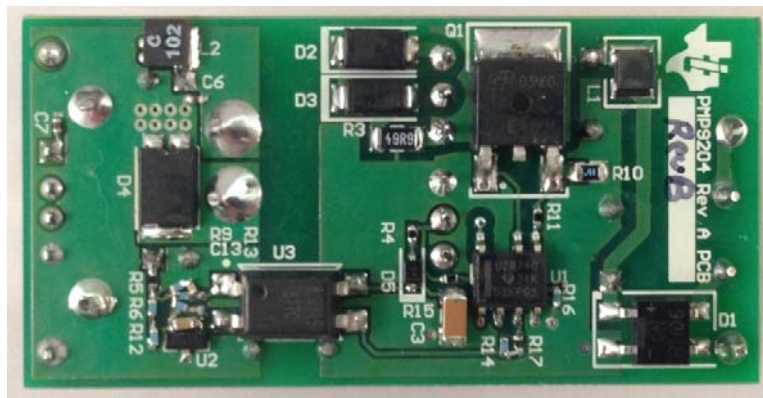
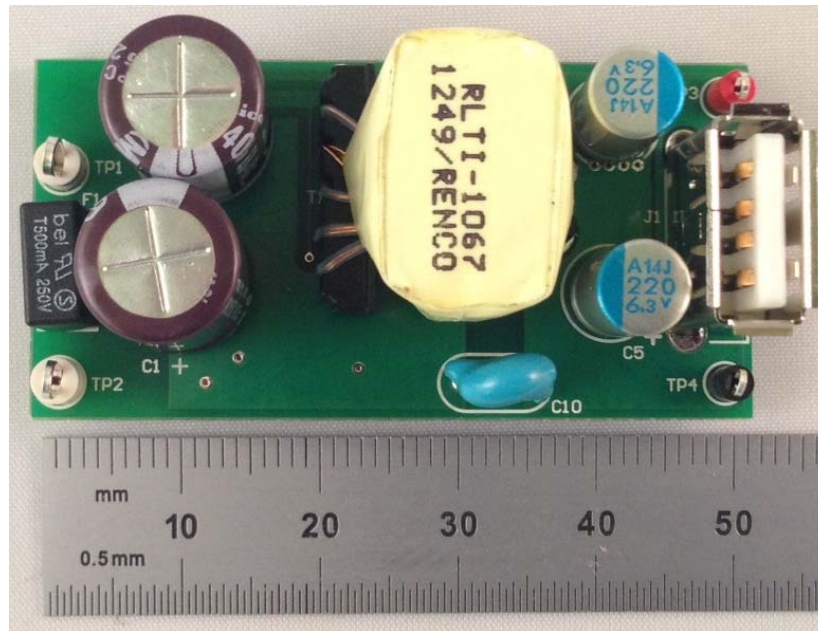


1 Photos

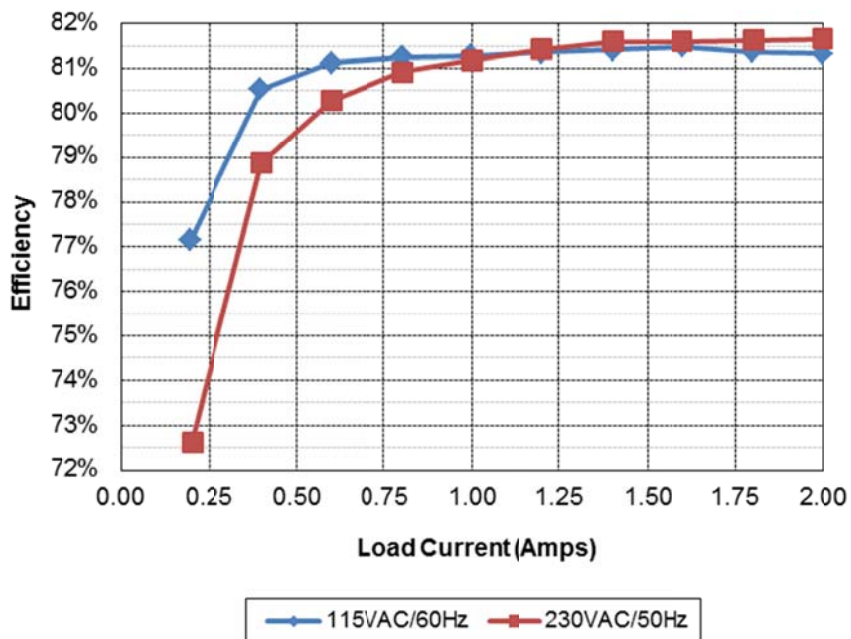
The photograph below shows the PMP9204 Rev B prototype assembly. This circuit was built on a PMP9204 Rev A PCB.



2 Standby Power

With no load attached to the output of the supply, the unit draws 57mW of input power with an 115VAC/60Hz input, and 64mW with a 230VAC/50Hz input.

3 Efficiency

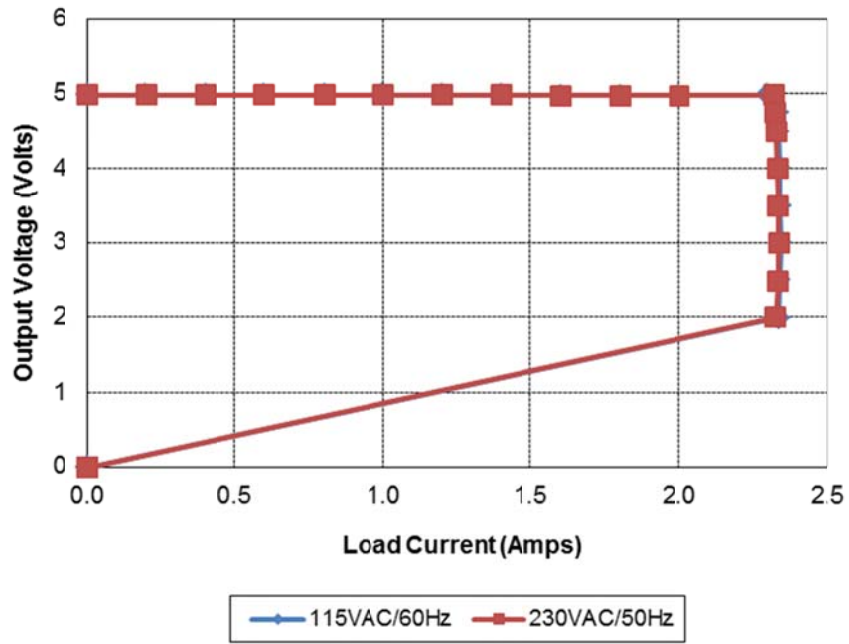


115VAC/60Hz								
Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.000	4.986	115.0	0.0026	0.057		0.00	0.06	0.0%
0.195	4.985	115.0	0.029	1.26	0.38	0.97	0.29	77.1%
0.399	4.985	115.0	0.050	2.47	0.43	1.99	0.48	80.5%
0.599	4.984	115.0	0.069	3.68	0.47	2.99	0.69	81.1%
0.802	4.984	115.0	0.087	4.92	0.49	4.00	0.92	81.2%
0.998	4.984	115.0	0.014	6.12	0.51	4.97	1.15	81.3%
1.200	4.983	115.0	0.120	7.35	0.53	5.98	1.37	81.4%
1.400	4.983	115.0	0.137	8.57	0.55	6.98	1.59	81.4%
1.601	4.982	115.0	0.153	9.79	0.56	7.98	1.81	81.5%
1.800	4.981	115.0	0.169	11.02	0.57	8.97	2.05	81.4%
2.000	4.981	115.0	0.185	12.25	0.58	9.96	2.29	81.3%

230VAC/50Hz								
Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.000	4.986	235.0	0.0018	0.064		0.00	0.06	0.0%
0.201	4.986	230.0	0.021	1.38	0.29	1.00	0.38	72.6%
0.401	4.986	230.0	0.034	2.54	0.33	2.00	0.54	78.9%
0.599	4.985	230.0	0.046	3.72	0.35	2.99	0.73	80.3%
0.802	4.984	230.0	0.057	4.94	0.38	4.00	0.94	80.9%
1.000	4.984	230.0	0.068	6.14	0.39	4.98	1.16	81.2%
1.201	4.983	230.0	0.078	7.35	0.41	5.98	1.37	81.4%
1.400	4.983	230.0	0.088	8.55	0.42	6.98	1.57	81.6%
1.600	4.982	230.0	0.098	9.77	0.43	7.97	1.80	81.6%
1.801	4.981	230.0	0.108	10.99	0.44	8.97	2.02	81.6%
2.000	4.981	230.0	0.117	12.20	0.45	9.96	2.24	81.7%

4 Current Limit

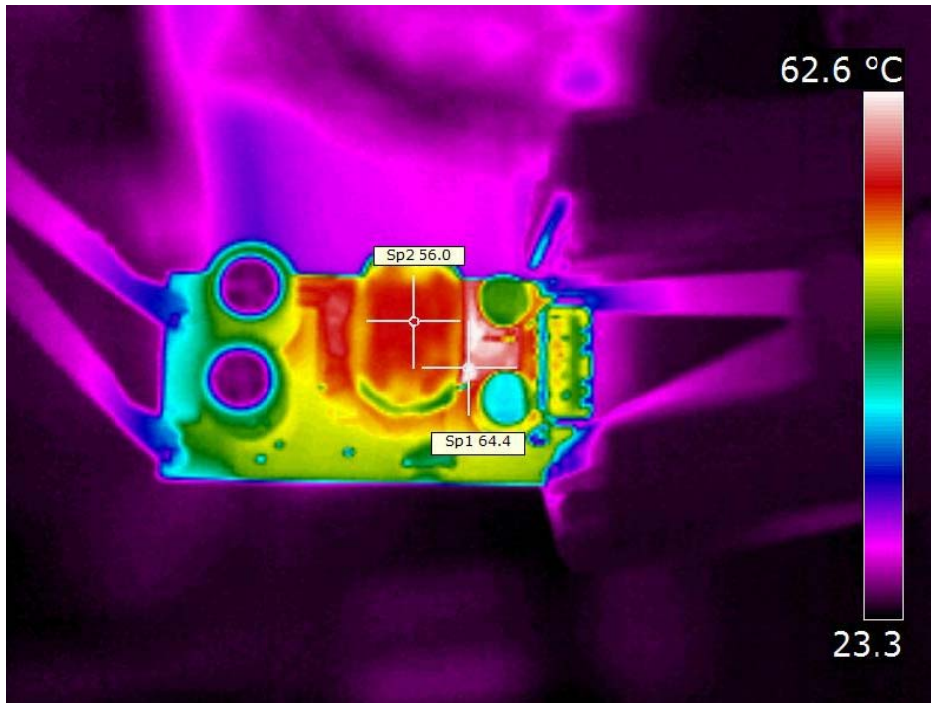
A plot of the output voltage versus load current is shown below.

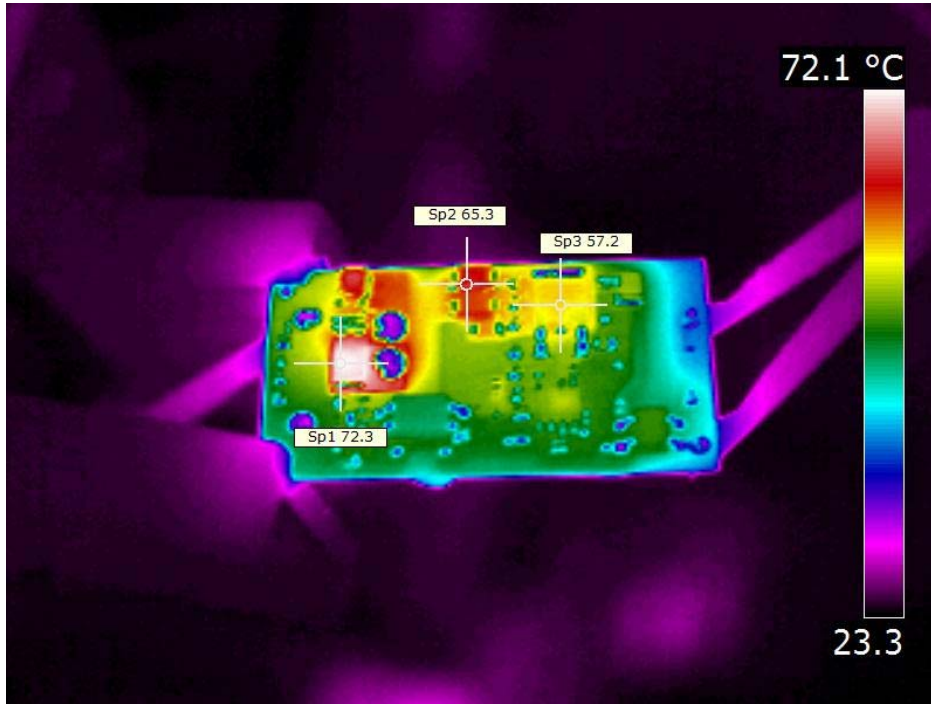


5 Thermal Images

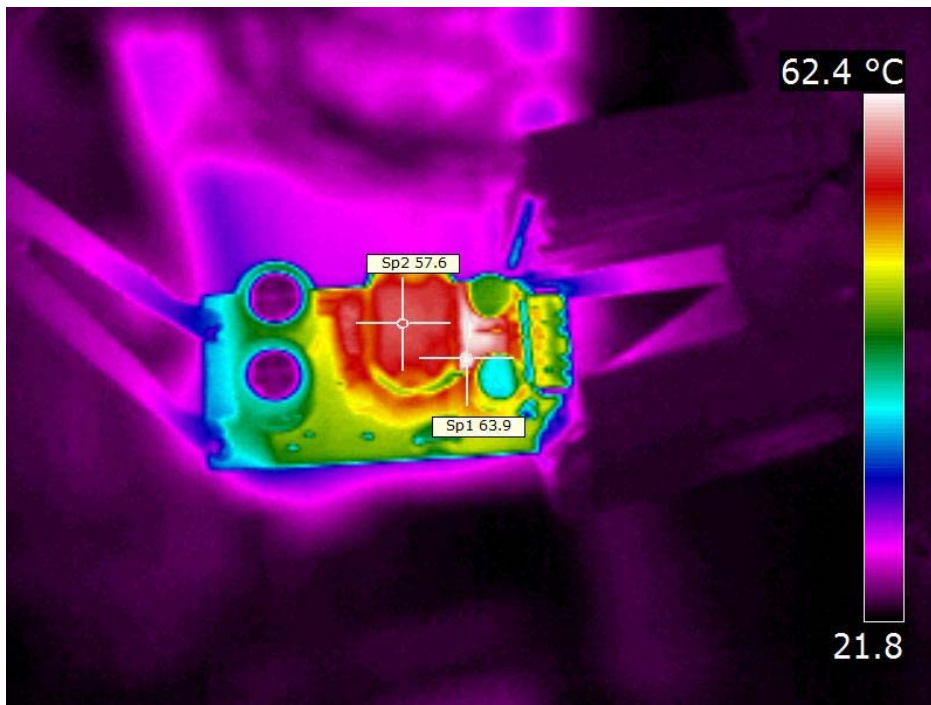
The ambient temperature was 25°C. The output was loaded with 2A.

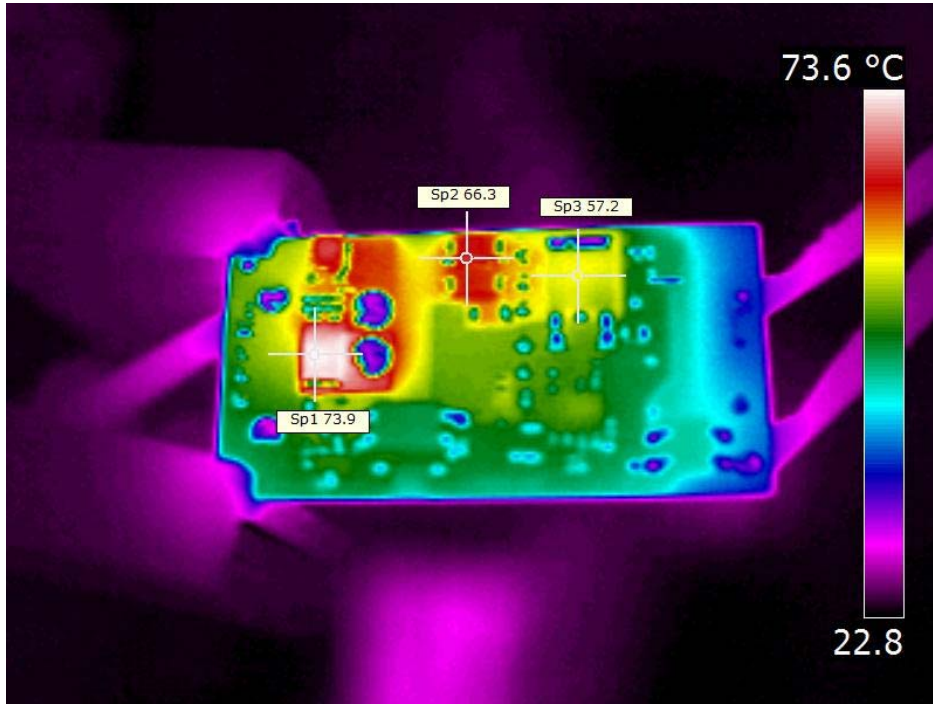
5.1 115VAC/60Hz Input





5.2 230VAC/50Hz Input

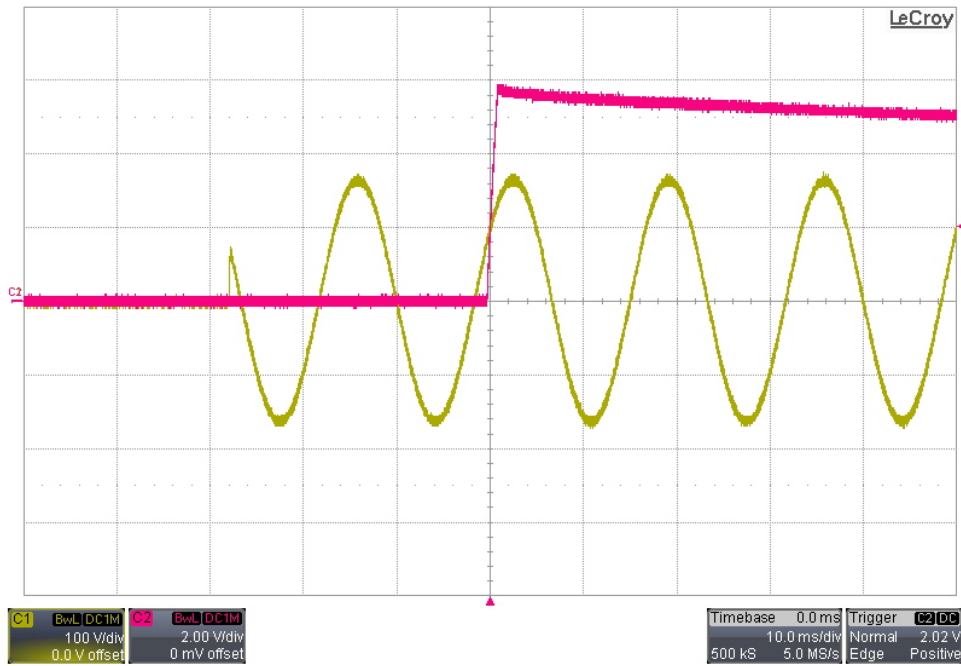




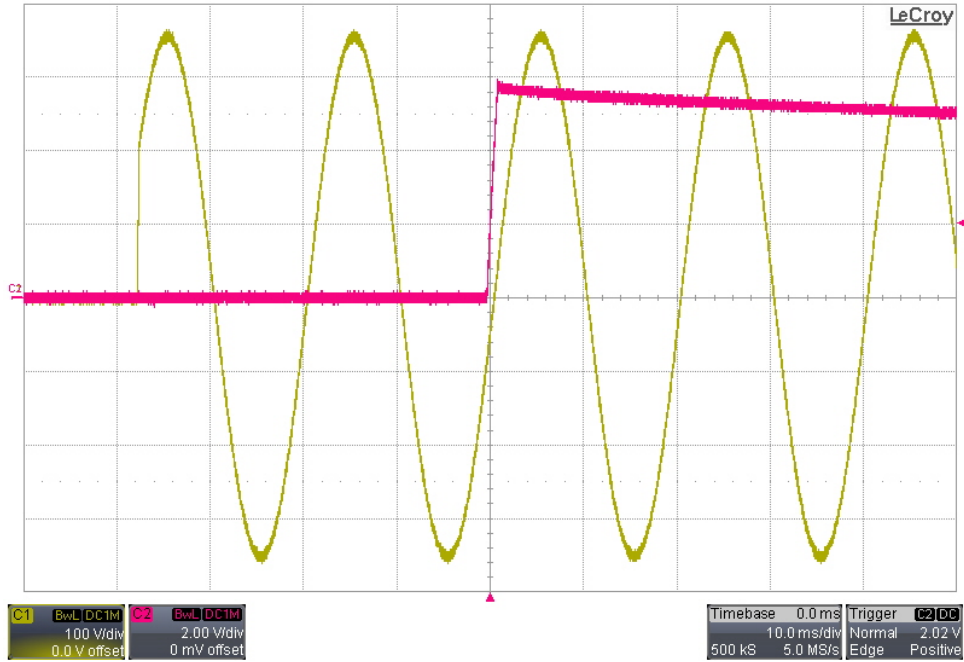
6 Startup

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

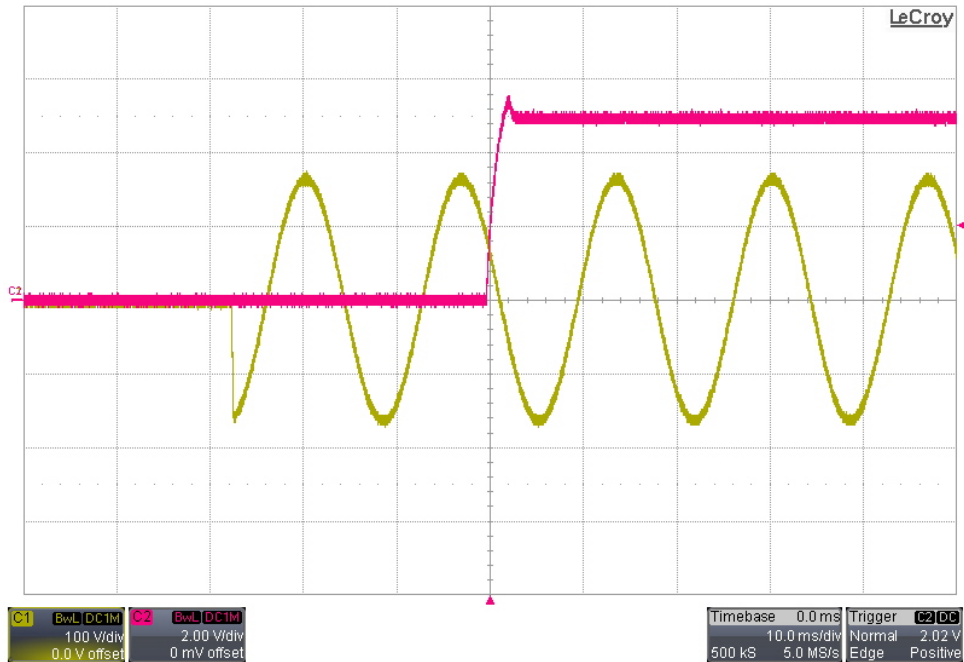
6.1 115VAC/60Hz Startup – 0A Load



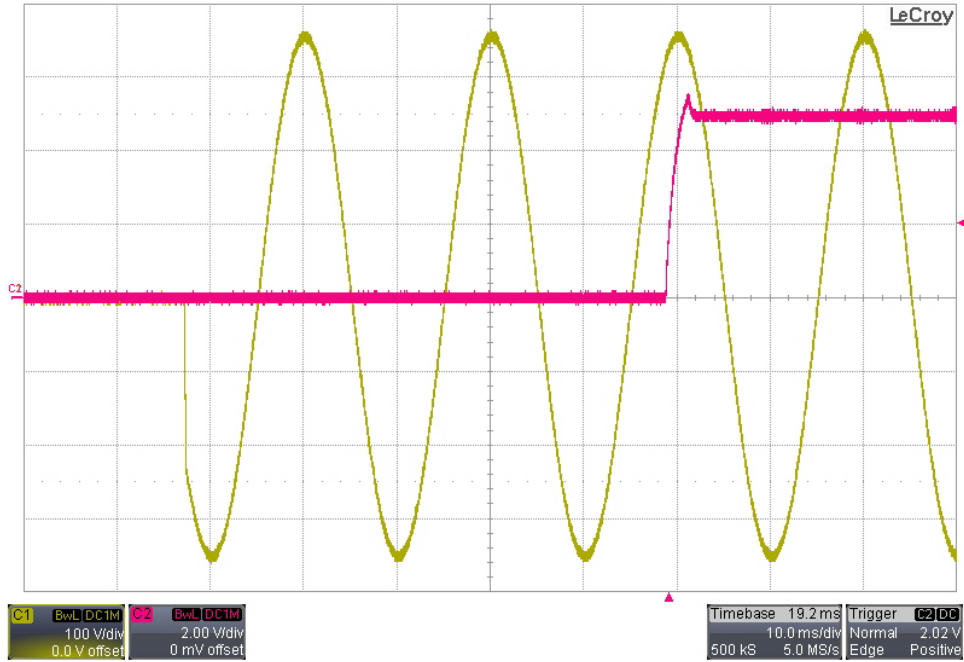
6.2 230VAC/50Hz Startup – 0A Load



6.3 115VAC/60Hz Startup – 2.5Ω Load



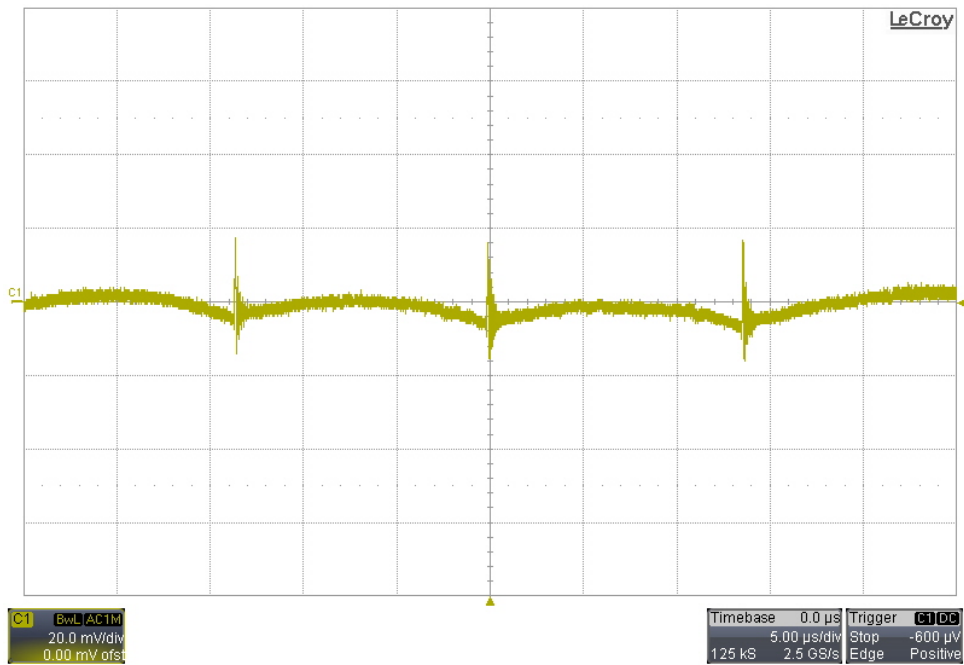
6.4 230VAC/50Hz Startup – 2.5Ω Load



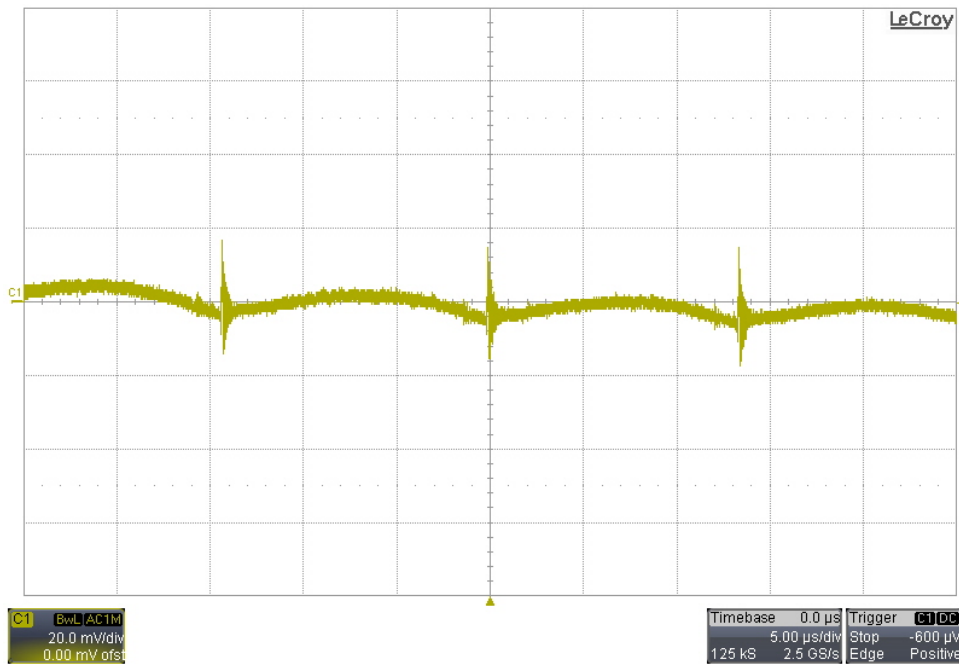
7 Output Ripple Voltage

The output was loaded with 2A.

7.1 115VAC/60Hz Output Ripple Voltage

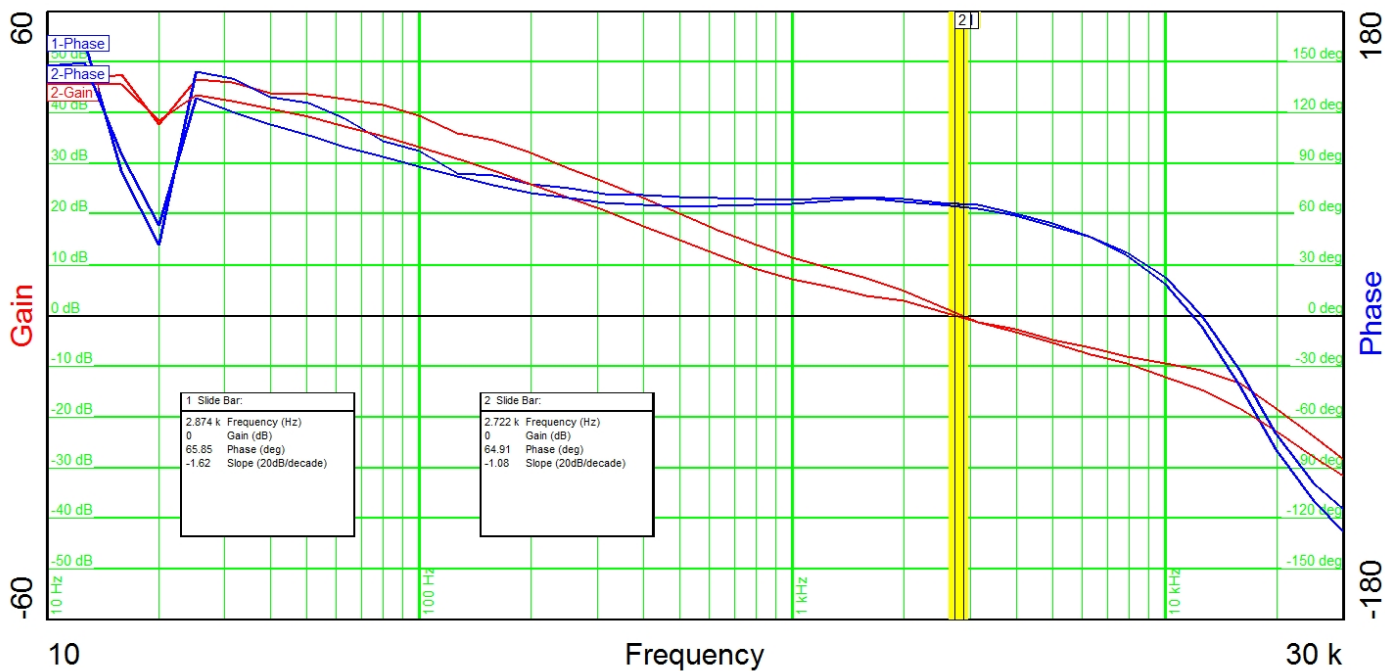


7.2 230VAC/50Hz Output Ripple Voltage



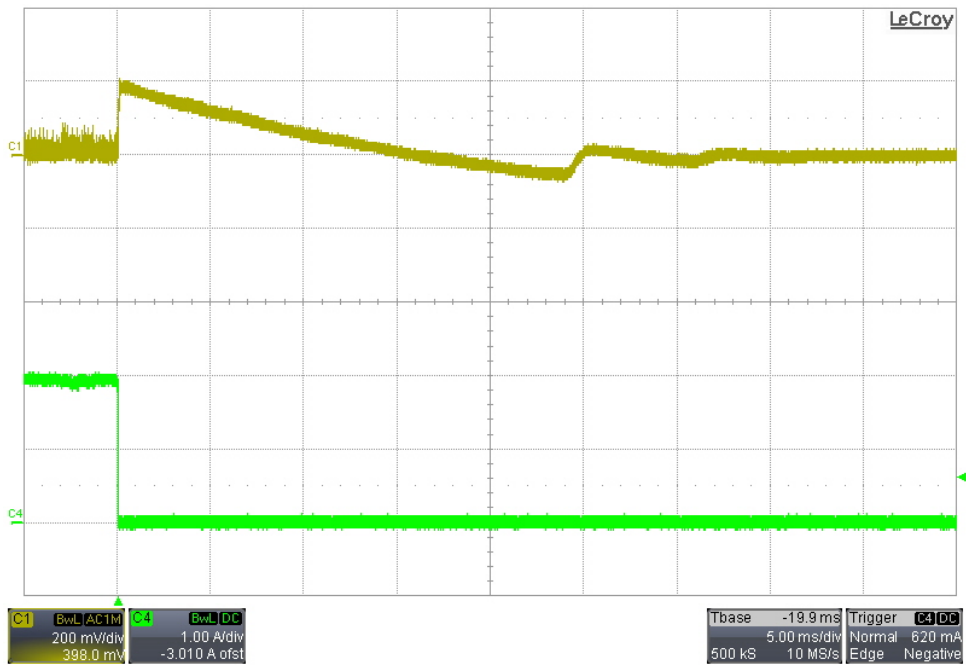
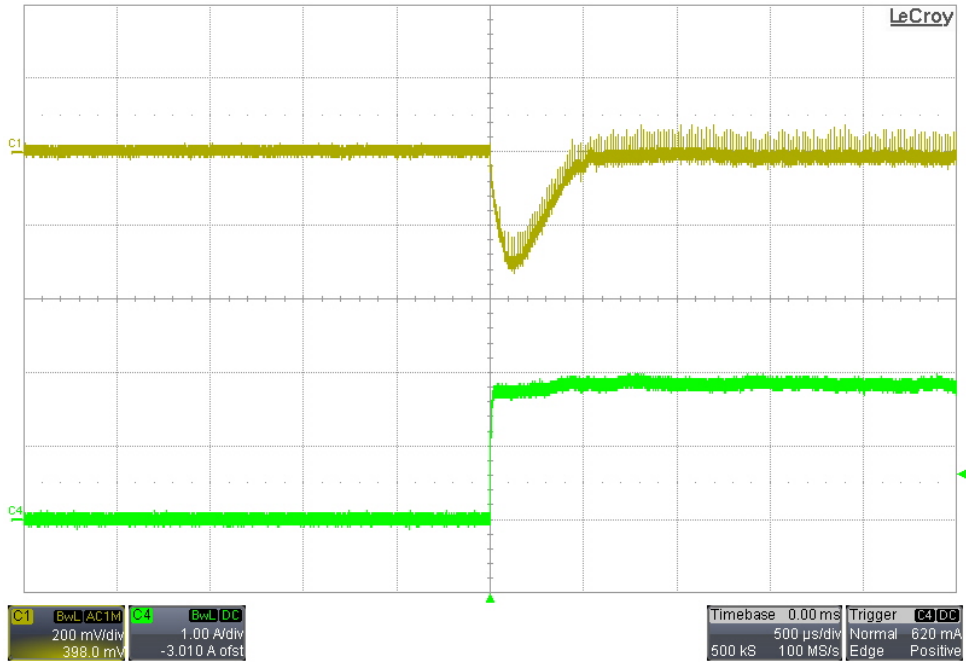
8 Frequency Response

The frequency response of the feedback loop measured at R5 is shown below. For the gain/phase plot #1, the input was set to 115VAC/60Hz. For the gain/phase plot #2, the input was set to 230VAC/50Hz. The output was loaded with 2A.

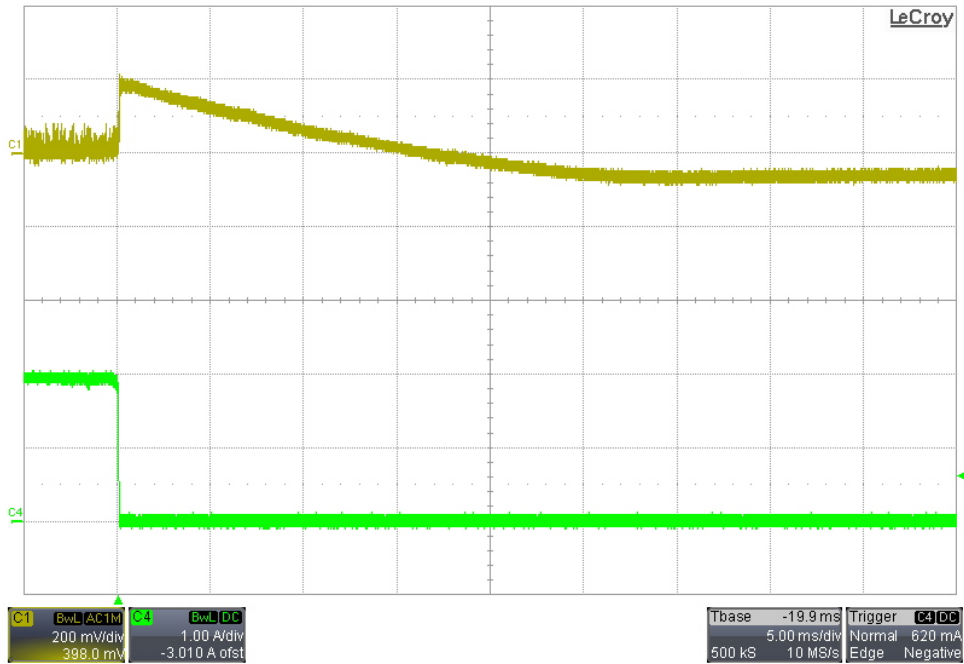
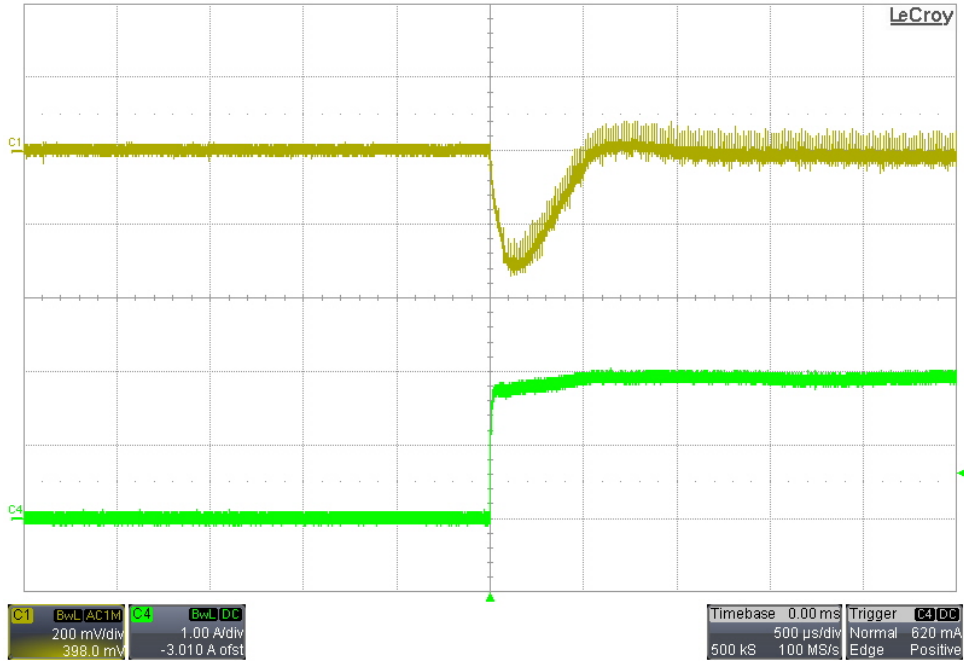


9 Load Transients

9.1 0A to 2A Transient – 115VAC/60Hz Input



9.2 0A to 2A Transient – 230VAC/50Hz Input



10 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 2A.

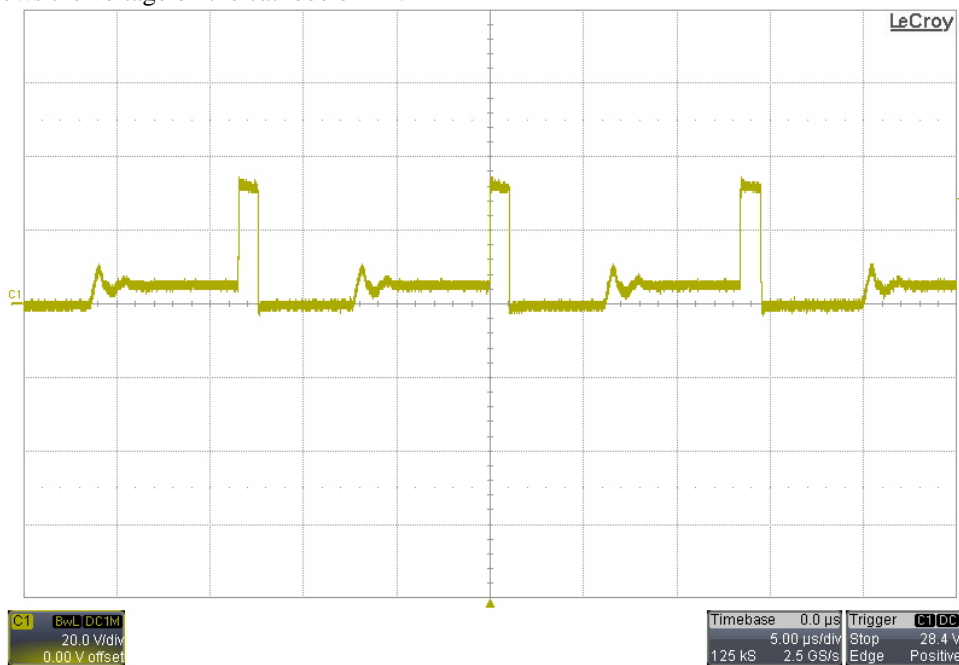
10.1 Primary Waveforms

The image below shows the drain voltage on Q1.



10.2 Secondary Waveforms

The image below shows the voltage on the cathode of D4.



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