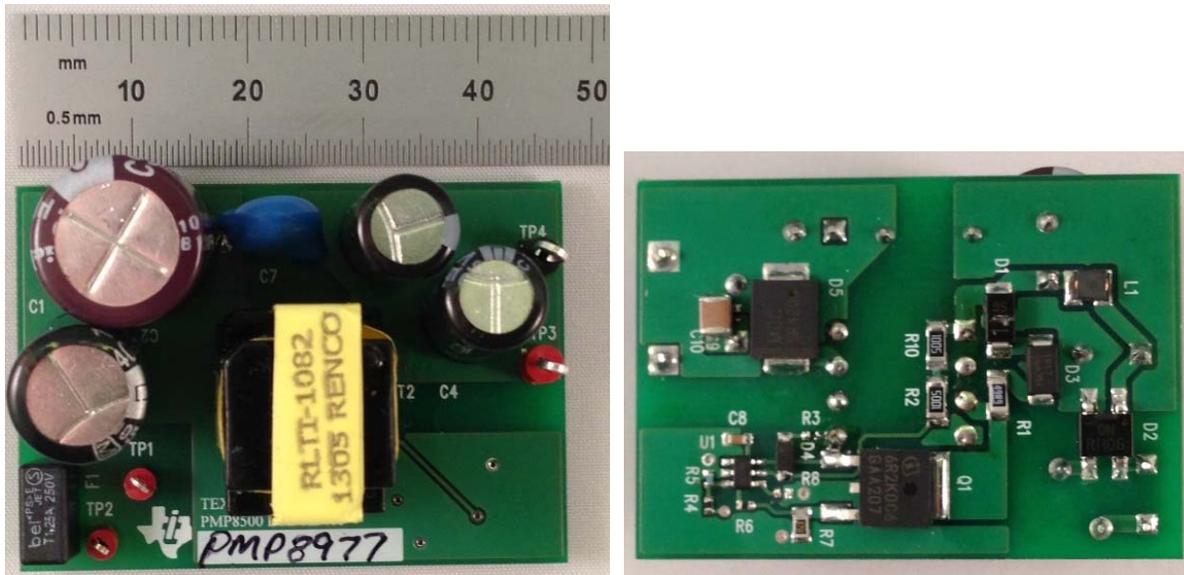


1 Photos

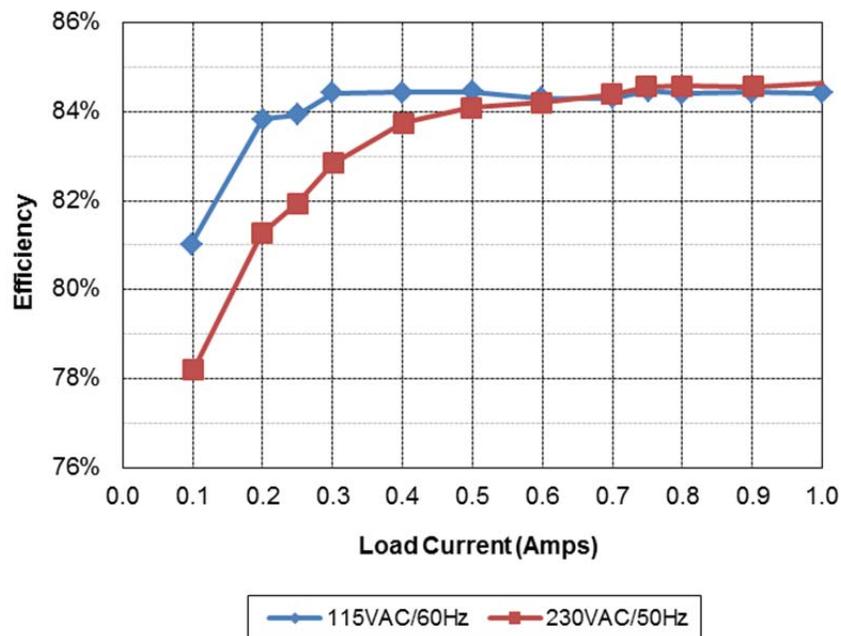
The photographs below show the PMP8977 Rev A prototype assembly. This circuit was built on a PMP8500 Rev A PCB.



2 Standby Power

With no load attached to the output of the supply, the unit draws 31mW of input power with an 115VAC/60Hz input, and 42mW with a 230VAC/50Hz input.

3 Efficiency

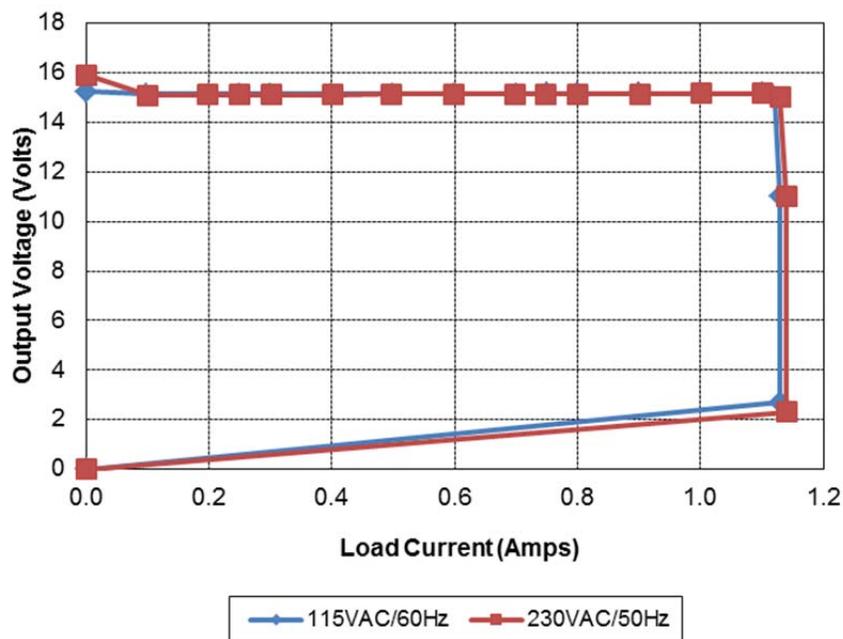


115VAC/60Hz								
Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.000	15.23	115.0	0.0015	0.031		0.00	0.03	0.0%
0.099	15.14	115.0	0.044	1.85	0.37	1.50	0.35	81.0%
0.201	15.14	115.0	0.078	3.63	0.41	3.04	0.59	83.8%
0.250	15.14	115.0	0.093	4.51	0.42	3.79	0.73	83.9%
0.300	15.14	115.0	0.108	5.38	0.43	4.54	0.84	84.4%
0.399	15.15	115.0	0.136	7.16	0.46	6.04	1.12	84.4%
0.500	15.15	115.0	0.163	8.97	0.48	7.58	1.40	84.4%
0.598	15.14	115.0	0.189	10.74	0.49	9.05	1.69	84.3%
0.700	15.15	115.0	0.215	12.58	0.51	10.61	1.98	84.3%
0.751	15.16	115.0	0.228	13.48	0.52	11.39	2.09	84.5%
0.800	15.16	115.0	0.240	14.37	0.52	12.13	2.24	84.4%
0.900	15.17	115.0	0.265	16.17	0.53	13.65	2.52	84.4%
1.000	15.17	115.0	0.288	17.97	0.54	15.17	2.80	84.4%

230VAC/50Hz								
Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.000	15.90	230.0	0.0013	0.042		0.00	0.04	0.0%
0.101	15.10	230.0	0.030	1.95	0.29	1.53	0.42	78.2%
0.199	15.11	230.0	0.051	3.70	0.31	3.01	0.69	81.3%
0.250	15.11	230.0	0.062	4.61	0.33	3.78	0.83	81.9%
0.301	15.11	230.0	0.071	5.49	0.33	4.55	0.94	82.8%
0.401	15.12	230.0	0.090	7.24	0.35	6.06	1.18	83.7%
0.498	15.13	230.0	0.107	8.96	0.36	7.53	1.43	84.1%
0.599	15.14	230.0	0.124	10.77	0.38	9.07	1.70	84.2%
0.699	15.14	230.0	0.140	12.54	0.39	10.58	1.96	84.4%
0.749	15.14	230.0	0.148	13.41	0.39	11.34	2.07	84.6%
0.800	15.14	230.0	0.156	14.32	0.40	12.11	2.21	84.6%
0.902	15.14	230.0	0.172	16.15	0.41	13.66	2.49	84.6%
1.001	15.16	230.0	0.187	17.93	0.42	15.18	2.75	84.6%

4 Current Limit

A plot of the output voltage versus load current is shown below.



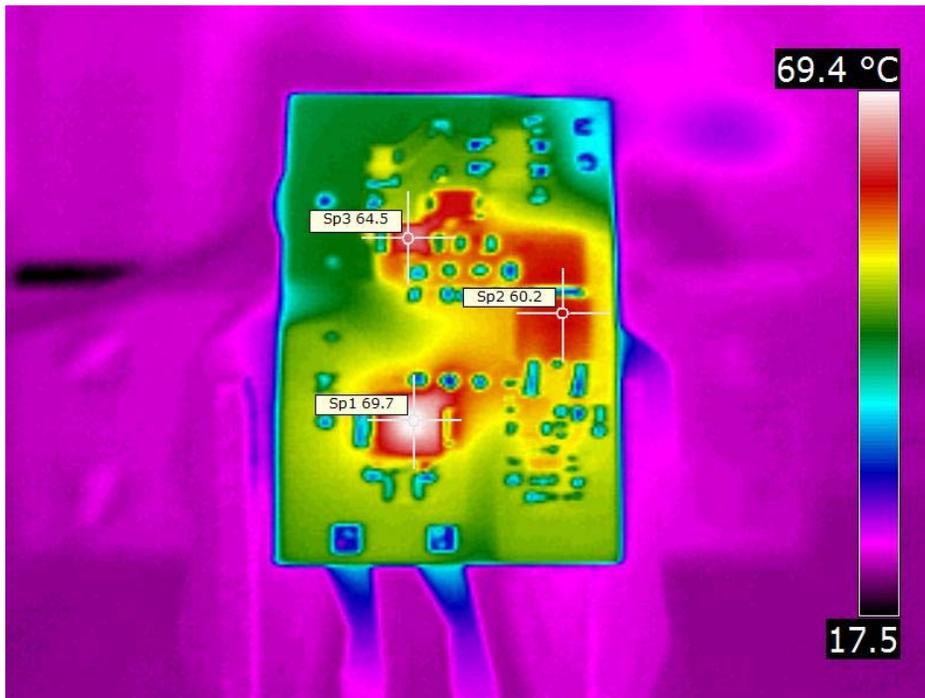
5 Thermal Images

The ambient temperature was 25°C. The output was loaded with 1A.

5.1 115VAC/60Hz Input



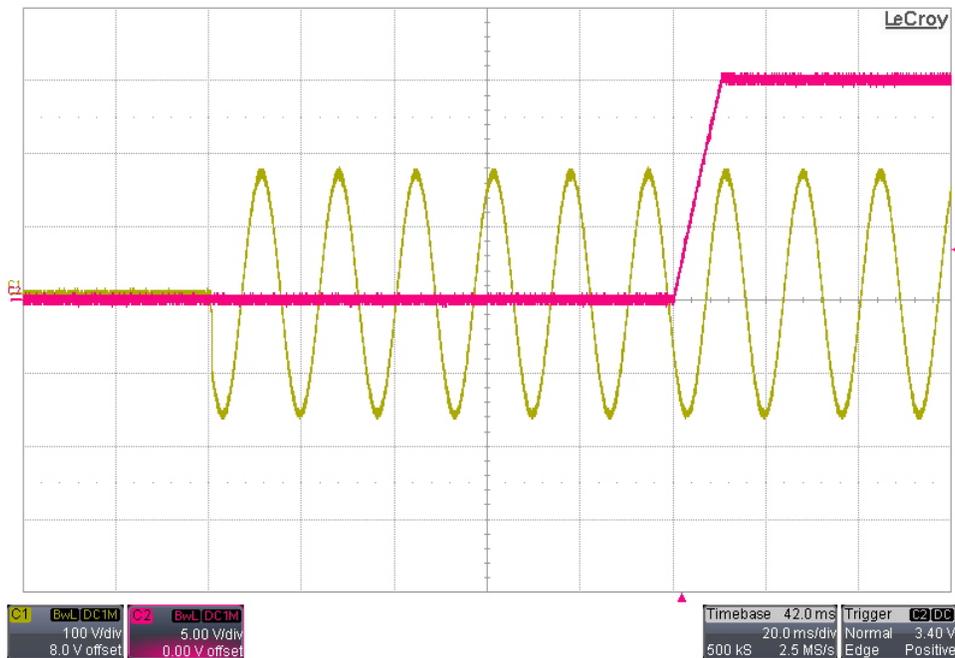
5.2 230VAC/50Hz Input



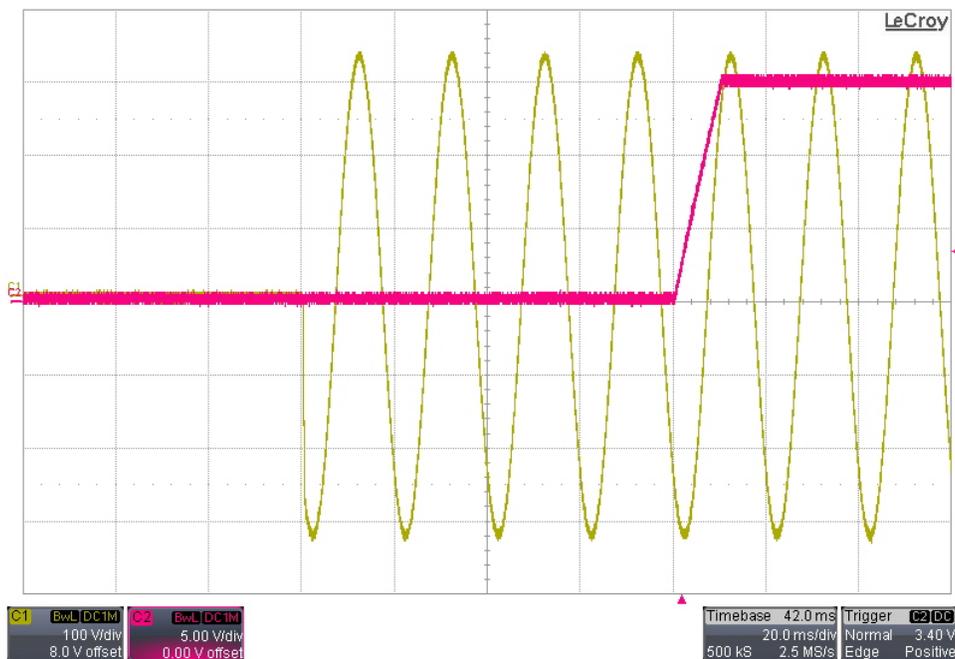
6 Startup

Channel 1 shows the AC input voltage. Channel 2 shows the output voltage.

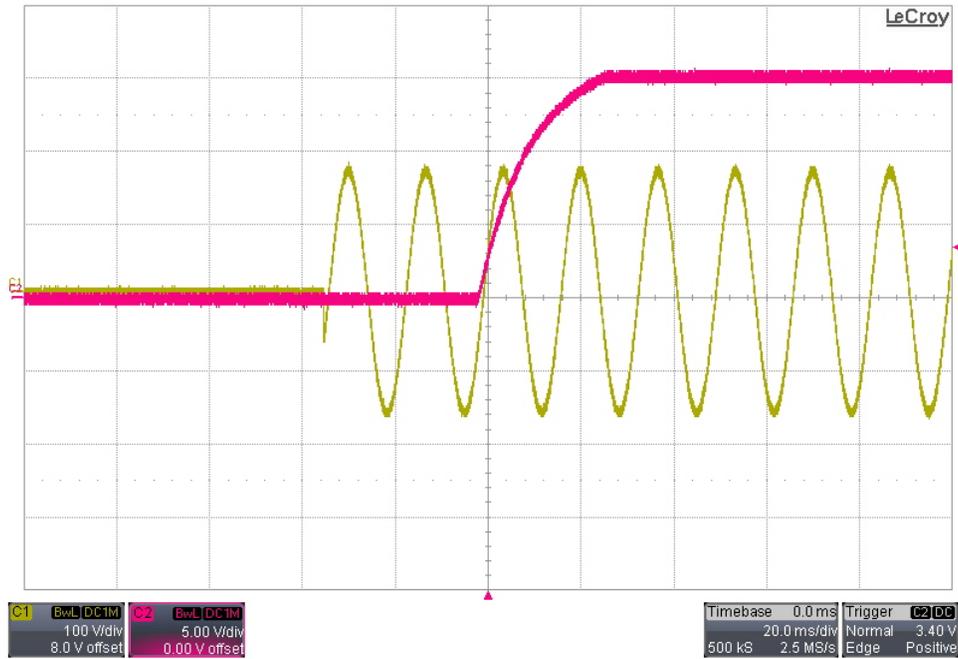
6.1 115VAC/60Hz Startup – 0A Load



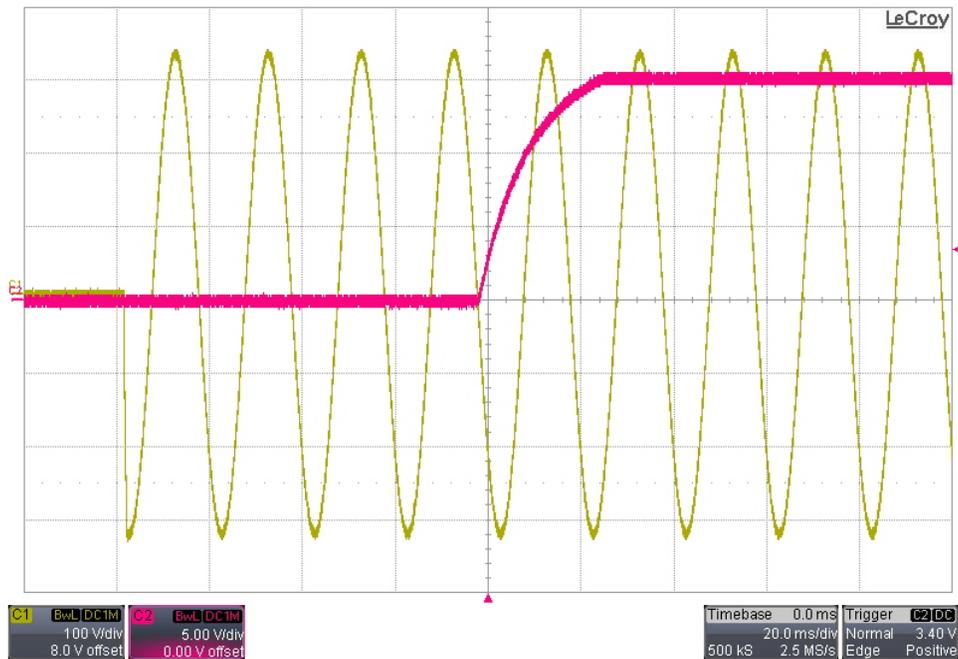
6.2 230VAC/50Hz Startup – 0A Load



6.3 115VAC/60Hz Startup – 15Ω Load



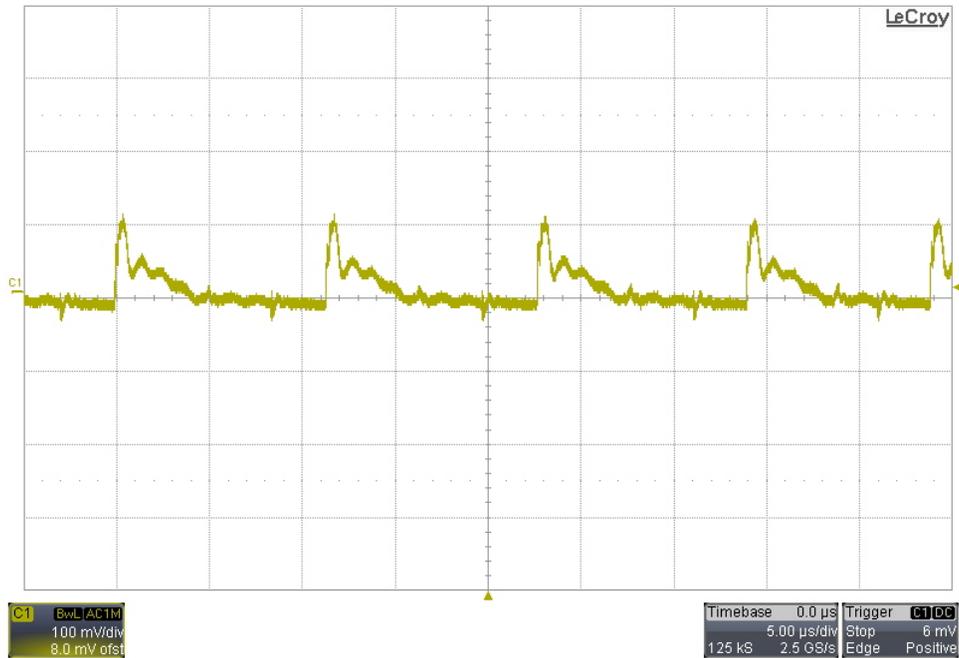
6.4 230VAC/50Hz Startup – 15Ω Load



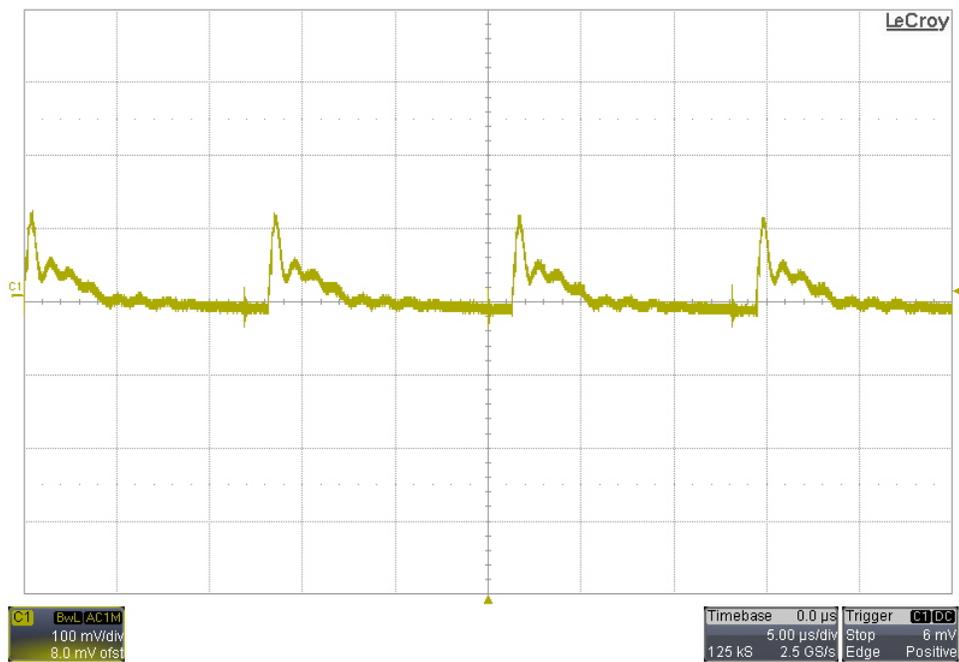
7 Output Ripple Voltage

The output was loaded with 1A.

7.1 115VAC/60Hz Output Ripple Voltage

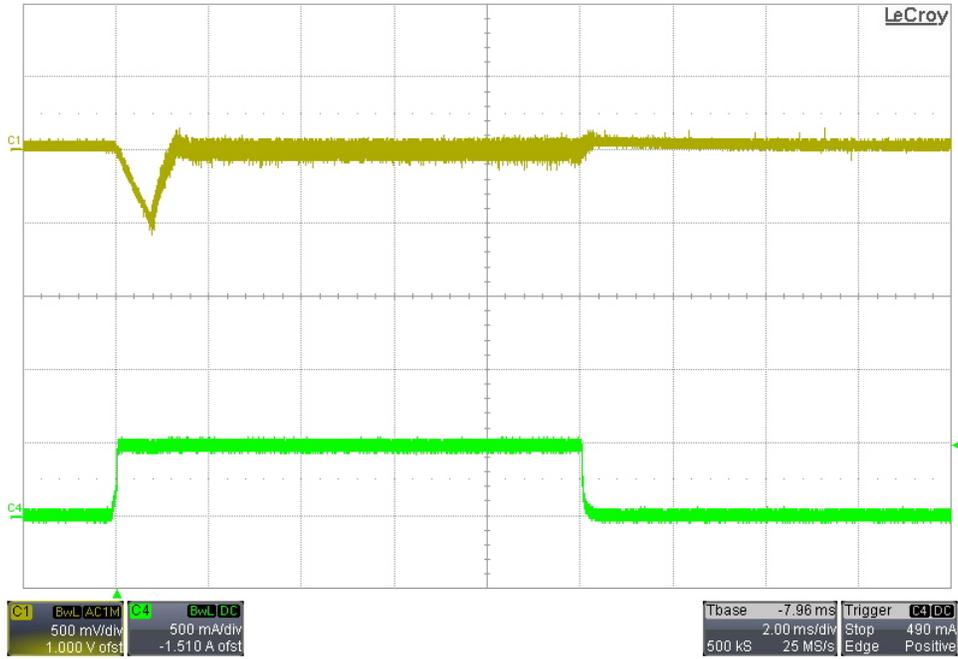


7.2 230VAC/50Hz Output Ripple Voltage

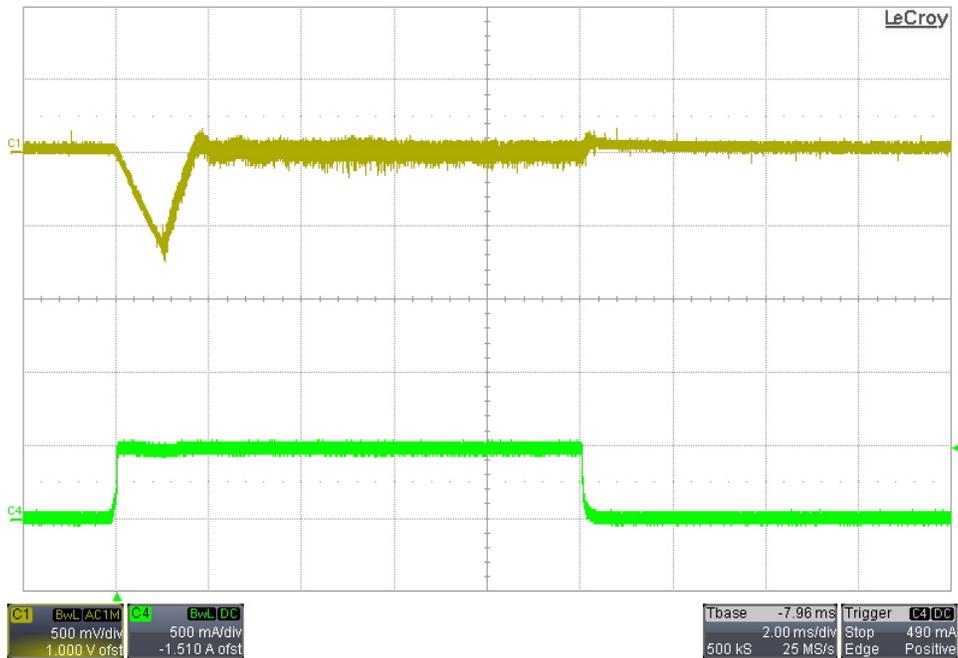


8 Load Transients

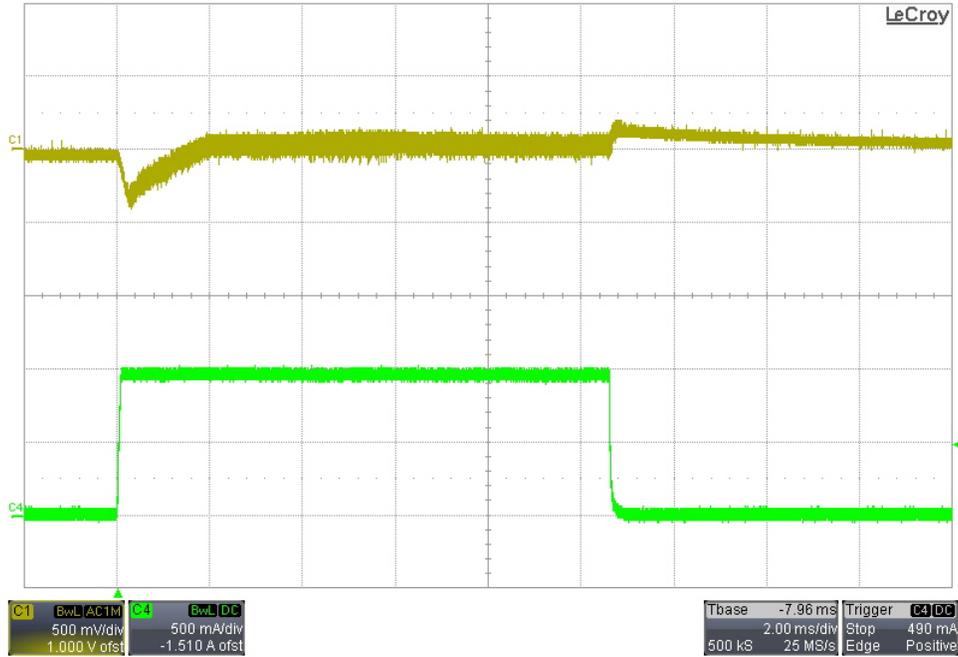
8.1 0A to 0.5A Transient – 115VAC/60Hz Input



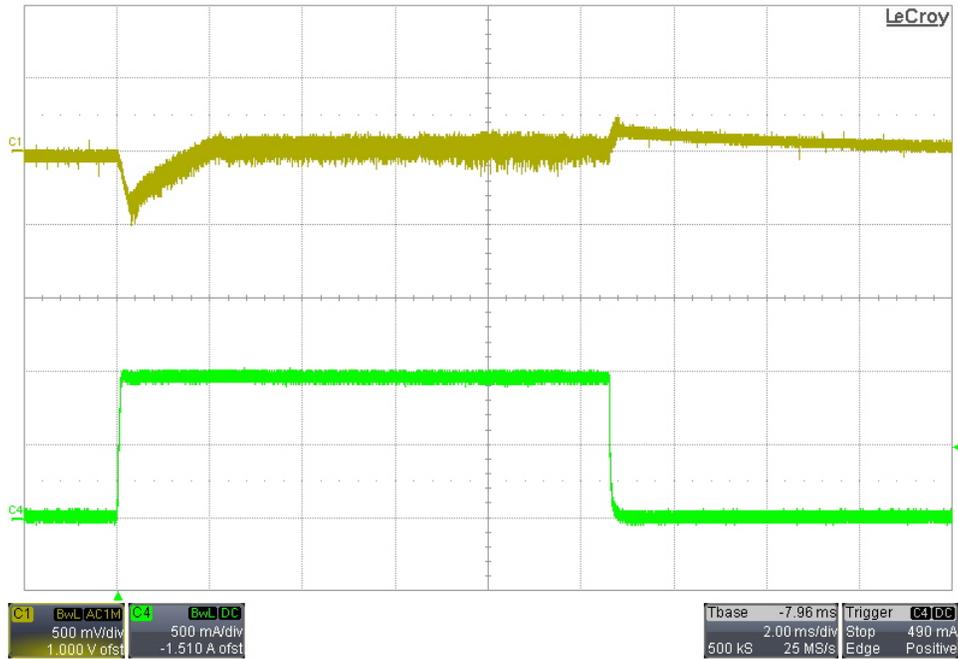
8.2 0A to 0.5A Transient – 230VAC/50Hz Input



8.3 10mA to 1A Transient – 115VAC/60Hz Input



8.4 10mA to 1A 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 1A.

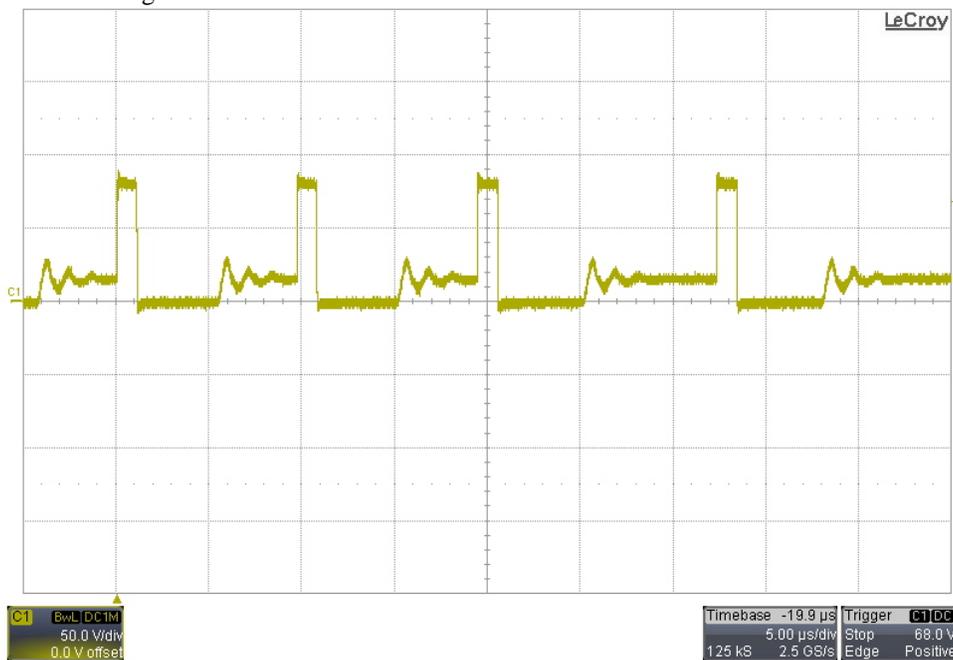
9.1 Primary Waveforms

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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