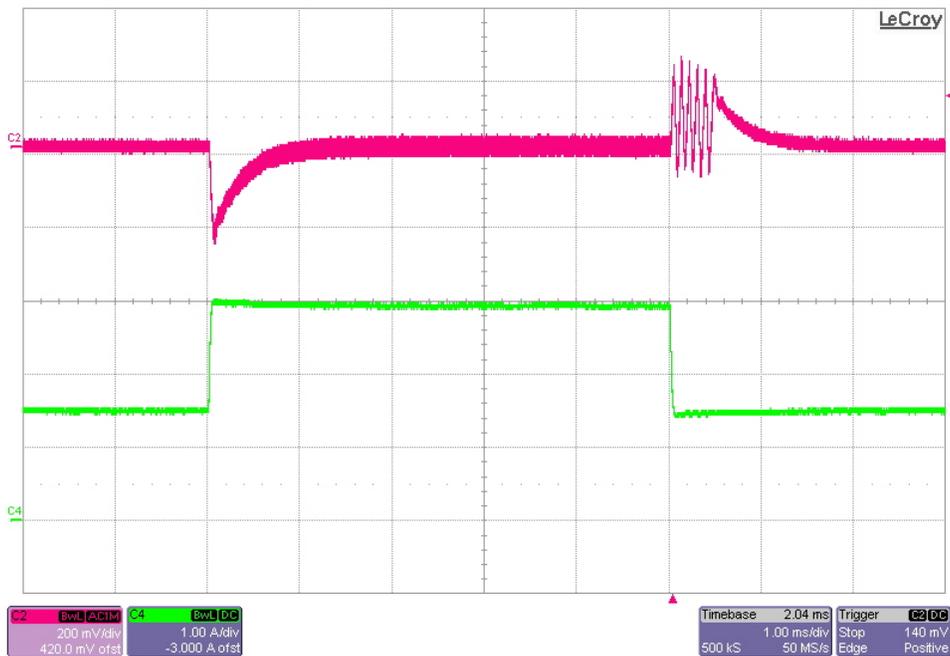


4 Load Transients

The photo below shows the output voltage (ac coupled) when the load current is stepped between 2.25A and 3.25A. $V_{in} = 3.3V$. (200mV/DIV, 1A/DIV, 1mS/DIV)

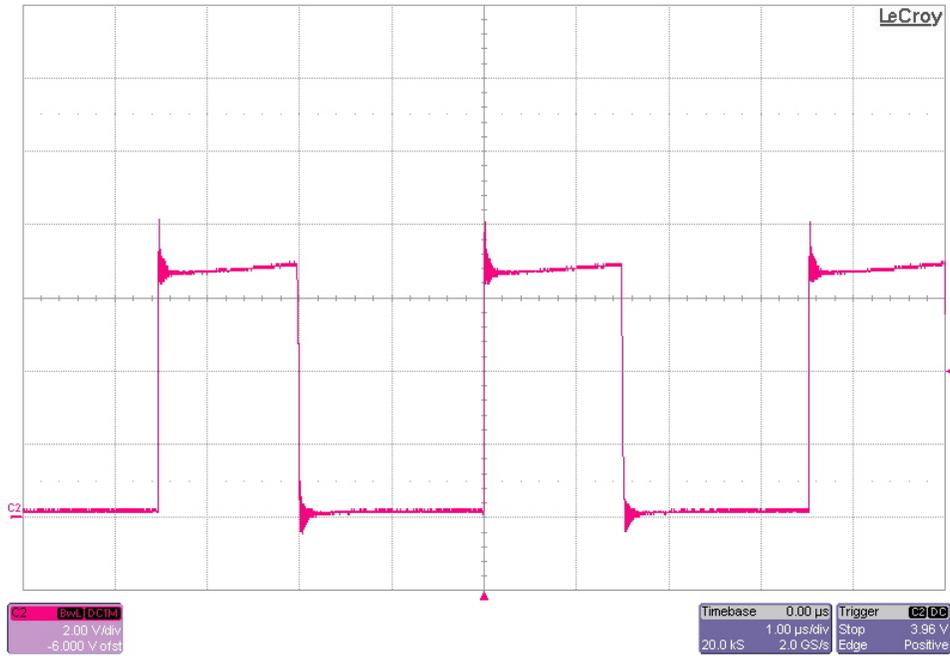


The photo below shows the output voltage (ac coupled) when the load current is stepped between 1.5A and 3A. $V_{in} = 3.3V$. (200mV/DIV, 1A/DIV, 1mS/DIV)



5 Switch Node Waveforms

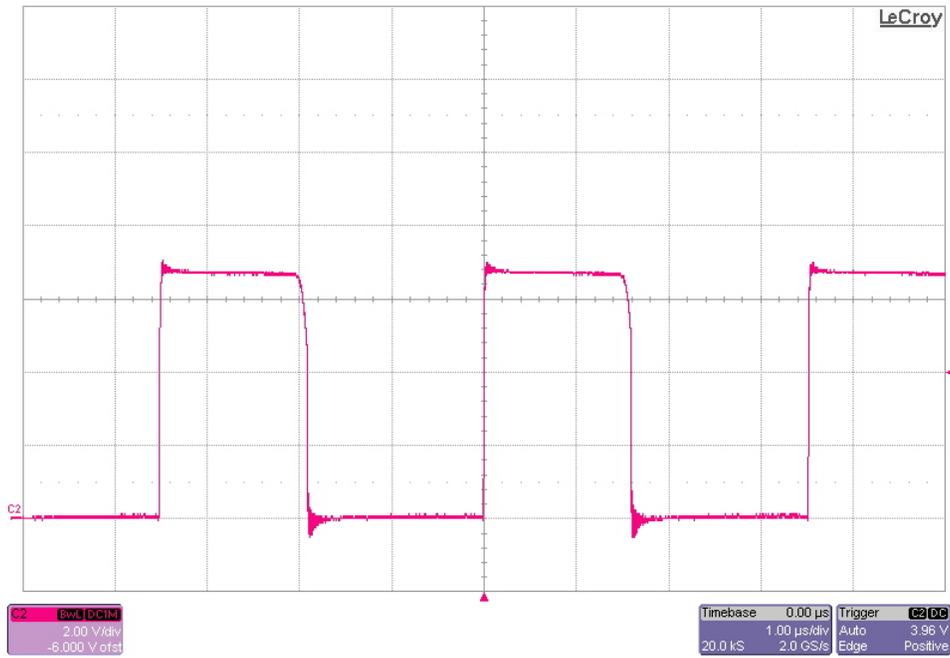
The photo below shows the FET switching voltage. The input voltage is 3.0V and the output is loaded to 3.25A. (2V/DIV, 1uS/DIV)



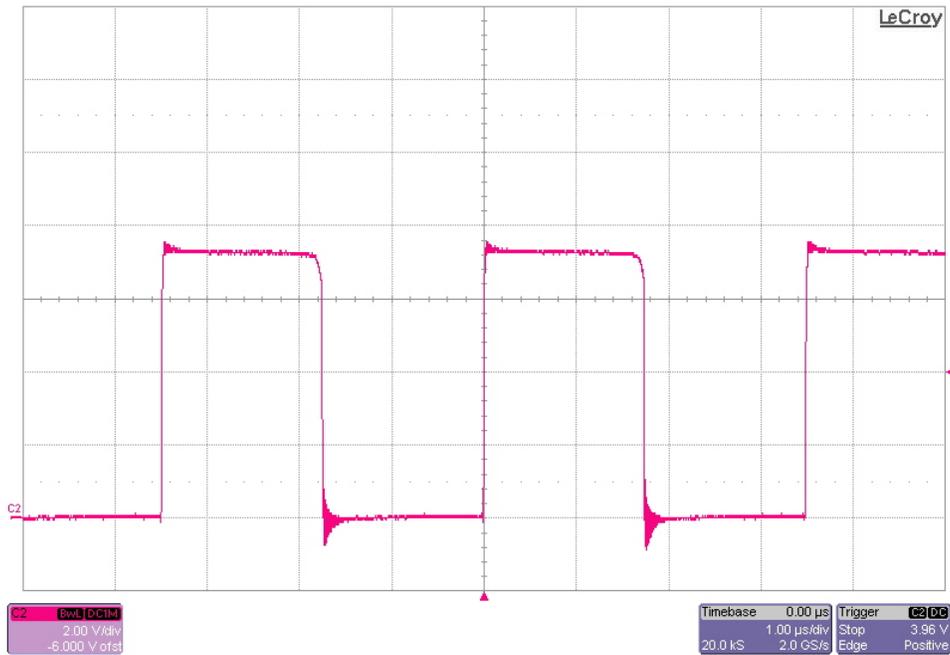
The photo below shows the FET switching voltage. The input voltage is 3.6V and the output is loaded to 3.25A. (2V/DIV, 1uS/DIV)



The photo below shows the FET switching voltage. The input voltage is 3.0V and the output is loaded to 0.35A. The converter is operating in DCM. (2V/DIV, 1uS/DIV)



The photo below shows the FET switching voltage. The input voltage is 3.6V and the output is loaded to 0.43A. The converter is operating in DCM. (2V/DIV, 1uS/DIV)



6 Loop Gain

The plot below shows the loop gain with the input voltage set to 3.0V and 3.6V and the output set to 3.3V @ 3.25A.

Loop Gain (Vin = 3.0V)

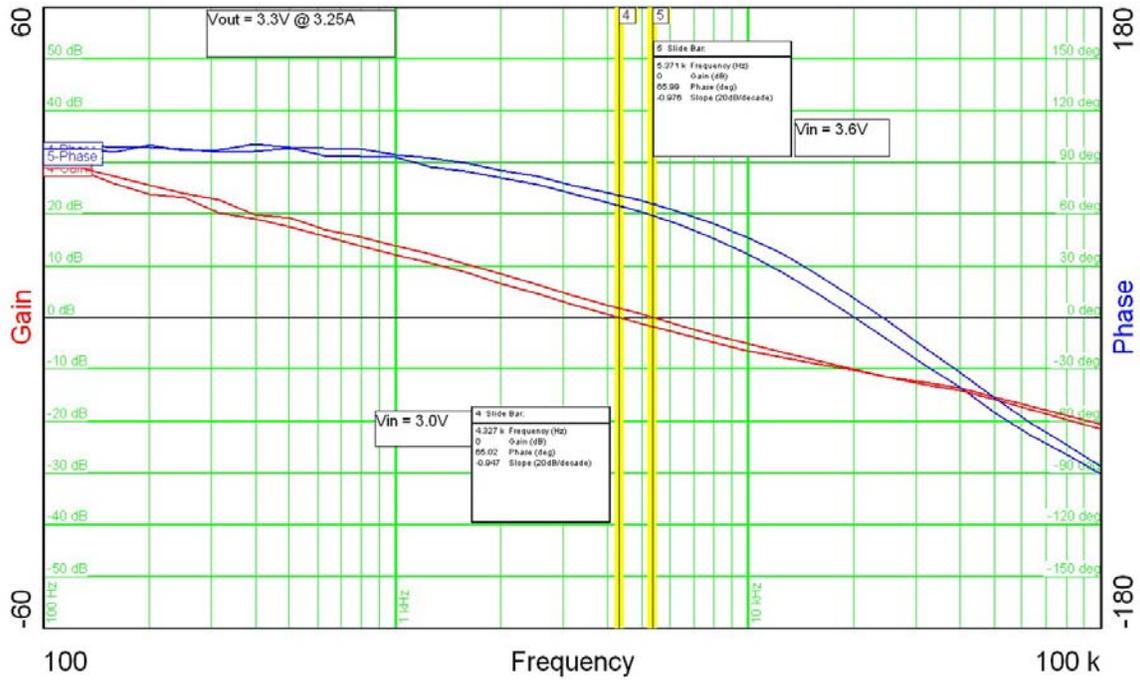
BW: 4.33KHz

PM: 65 degrees

Loop Gain (Vin = 3.6V)

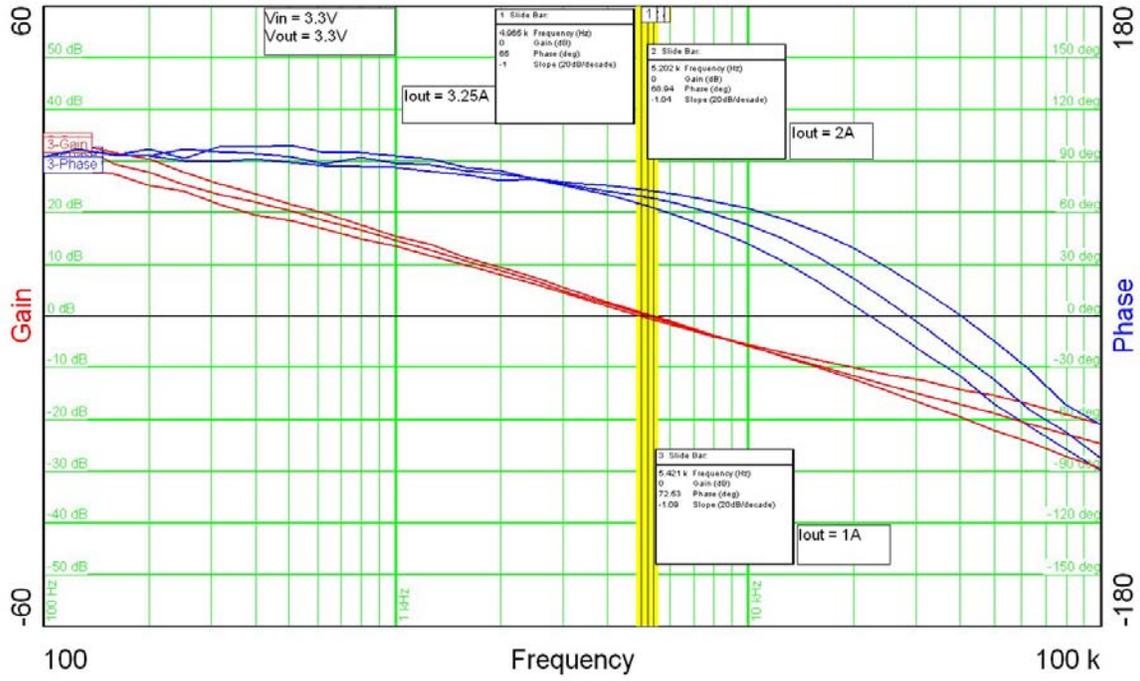
BW: 5.37KHz

PM: 66 degrees



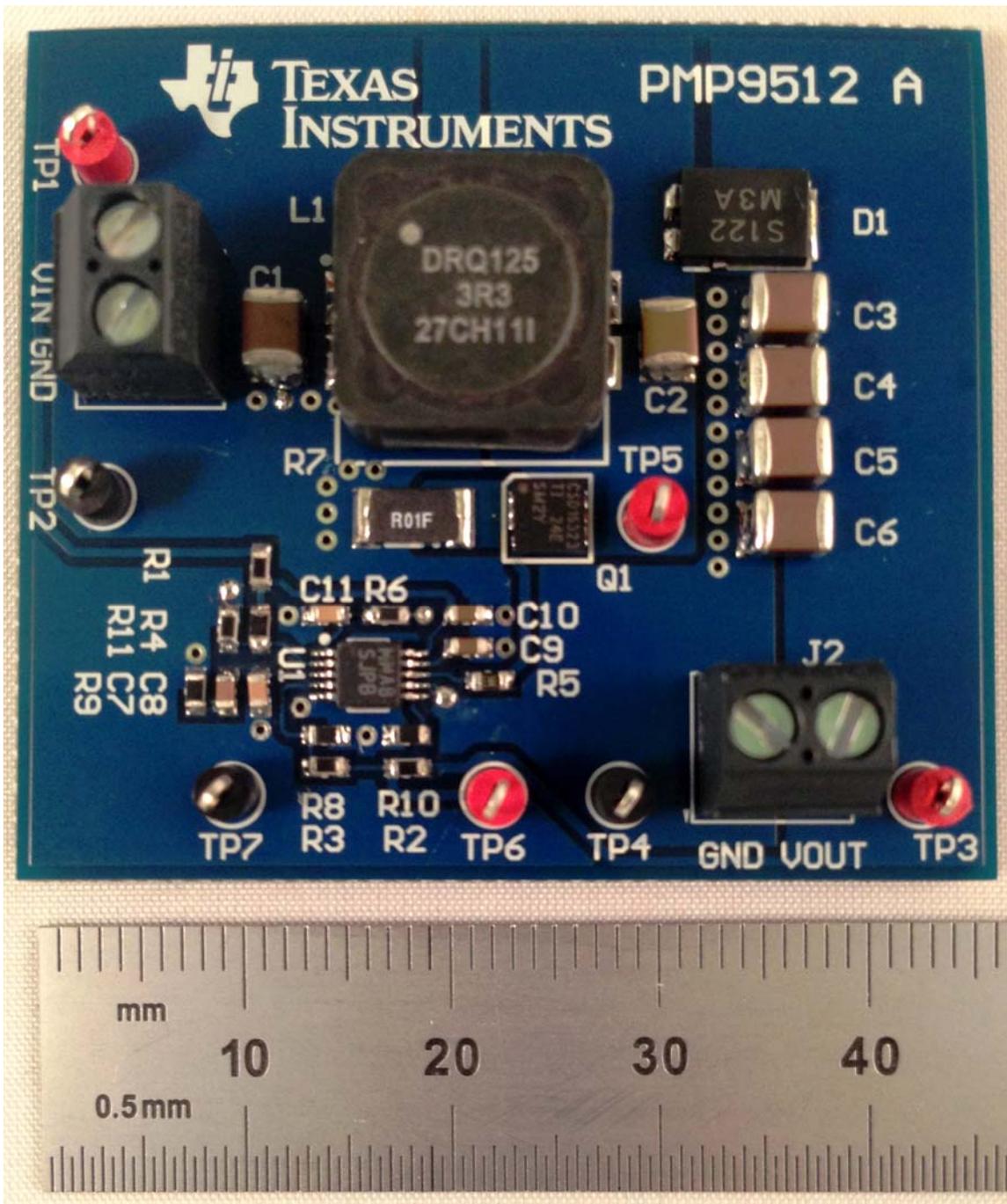
The plot below shows the loop gain with the input voltage set to 3.3V and the output set to 3.3V @ 1A, 2A, and 3.25A.

Loop Gain (Iout = 1A)	BW: 5.42KHz	PM: 73 degrees
Loop Gain (Iout = 2A)	BW: 5.20KHz	PM: 69 degrees
Loop Gain (Iout = 3.25A)	BW: 4.97KHz	PM: 65 degrees



7 Photo

The photo below shows the PMP9512 REVA assy.



8 Thermal Image

A thermal image is shown below operating at 3.3V input and 3.3V@3.25A output (room temp and no airflow).



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