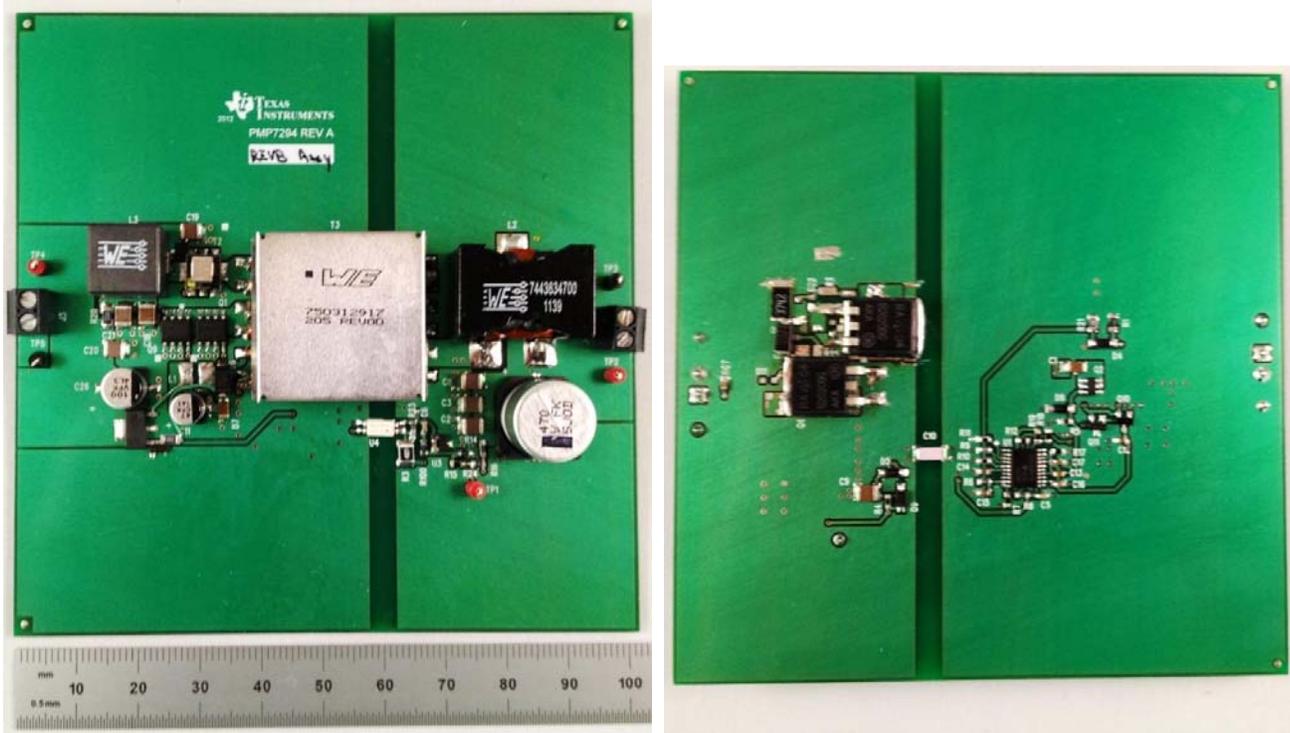


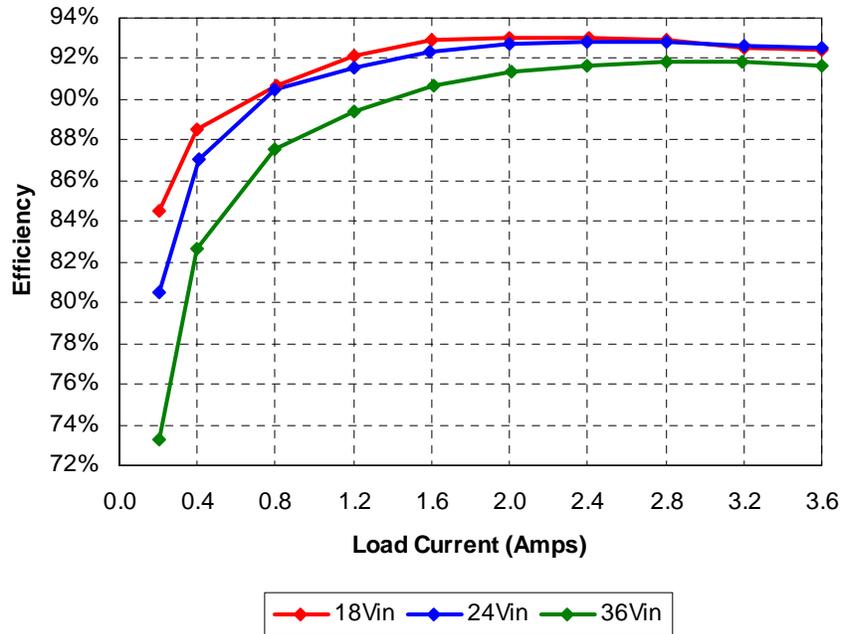
1 Photo

The photographs below show the top and bottom views of the PMP7294 Rev B demo board. The circuit is built on a PMP7294 Rev A PWB.



2 Efficiency

The efficiency data is shown in the tables and graphs below.

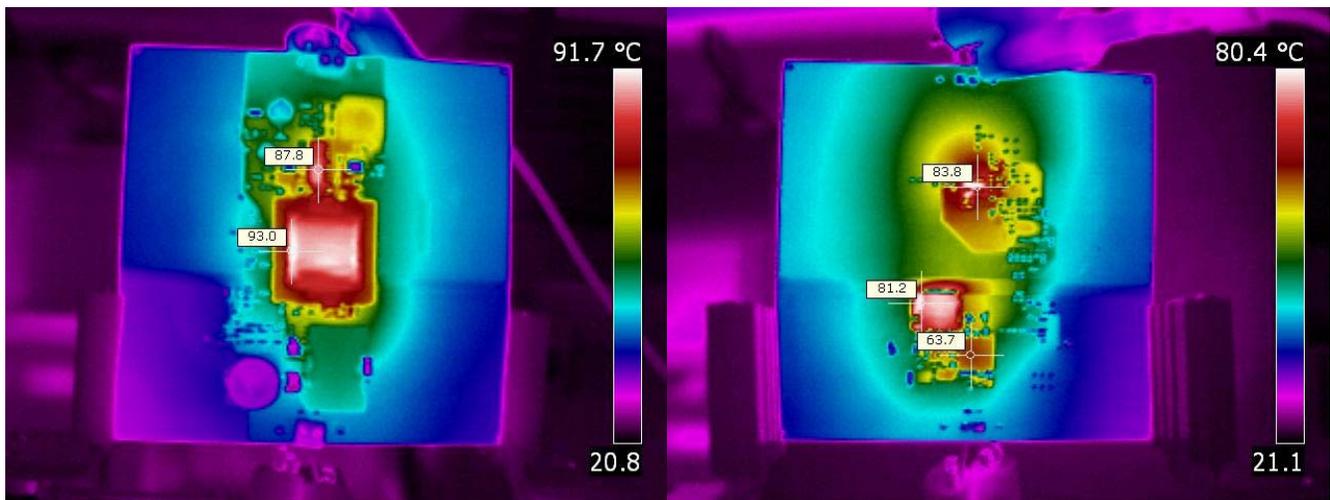


Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	27.90	18.0	0.023	0.00	0.414	0.0%
0.202	27.89	18.0	0.371	5.63	1.033	84.5%
0.398	27.88	18.0	0.696	11.10	1.432	88.6%
0.804	27.87	18.0	1.373	22.41	2.307	90.7%
1.202	27.87	18.0	2.020	33.50	2.860	92.1%
1.603	27.87	18.0	2.670	44.68	3.384	93.0%
1.994	27.87	18.0	3.319	55.57	4.169	93.0%
2.402	27.87	18.0	3.997	66.94	5.002	93.0%
2.800	27.87	18.0	4.666	78.04	5.952	92.9%
3.200	27.86	18.0	5.352	89.15	7.184	92.5%
3.595	27.86	18.0	6.018	100.16	8.167	92.5%
Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	27.91	24.0	0.019	0.00	0.456	0.0%
0.203	27.90	24.0	0.293	5.66	1.368	80.5%
0.403	27.89	24.0	0.538	11.24	1.672	87.0%
0.798	27.89	24.0	1.025	22.26	2.344	90.5%
1.199	27.88	24.0	1.522	33.43	3.100	91.5%
1.594	27.88	24.0	2.006	44.44	3.703	92.3%
2.000	27.88	24.0	2.505	55.76	4.360	92.7%
2.400	27.88	24.0	3.005	66.91	5.208	92.8%
2.800	27.87	24.0	3.502	78.04	6.012	92.8%
3.201	27.87	24.0	4.012	89.21	7.076	92.7%
3.600	27.87	24.0	4.519	100.33	8.124	92.5%
Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	27.92	36.0	0.020	0.00	0.720	0.0%
0.205	27.91	36.0	0.217	5.72	2.090	73.2%
0.398	27.90	36.0	0.373	11.10	2.324	82.7%
0.798	27.89	36.0	0.706	22.26	3.160	87.6%
1.205	27.89	36.0	1.044	33.61	3.977	89.4%
1.610	27.88	36.0	1.375	44.89	4.613	90.7%
2.008	27.88	36.0	1.702	55.98	5.289	91.4%
2.397	27.88	36.0	2.025	66.83	6.072	91.7%
2.803	27.88	36.0	2.363	78.15	6.920	91.9%
3.197	27.88	36.0	2.697	89.13	7.960	91.8%
3.603	27.88	36.0	3.044	100.45	9.132	91.7%

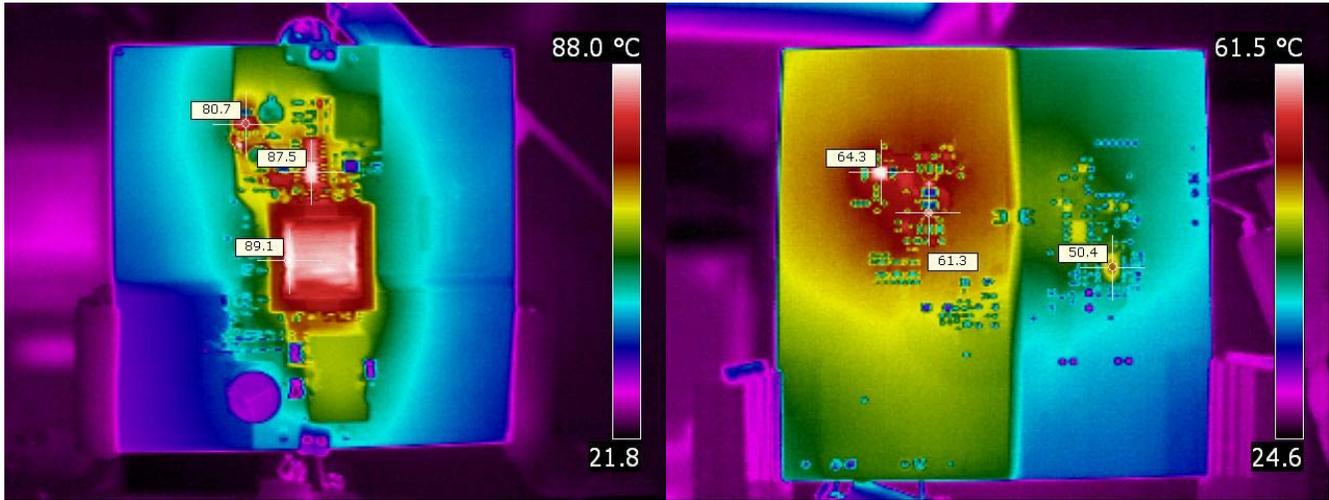
3 Thermal Images

The thermal images below show a top view (left) and bottom view (right) of the board. The ambient temperature was 25C with no forced air flow. The output was loaded with 3.6A.

3.1 18V Input

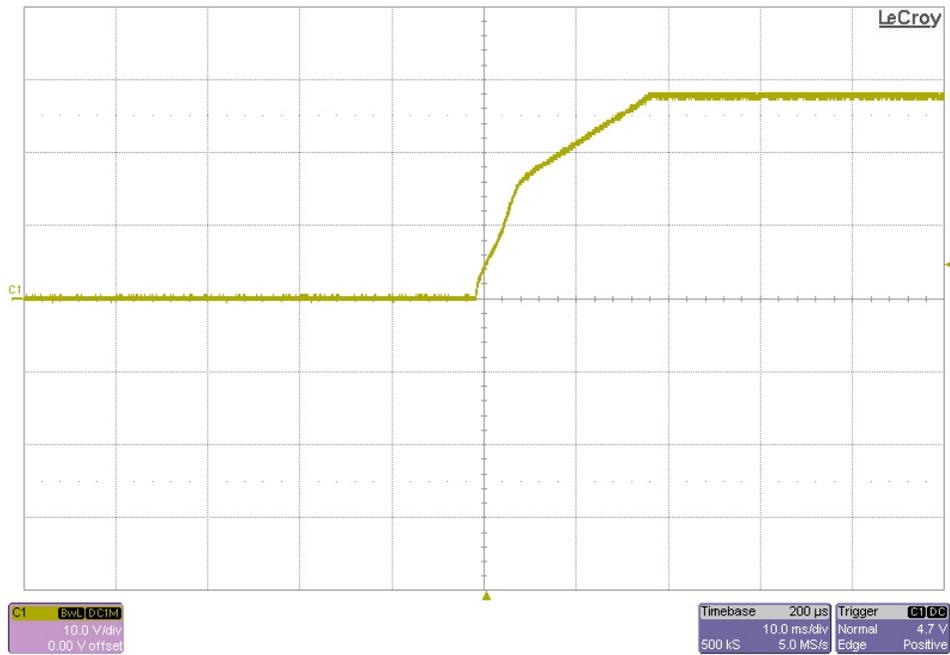


3.2 36V Input

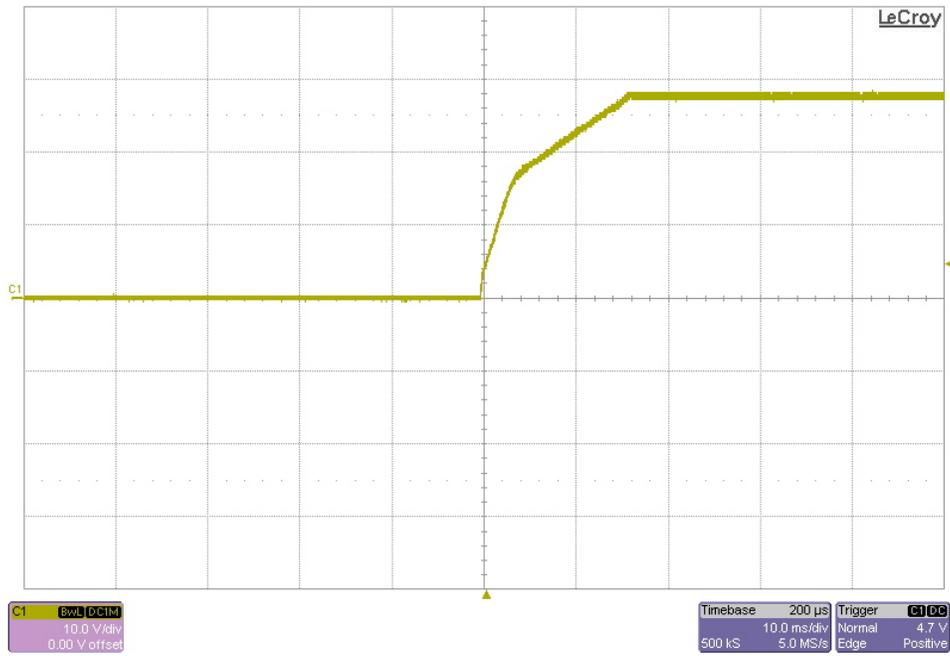


4 Startup

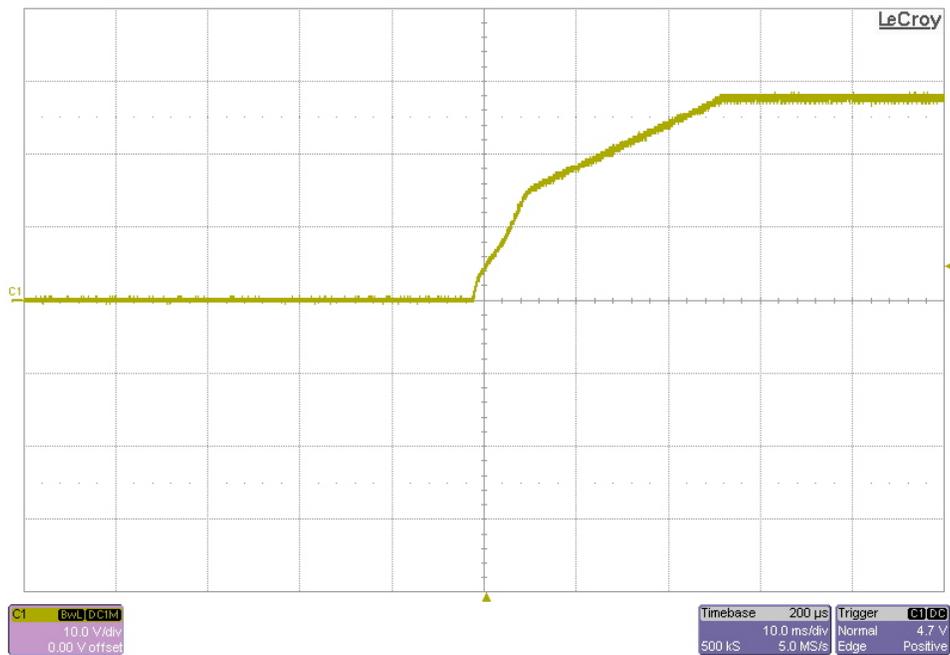
4.1 18V Input – No Load



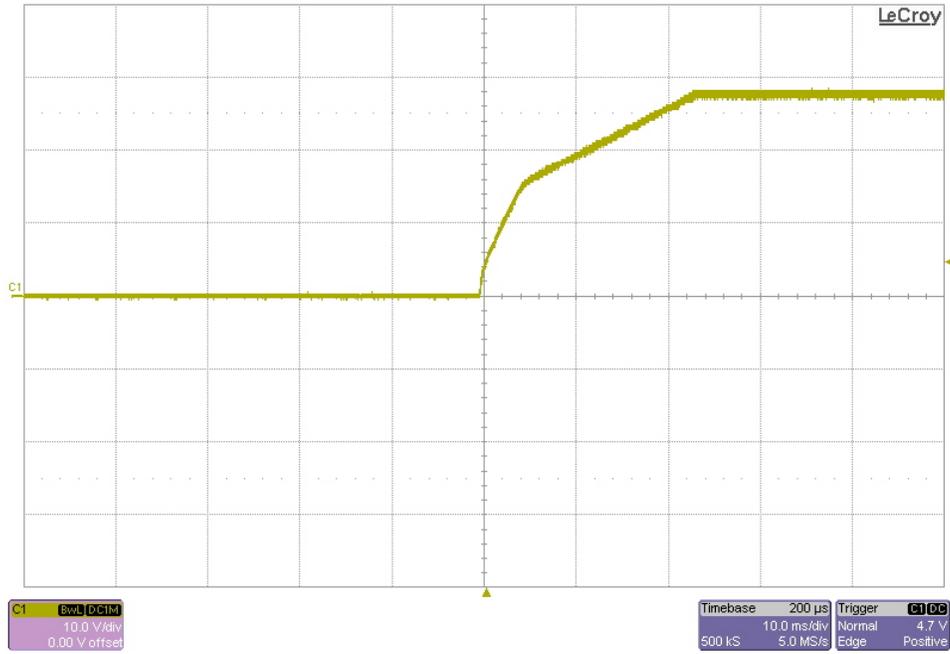
4.2 36V Input – No Load



4.3 18V Input – 8 Ω Load



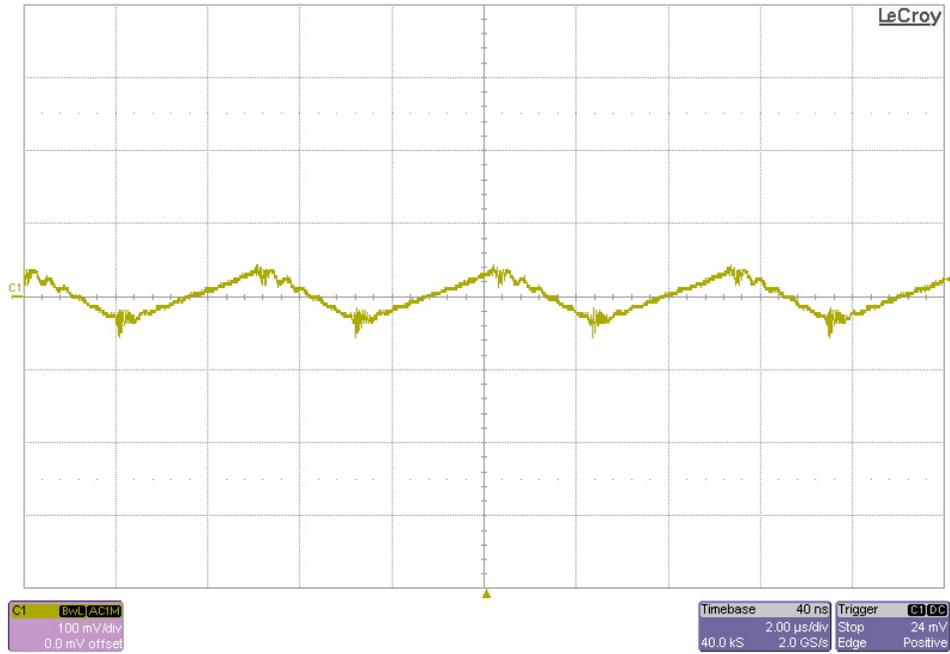
4.4 36V Input – 8Ω Load



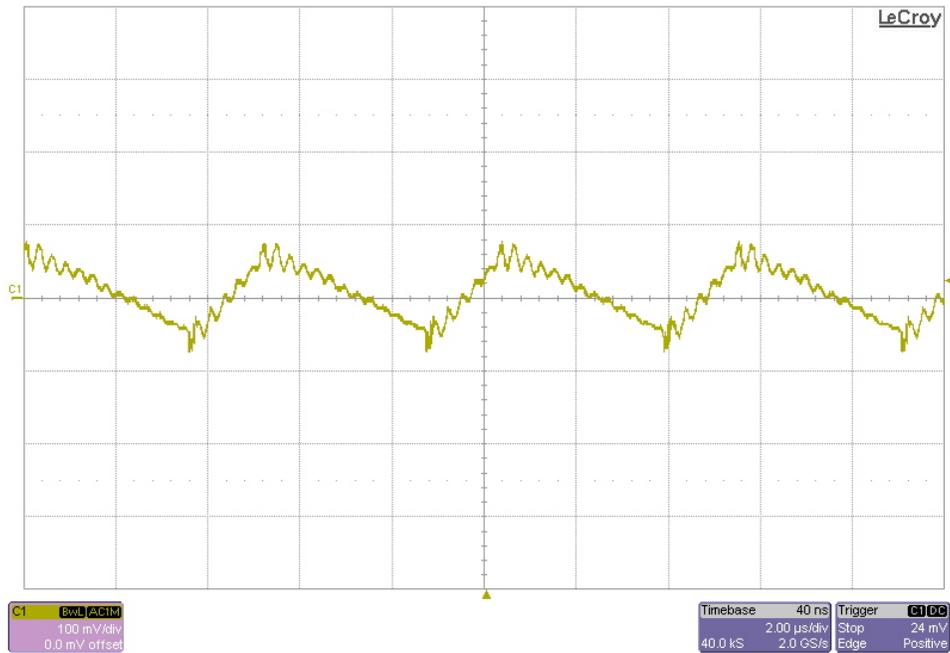
5 Output Ripple Voltage

The output ripple voltage is shown in the plots below. The output was loaded with 3.6A.

5.1 18V Input



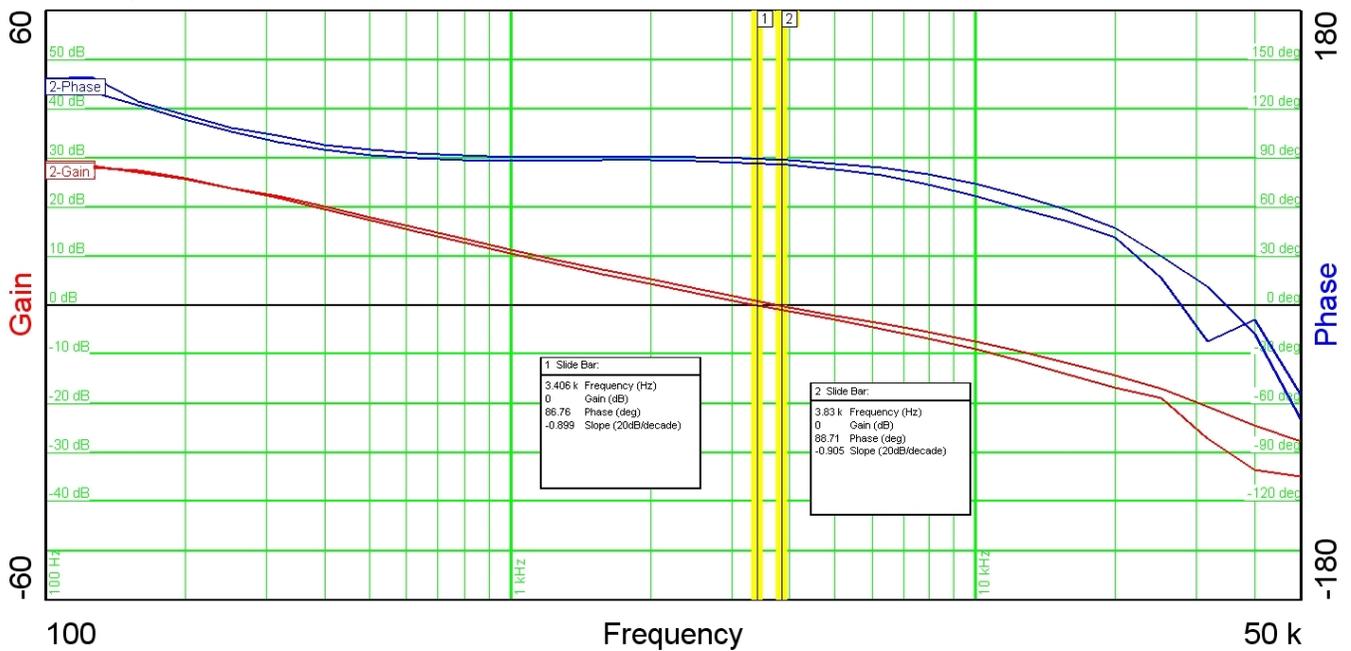
5.2 36V Input



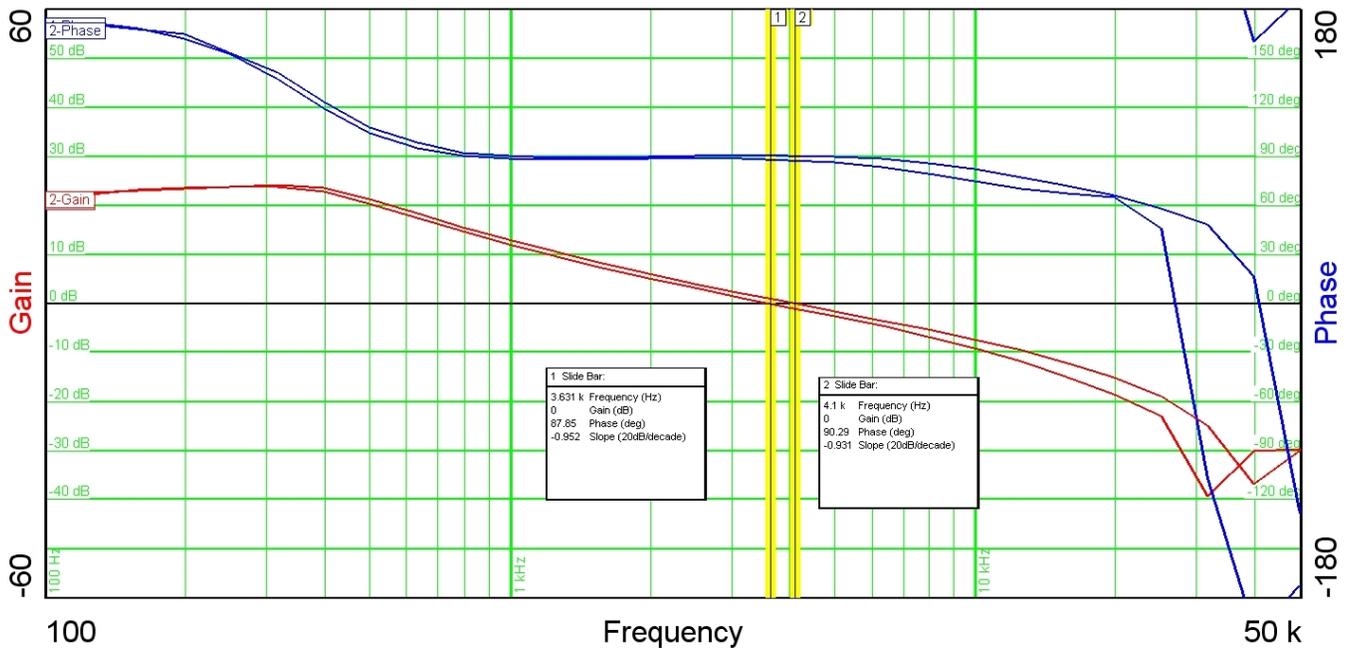
6 Frequency Response

The frequency response of the feedback loop is shown below. For the gain/phase plot #1, the input was set to 18V. For the gain/phase plot #2, the input was set to 36V. The output was loaded with 3.6A.

6.1 Loop Broken At R24



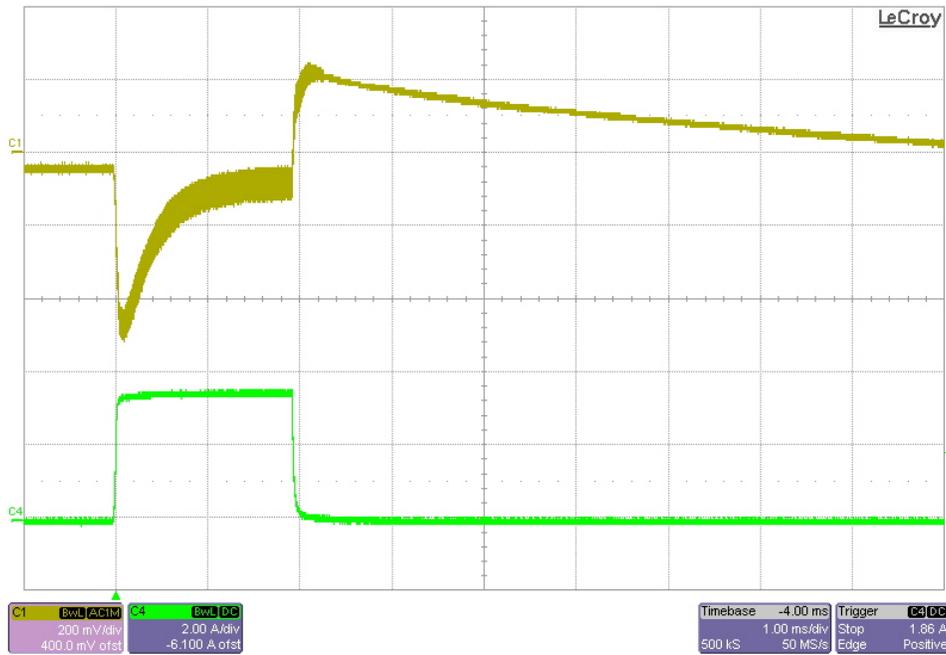
6.2 Loop Broken At R16



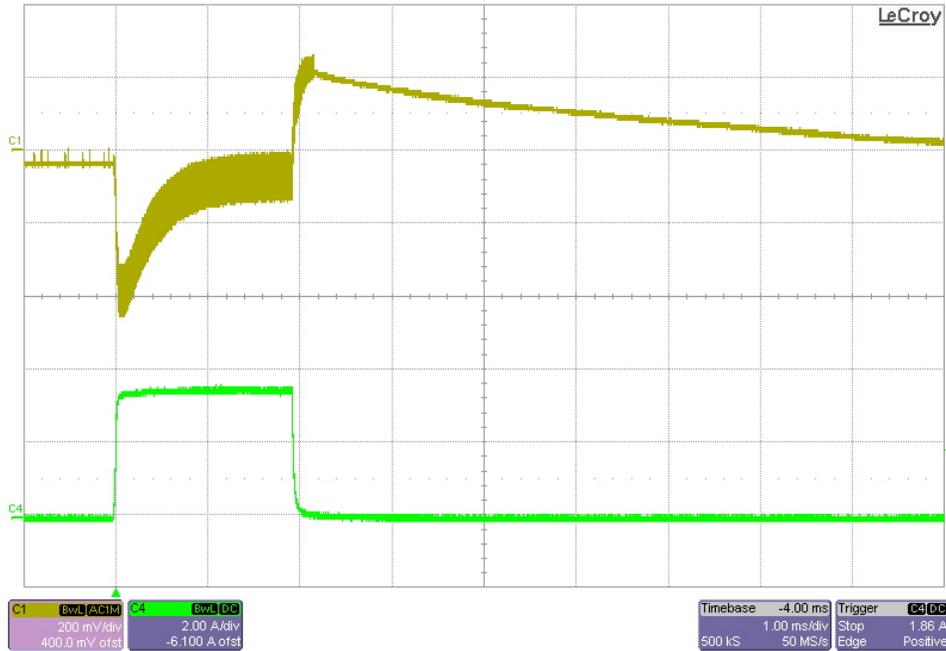
7 Load Transients

The response to a load step from 0A to 3.6A is shown in the images below. Channel 1: Vout 200mV/div (ac coupled); Channel 4: Iout 2A/div

7.1 18V Input



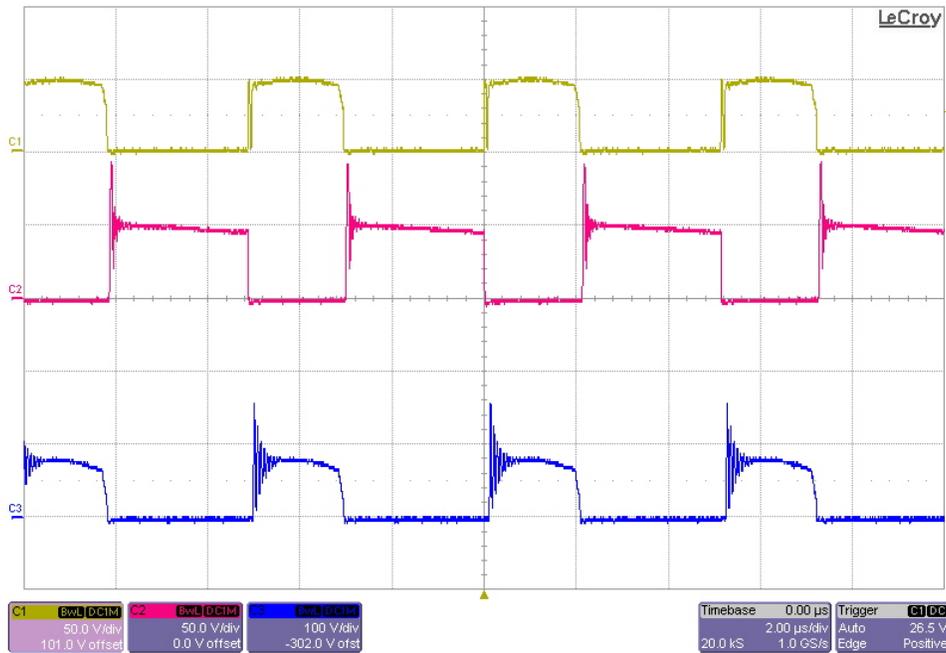
7.2 36V Input



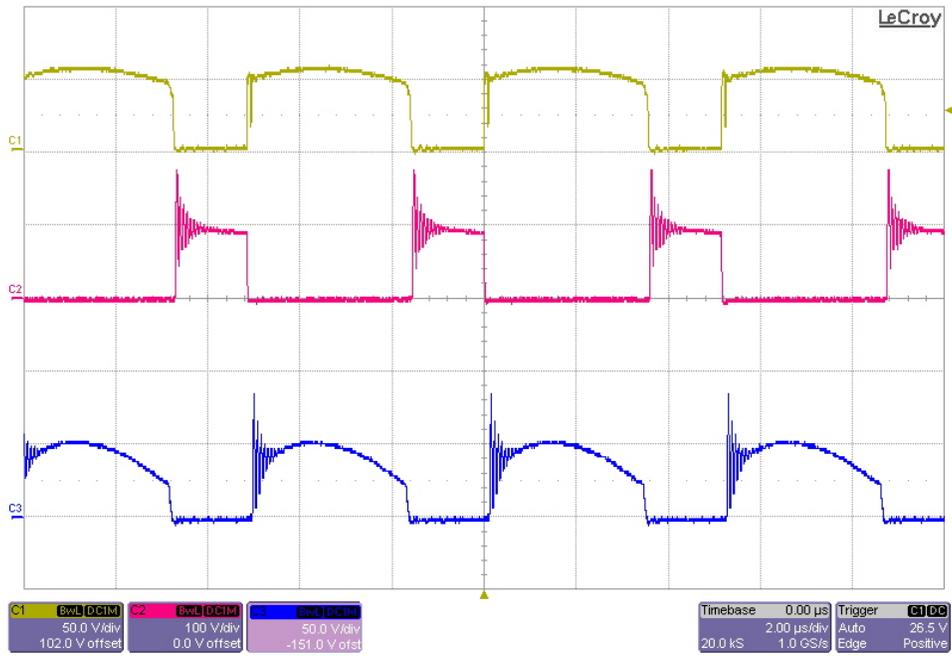
8 Switching Waveforms

The images below show the voltage waveforms on the switching devices. The output was loaded with 3.6A. Channel 1: Q1 & Q9 Vds; Channel 2: D200 Cathode; Channel 3: Q201 Cathode.

8.1 18V Input



8.2 36V Input



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