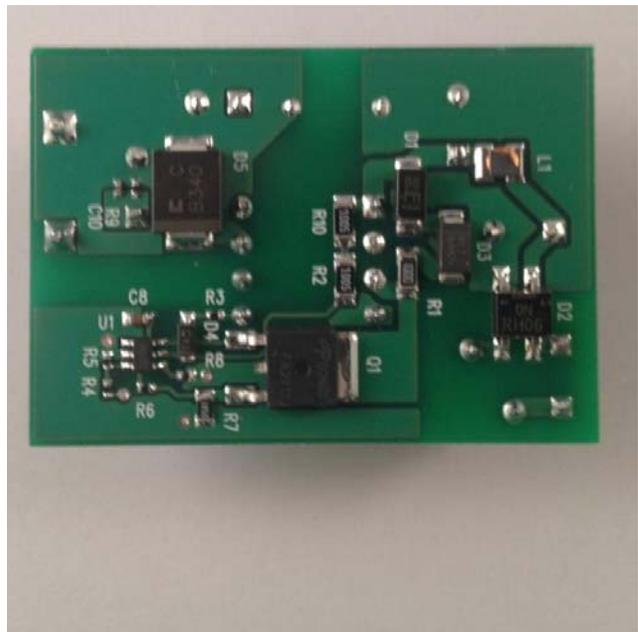
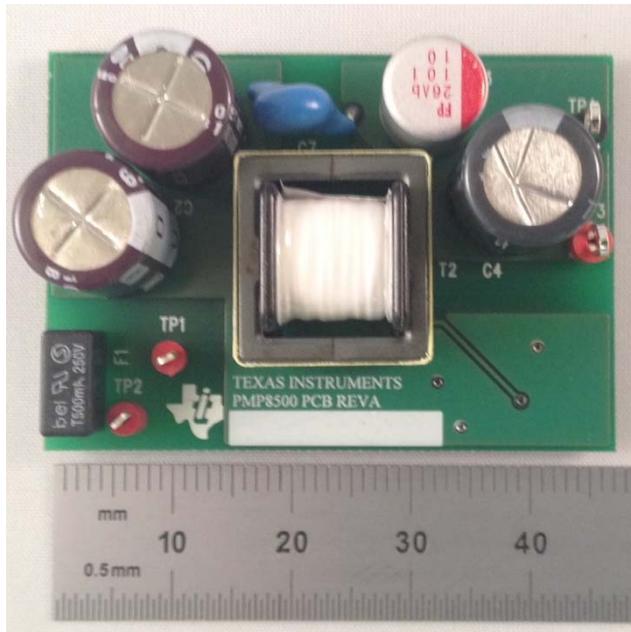


1 Photos

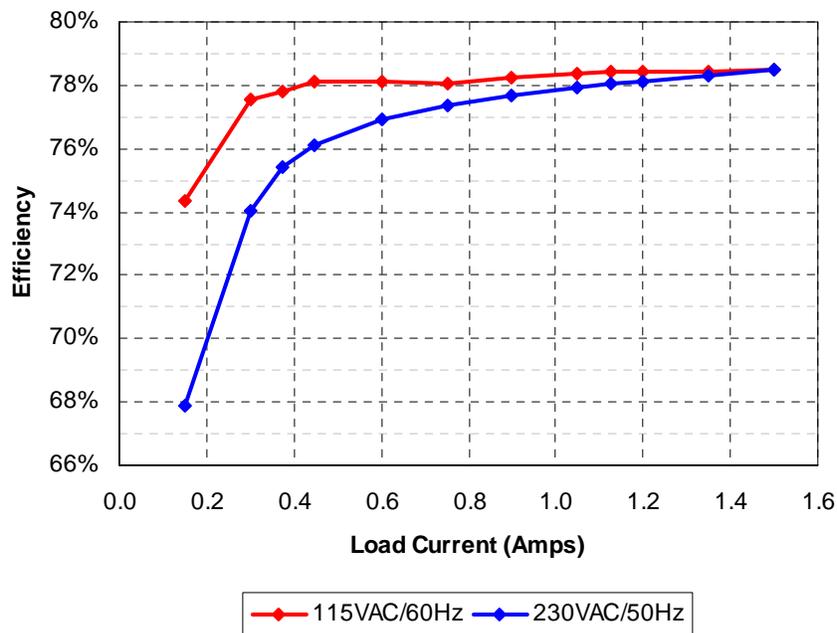
The photographs below show the PMP8500 Rev A prototype assembly.



2 Standby Power

With no load attached to the output of the supply, the unit draws 20mW of input power with an 115VAC/60Hz input, and 27mW with a 230VAC/50Hz input.

3 Efficiency



115VAC/60Hz

Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.000	5.90	115.0	0.0011	0.020		0.00	0.02	0.0%
0.149	5.84	115.0	0.028	1.17	0.37	0.87	0.30	74.4%
0.299	5.81	114.9	0.047	2.24	0.42	1.74	0.50	77.6%
0.375	5.81	114.9	0.056	2.80	0.44	2.18	0.62	77.8%
0.449	5.81	114.9	0.064	3.34	0.45	2.61	0.73	78.1%
0.600	5.82	114.9	0.081	4.47	0.48	3.49	0.98	78.1%
0.751	5.84	114.9	0.098	5.62	0.50	4.39	1.23	78.0%
0.900	5.86	114.9	0.113	6.74	0.52	5.27	1.47	78.2%
1.050	5.88	114.9	0.129	7.88	0.53	6.17	1.71	78.4%
1.125	5.89	114.9	0.137	8.45	0.52	6.63	1.82	78.4%
1.200	5.90	114.9	0.144	9.03	0.55	7.08	1.95	78.4%
1.350	5.92	114.9	0.160	10.19	0.56	7.99	2.20	78.4%
1.500	5.94	114.9	0.175	11.35	0.57	8.91	2.44	78.5%

230VAC/50Hz

Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.000	5.89	230.0	0.0009	0.027		0.00	0.03	0.0%
0.150	5.84	230.0	0.020	1.29	0.29	0.88	0.41	67.9%
0.299	5.82	230.0	0.032	2.35	0.32	1.74	0.61	74.1%
0.375	5.81	230.0	0.038	2.89	0.33	2.18	0.71	75.4%
0.448	5.81	230.0	0.043	3.42	0.34	2.60	0.82	76.1%
0.600	5.82	230.0	0.054	4.54	0.37	3.49	1.05	76.9%
0.750	5.84	230.0	0.065	5.66	0.38	4.38	1.28	77.4%
0.900	5.86	230.0	0.074	6.79	0.40	5.27	1.52	77.7%
1.050	5.88	230.0	0.084	7.92	0.41	6.17	1.75	78.0%
1.124	5.89	230.0	0.089	8.48	0.42	6.62	1.86	78.1%
1.200	5.90	230.0	0.093	9.06	0.42	7.08	1.98	78.1%
1.351	5.92	230.0	0.103	10.21	0.43	8.00	2.21	78.3%
1.500	5.94	230.0	0.112	11.35	0.44	8.91	2.44	78.5%

4 Average Efficiency

Vin	Pin	Vout	Iout	Load	Efficiency	Avg. Eff.
115VAC/60Hz	2.80	5.81	0.375	25%	77.81%	78.19%
	5.62	5.84	0.751	50%	78.04%	
	8.45	5.89	1.125	75%	78.42%	
	11.35	5.94	1.500	100%	78.50%	
230VAC/50Hz	2.89	5.81	0.375	25%	75.39%	77.34%
	5.66	5.84	0.750	50%	77.39%	
	8.48	5.89	1.124	75%	78.07%	
	11.35	5.94	1.500	100%	78.50%	

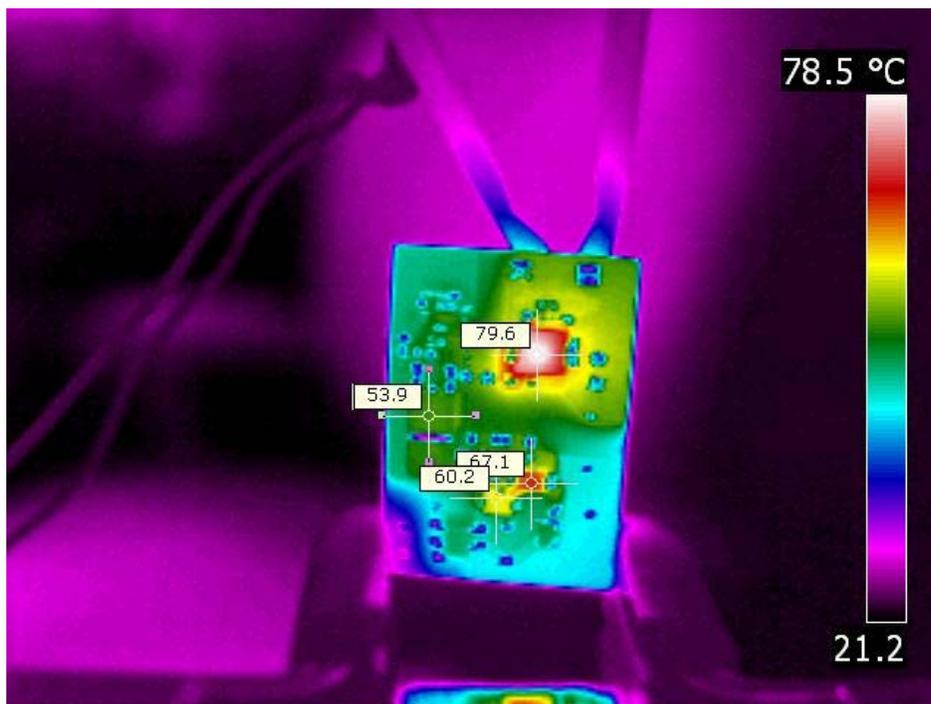
5 Thermal Images

The thermal images below show the board with a 1.5A load. The ambient temperature was 25°C.

5.1 115VAC/60Hz Input



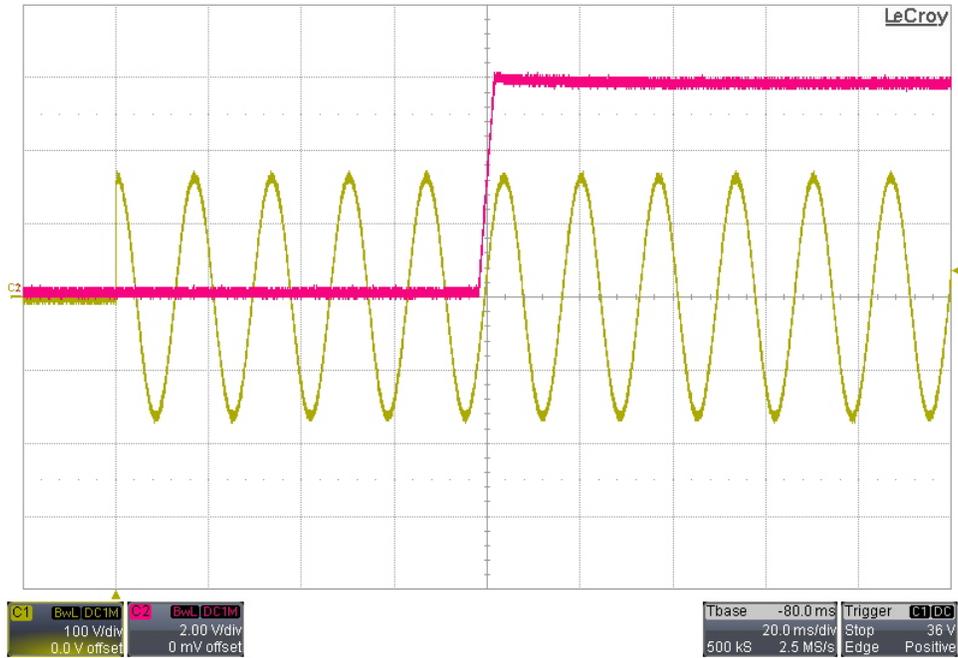
5.2 230VAC/50Hz Input



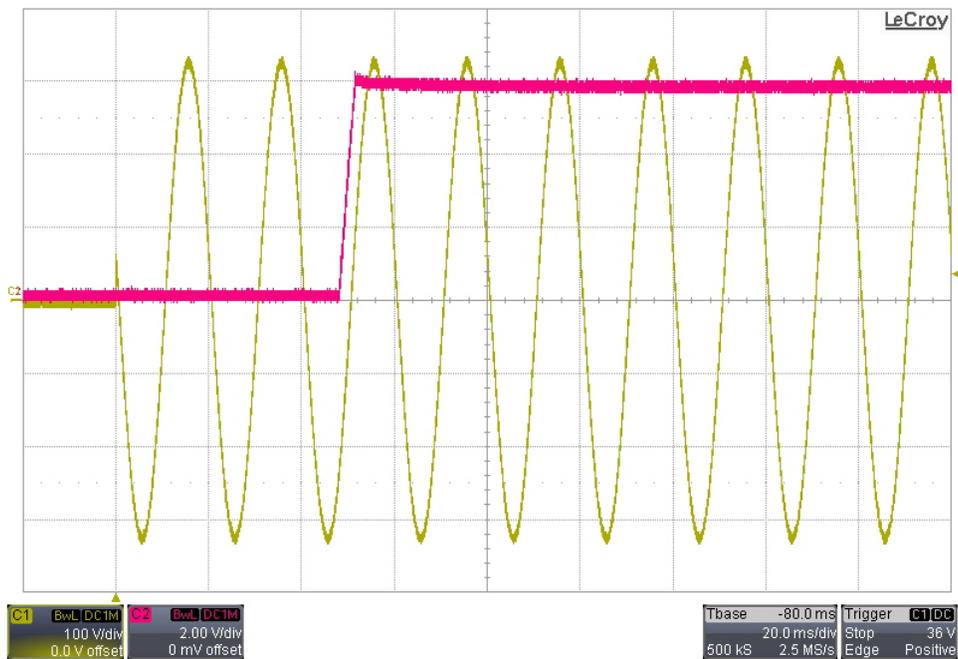
6 Startup

Channel 1 shows the AC input voltage. Channel 2 shows the output voltage. The output was unloaded.

6.1 115VAC/60Hz Startup



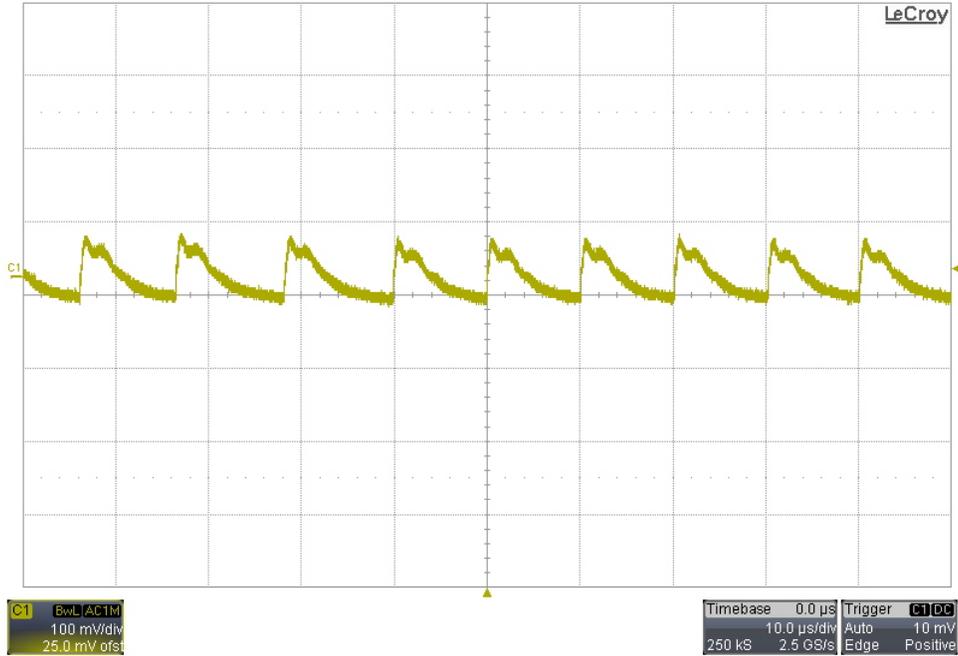
6.2 230VAC/50Hz Startup



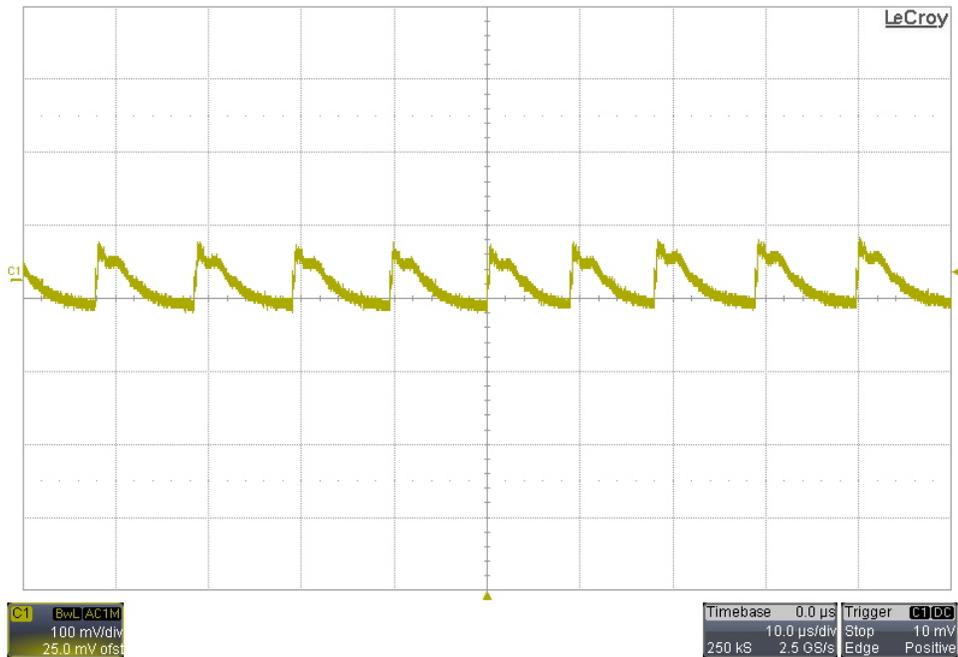
7 Output Ripple Voltage

The output was loaded with 1.5A. The output voltage was measured across an external 1uF capacitor.

7.1 115VAC/60Hz Output Ripple Voltage

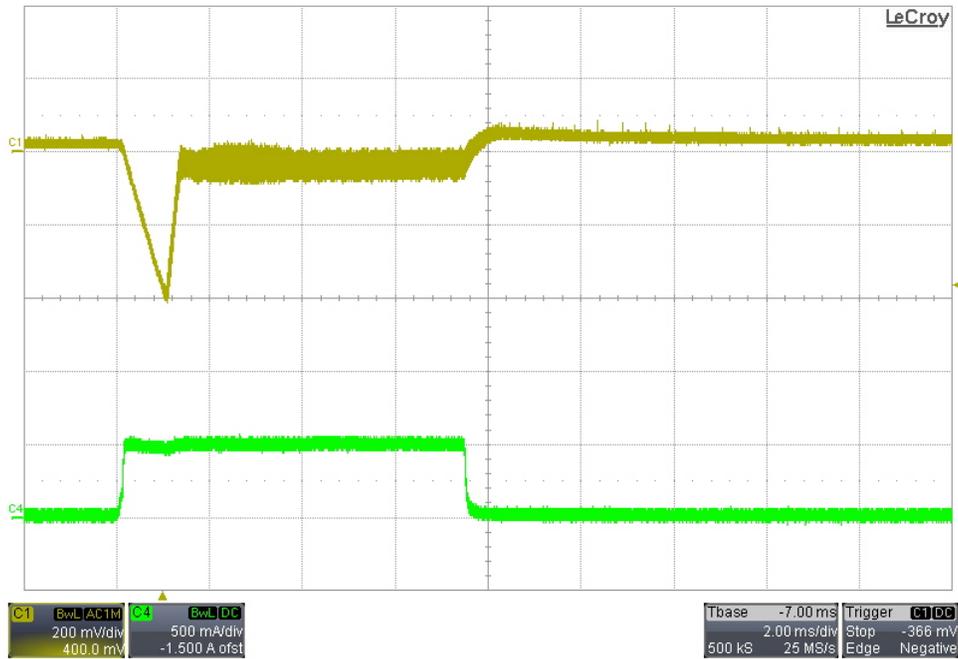


7.2 230VAC/50Hz Output Ripple Voltage

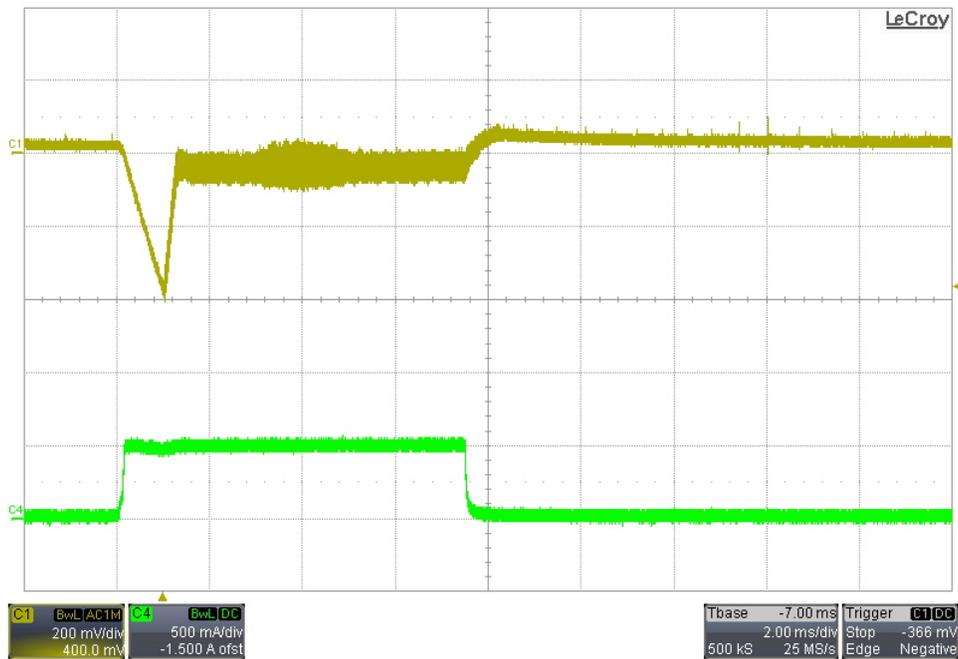


8 Load Transients

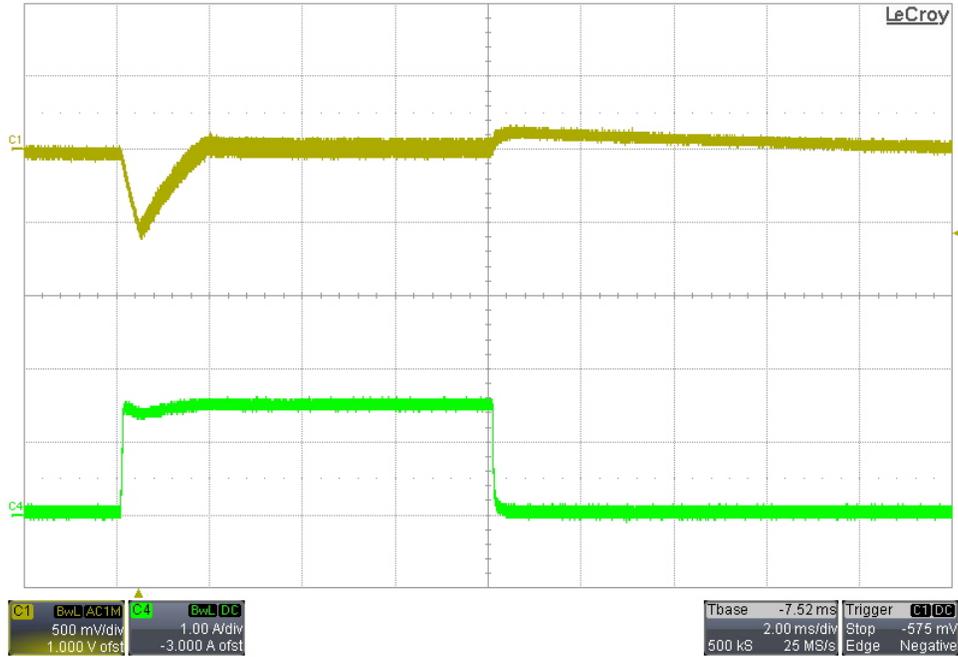
8.1 0A to 0.5A Transient – 115VAC/60Hz Input



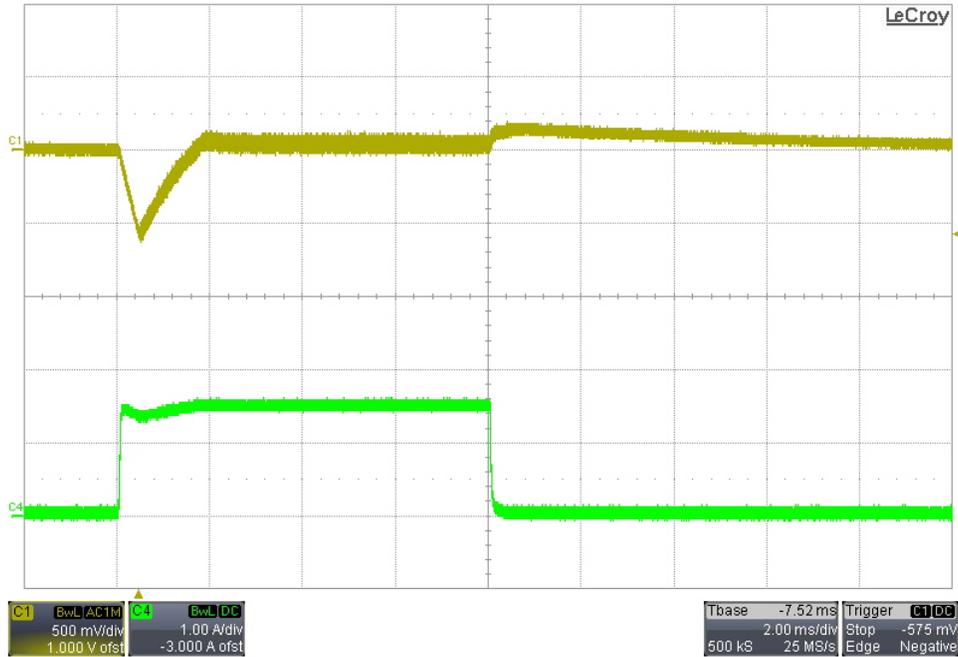
8.2 0A to 0.5A Transient – 230VAC/50Hz Input



8.3 10mA to 1.5A Transient – 115VAC/60Hz Input



8.4 10mA to 1.5A Transient – 230VAC/50Hz Input

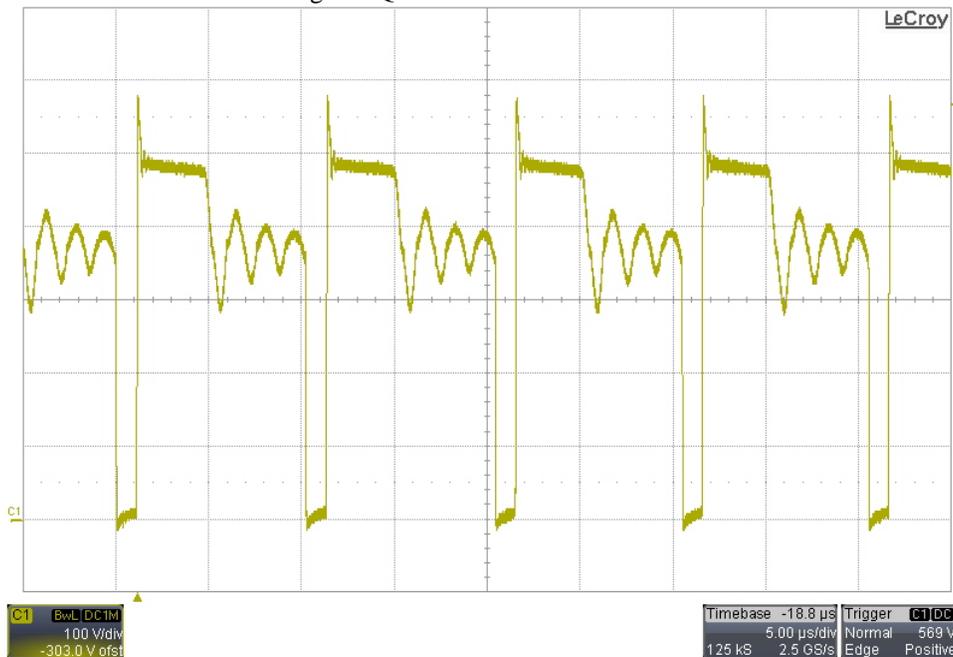


9 Switching Waveforms

The images below show the voltage waveforms on the switching devices within the supply. The input was 265VAC/50Hz. The output was loaded 1.5A.

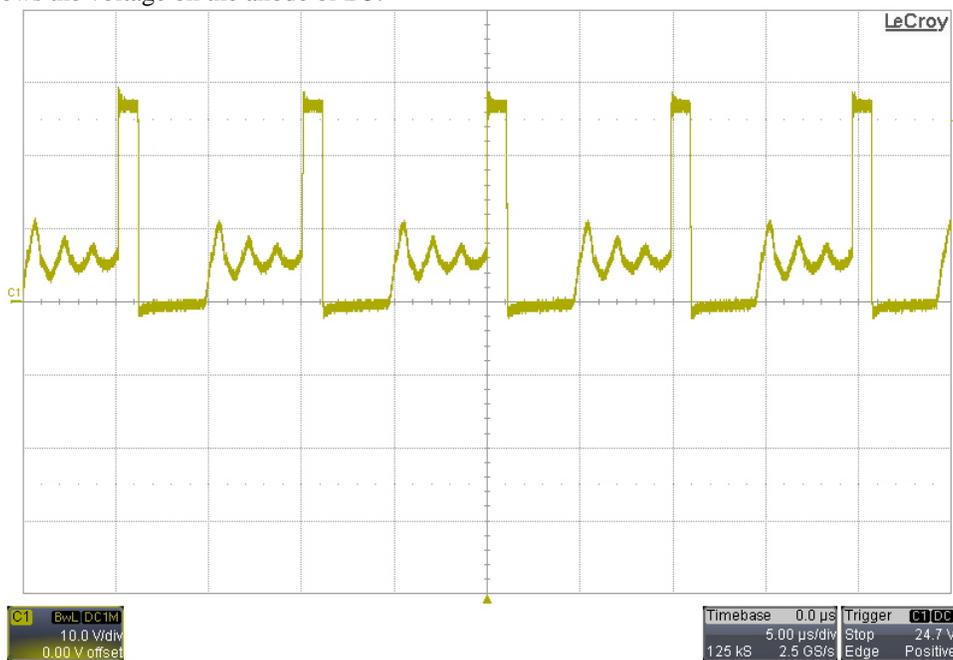
9.1 Primary Waveforms

The image below shows the drain-to-source voltage on Q1.



9.2 Secondary Waveforms

The image below shows the voltage on the anode of D5.



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