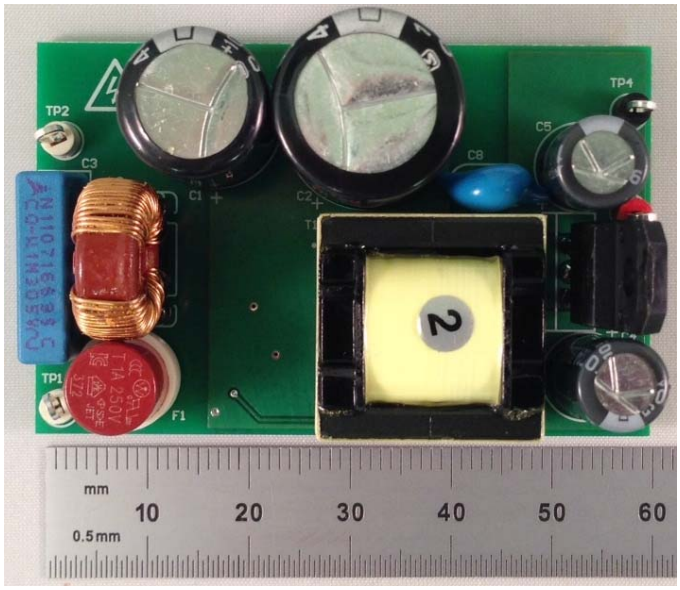
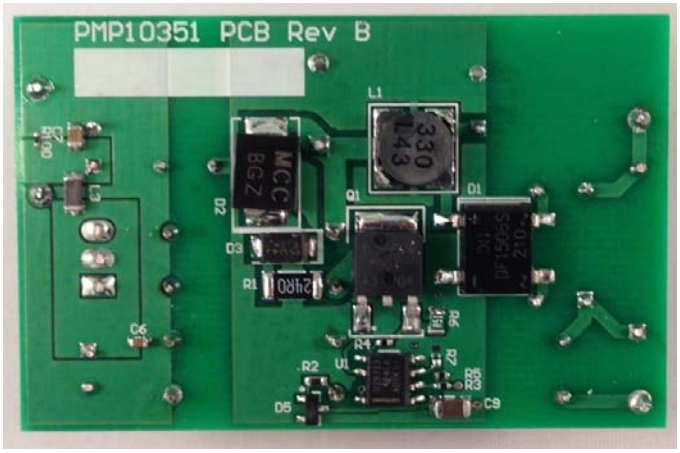
PMP10351 Rev B Test Results

1 Photos

The photograph below shows the PMP10351 Rev B prototype assembly.



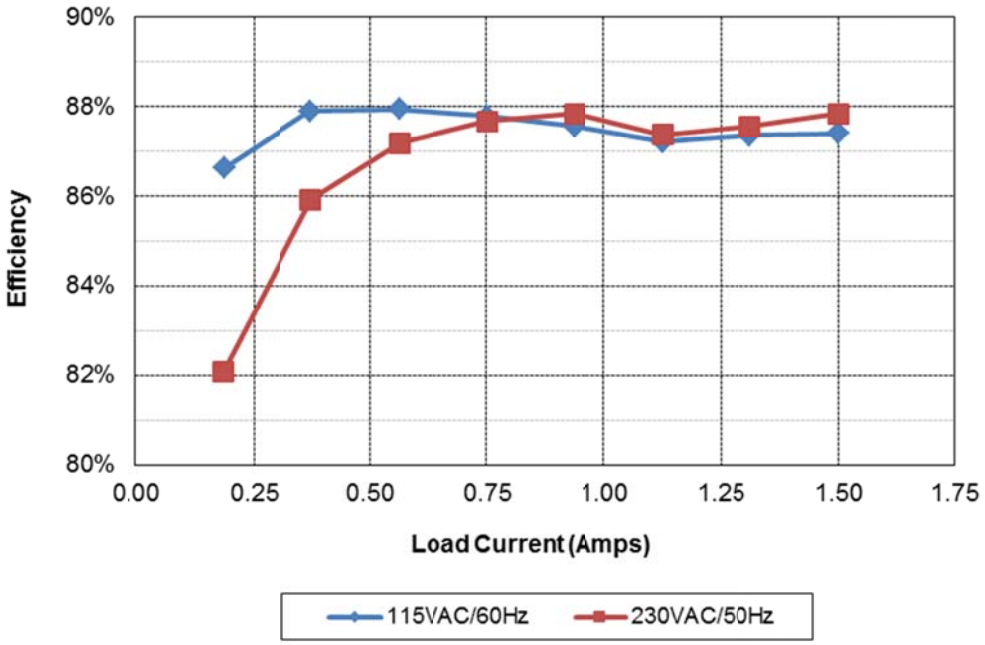


2 Standby Power

No Load	Pin AC (W)
115VAC/60Hz	0.036
230VAC/50Hz	0.040

3 Efficiency

Vin	Pin	Vout	Iout	Load	Efficiency	Avg. Eff.
115VAC/60Hz	5.11	12.01	0.374	25%	87.90%	**87.57%**
	10.38	12.14	0.751	50%	87.78%	
	15.82	12.26	1.126	75%	87.22%	
	21.31	12.40	1.501	100%	87.39%	
230VAC/50Hz	5.24	12.01	0.375	25%	85.92%	**87.20%**
	10.38	12.13	0.751	50%	87.67%	
	15.80	12.27	1.126	75%	87.37%	
	21.18	12.39	1.502	100%	87.83%	



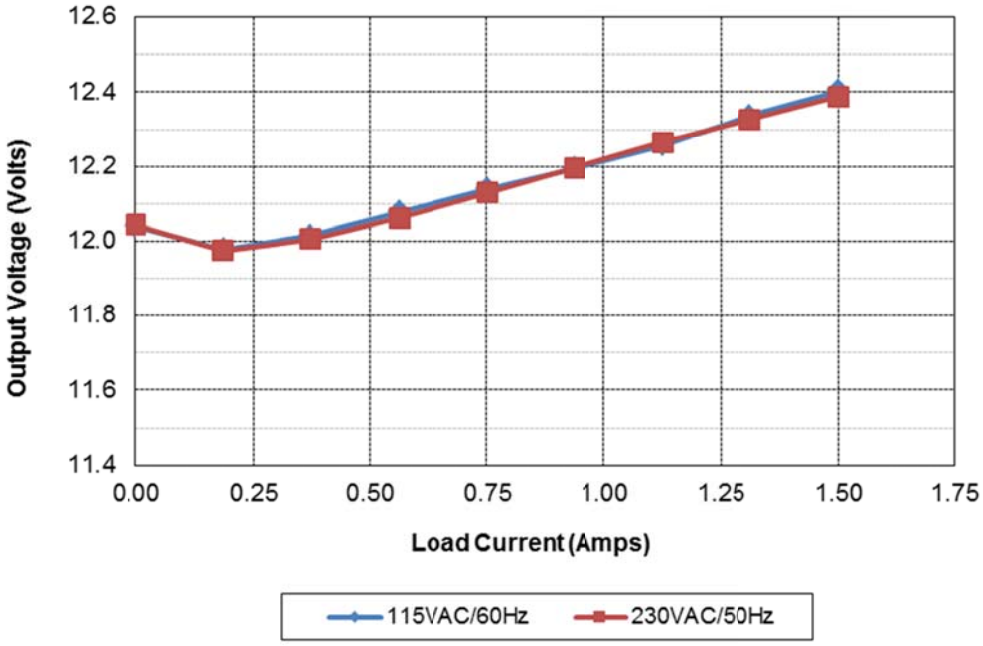
115VAC/60Hz

Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.0000	12.040	114.9	0.0050	0.036		0.00	0.04	
0.1875	11.979	114.9	0.0704	2.593	0.321	2.25	0.35	86.6%
0.3740	12.014	114.9	0.1254	5.112	0.355	4.49	0.62	87.9%
0.5626	12.078	114.8	0.1730	7.727	0.389	6.80	0.93	87.9%
0.7506	12.139	114.8	0.2172	10.380	0.416	9.11	1.27	87.8%
0.9375	12.195	114.8	0.2598	13.058	0.438	11.43	1.63	87.6%
1.1259	12.257	114.8	0.3018	15.823	0.457	13.80	2.02	87.2%
1.3135	12.337	114.8	0.3422	18.55	0.472	16.20	2.35	87.4%
1.5014	12.404	114.8	0.3817	21.31	0.486	18.62	2.69	87.4%

230VAC/50Hz

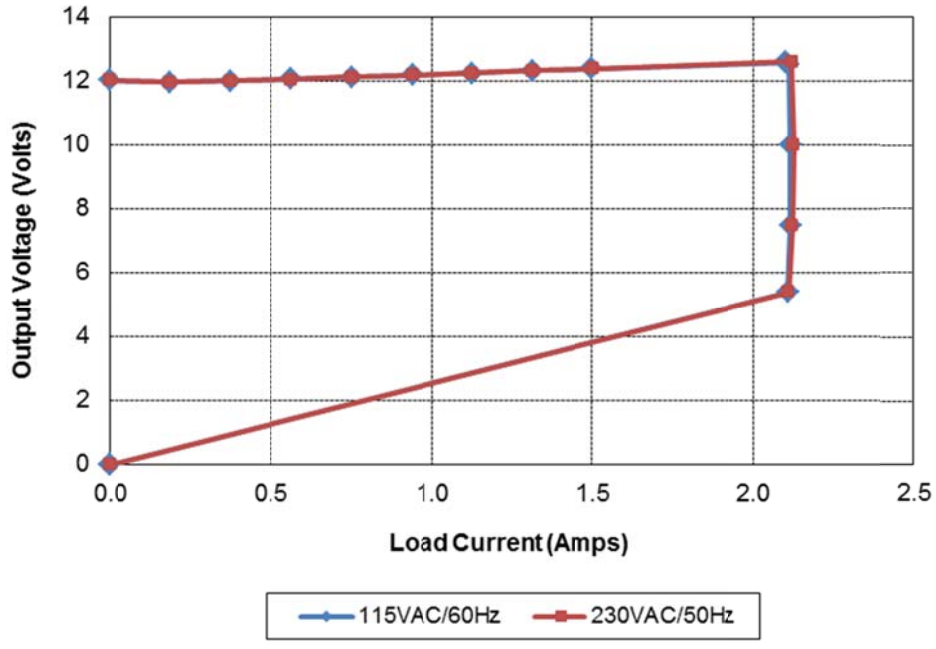
Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.0000	12.043	229.7	0.0074	0.040		0.00	0.04	
0.1866	11.975	229.7	0.0463	2.722	0.256	2.23	0.49	82.1%
0.3750	12.006	229.7	0.0792	5.240	0.288	4.50	0.74	85.9%
0.5641	12.062	229.7	0.1117	7.805	0.304	6.80	1.00	87.2%
0.7505	12.130	229.7	0.1437	10.38	0.315	9.10	1.28	87.7%
0.9387	12.197	229.7	0.1755	13.03	0.323	11.45	1.58	87.8%
1.1255	12.265	229.7	0.2042	15.80	0.337	13.80	2.00	87.4%
1.3124	12.327	229.7	0.2314	18.48	0.348	16.18	2.30	87.6%
1.5016	12.389	229.7	0.2568	21.18	0.359	18.60	2.58	87.8%

4 Load Regulation



5 Current Limit

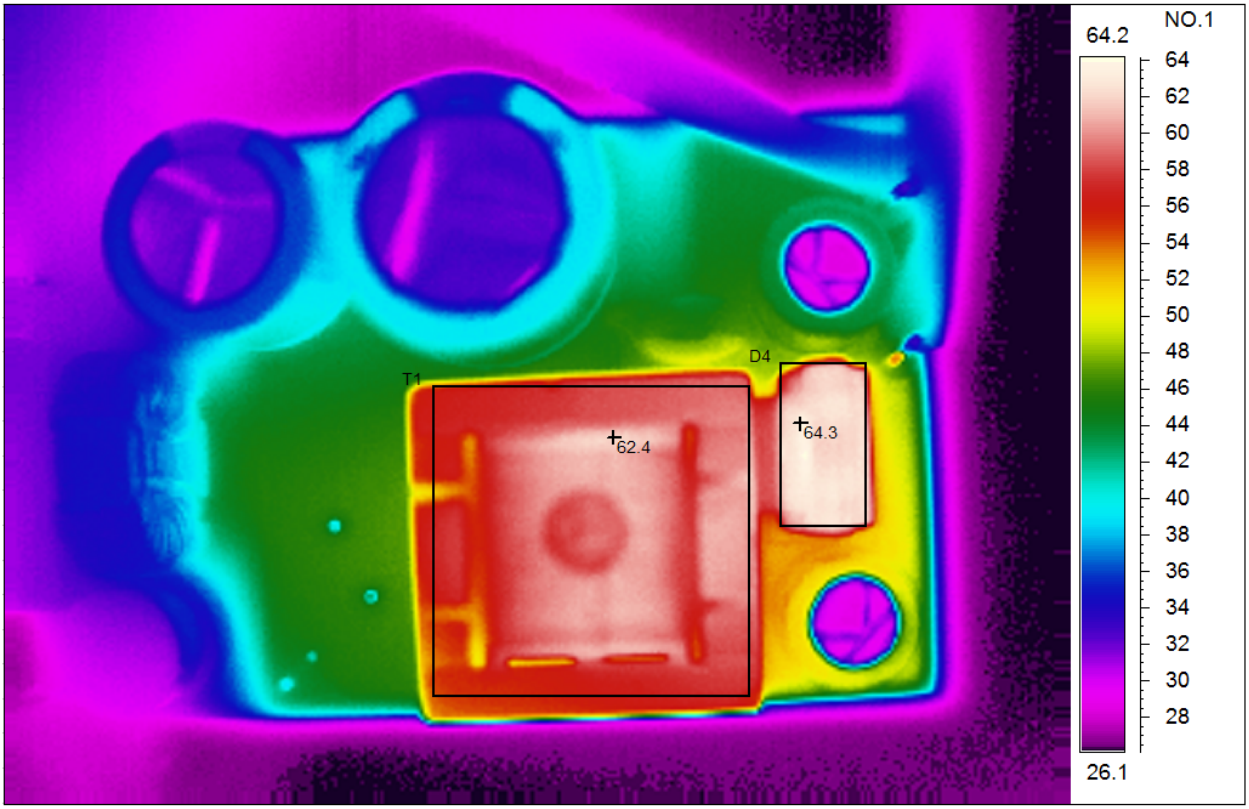
A plot of the output voltage versus load current into overload conditions is shown below.



6 Thermal Images

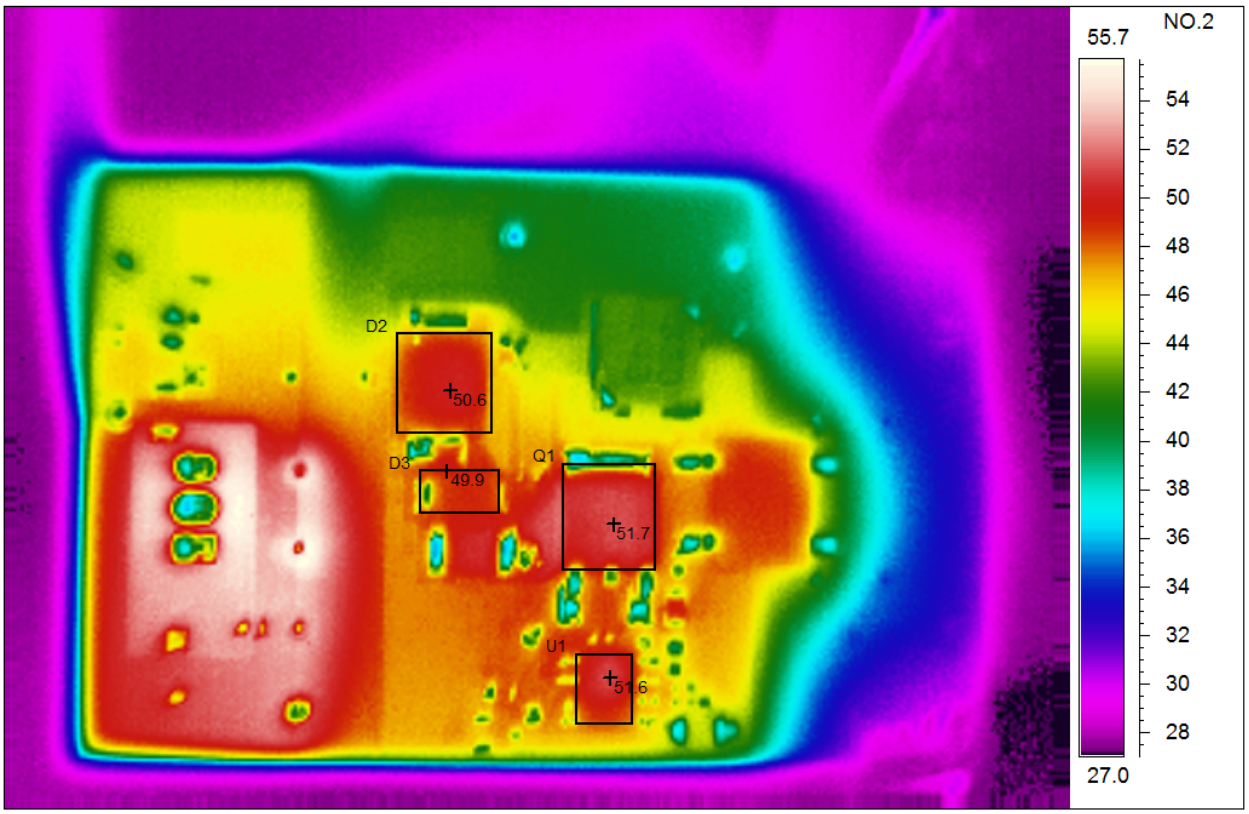
The ambient temperature was 25ºC. The output was loaded with 1.5A.

6.1 115VAC/60Hz Input



NO.1

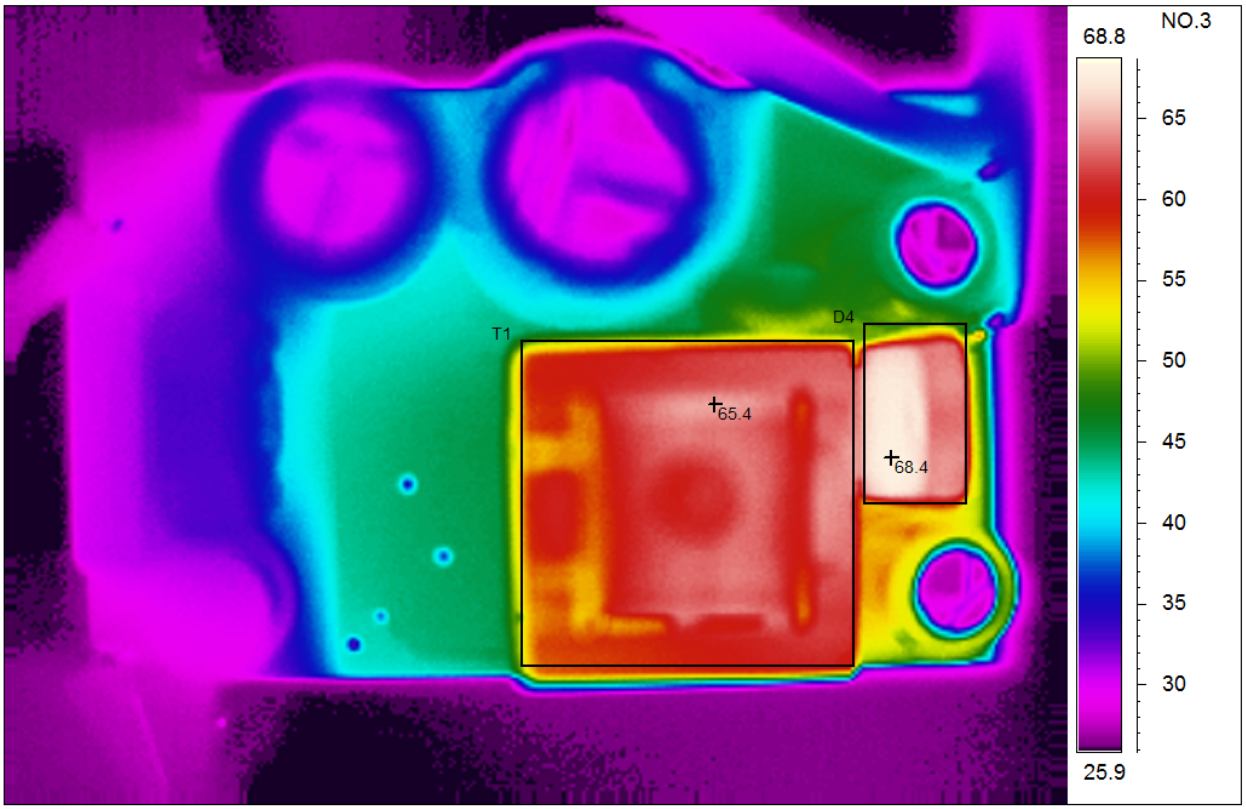
Area analysis	Value
T1 Max	62.4°C
D4 Max	64.3°C



NO.2

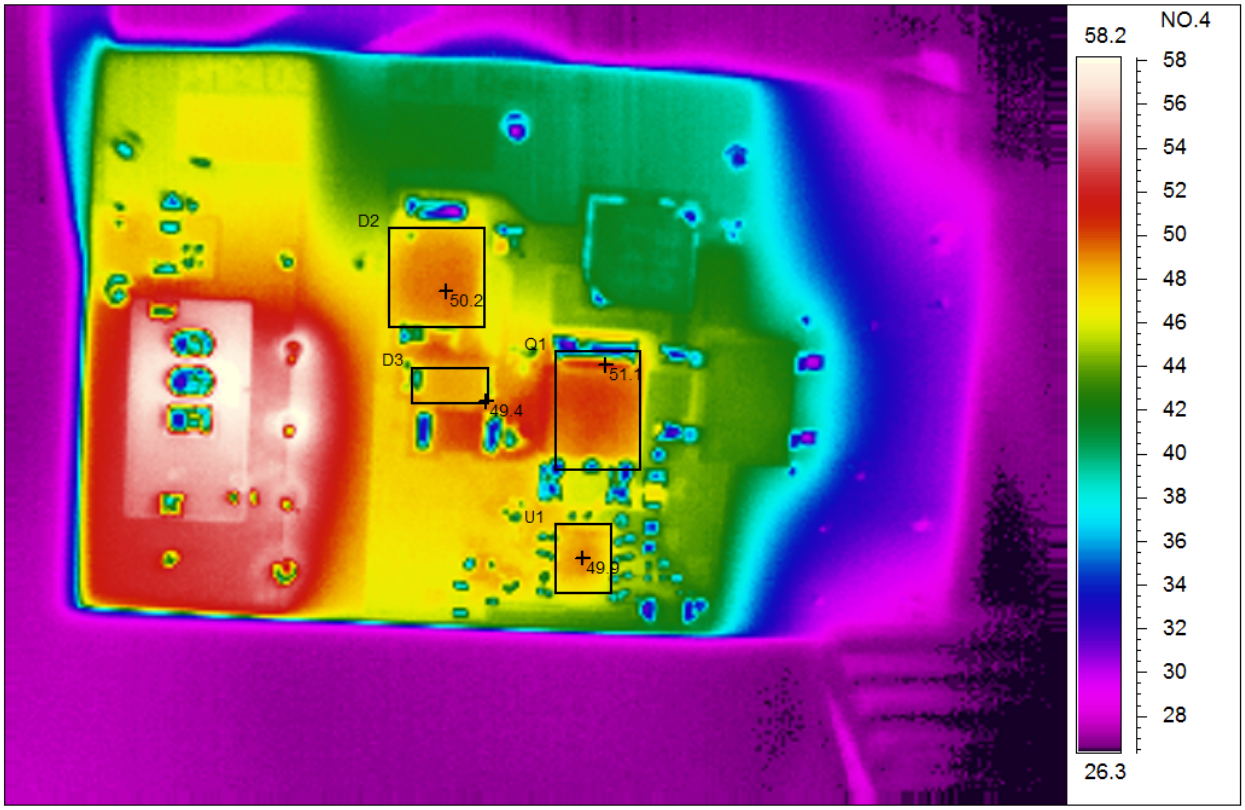
Area analysis	Value
D3Max	49.9°C
D2Max	50.6°C
U1Max	51.6°C
Q1 Max	51.7°C

6.2 230VAC/50Hz Input



NO.3

Area analysis	Value
T1 Max	65.4°C
D4 Max	68.4°C

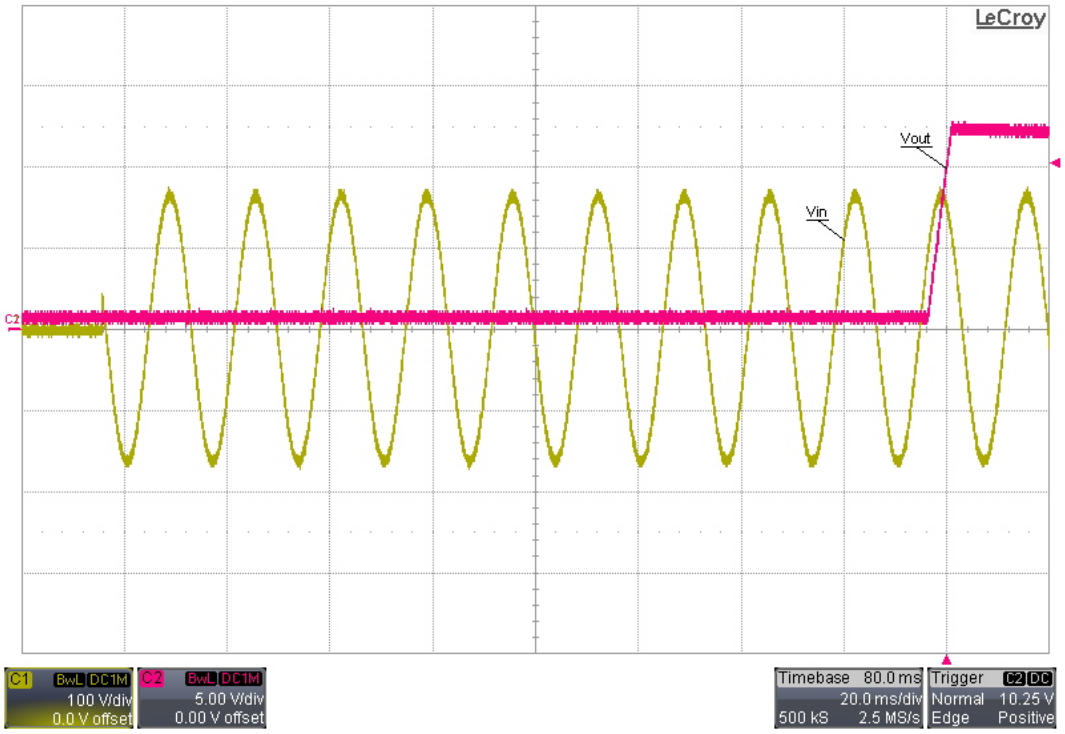


NO.4

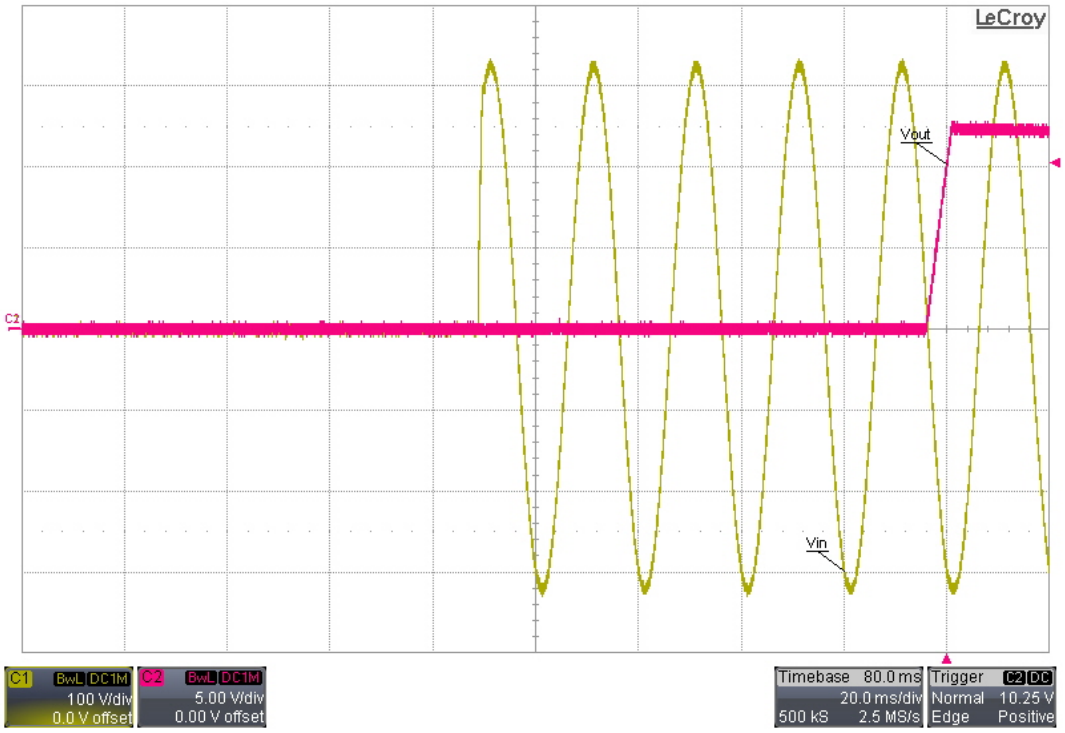
Area analysis	Value
D3 Max	49.4°C
D2Max	50.2°C
U1Max	49.9°C
Q1 Max	51.1°C

7 Startup

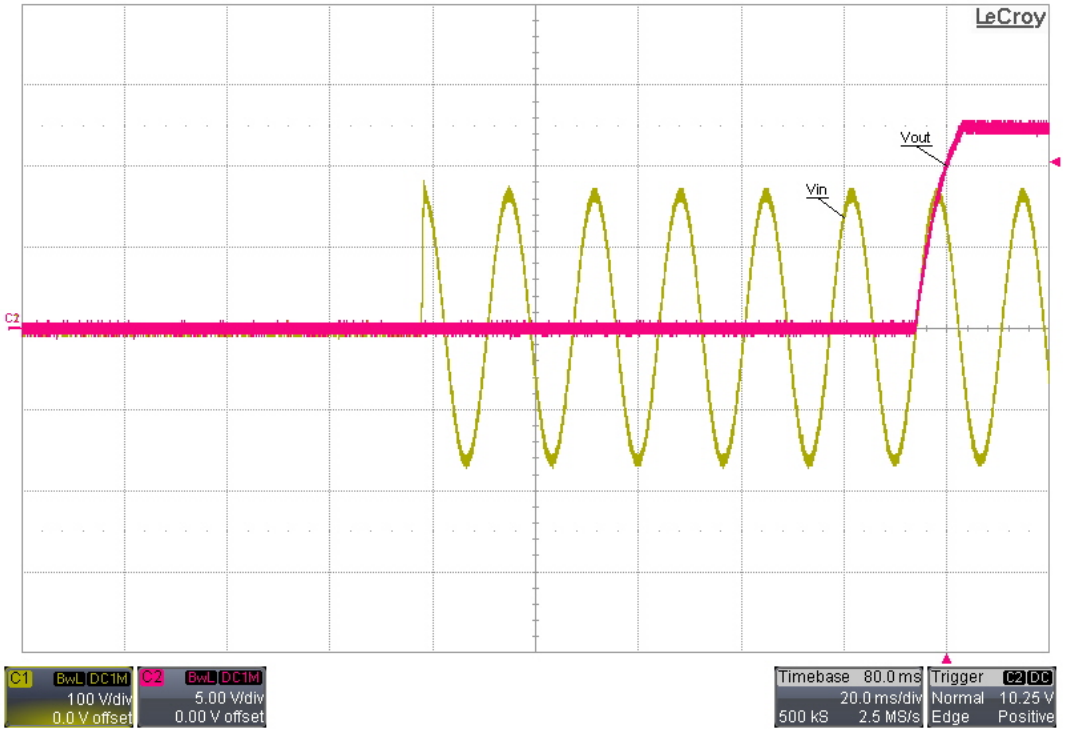
7.1 115VAC/60Hz Startup – 0A Load



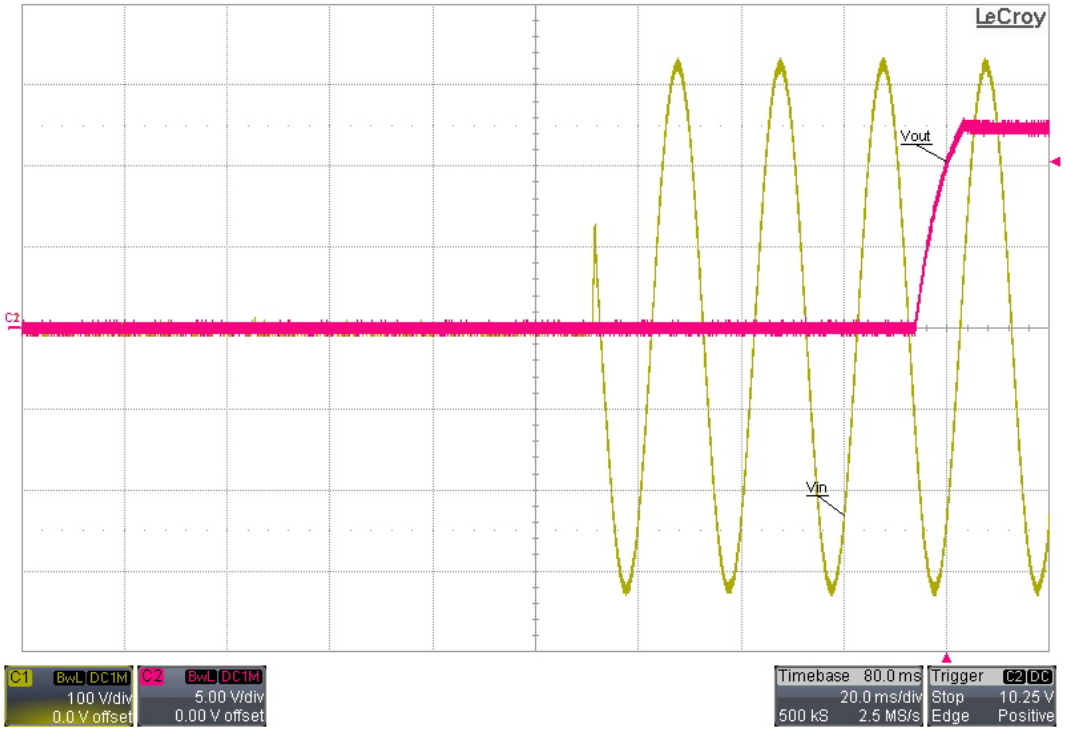
7.2 230VAC/50Hz Startup – 0A Load



7.3 115VAC/60Hz Startup – 8Ω Load



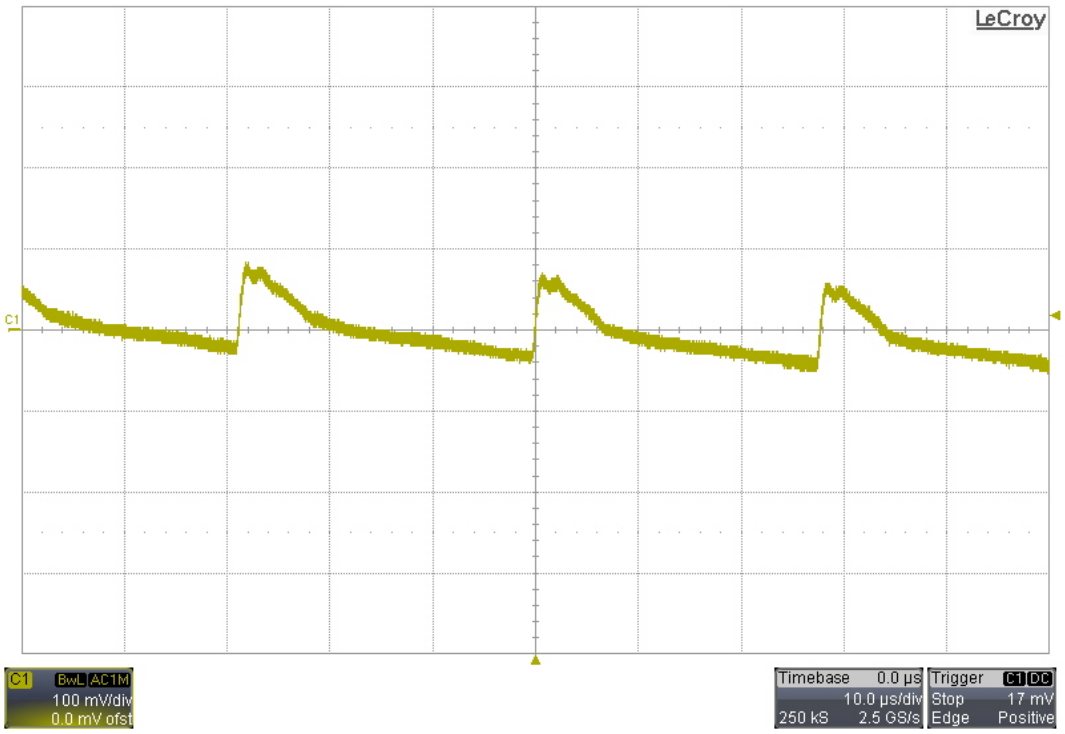
7.4 230VAC/50Hz Startup – 8Ω Load



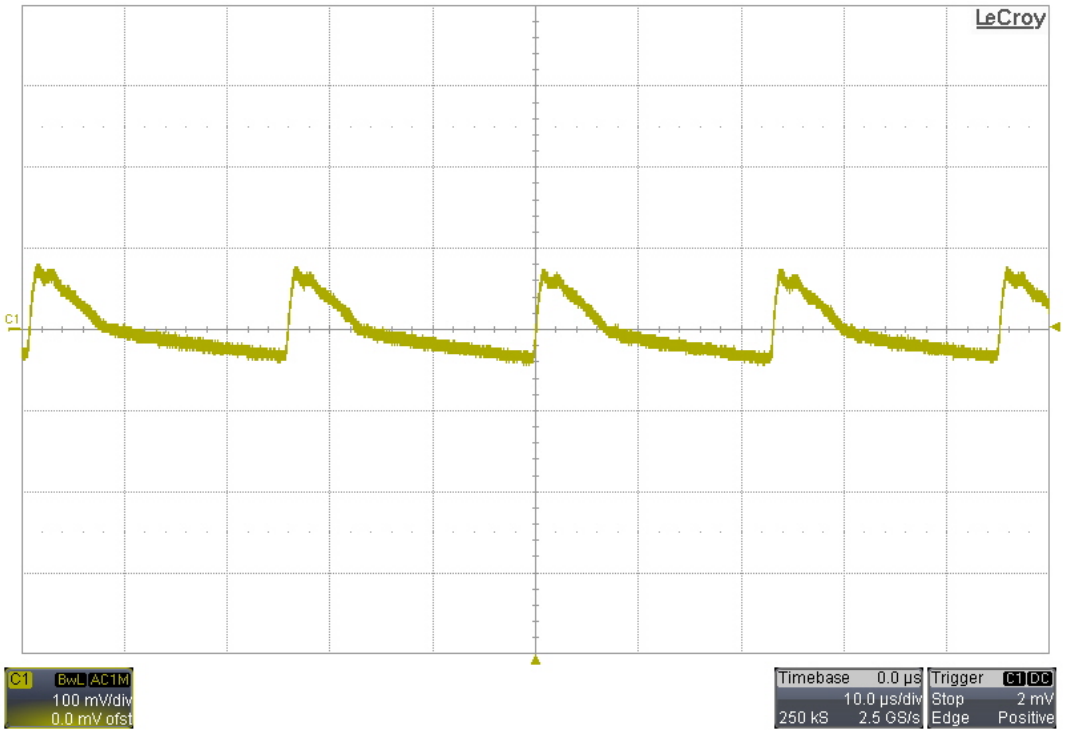
8 Output Ripple Voltage

The output was loaded with 1.5A.

8.1 115VAC/60Hz Output Ripple Voltage

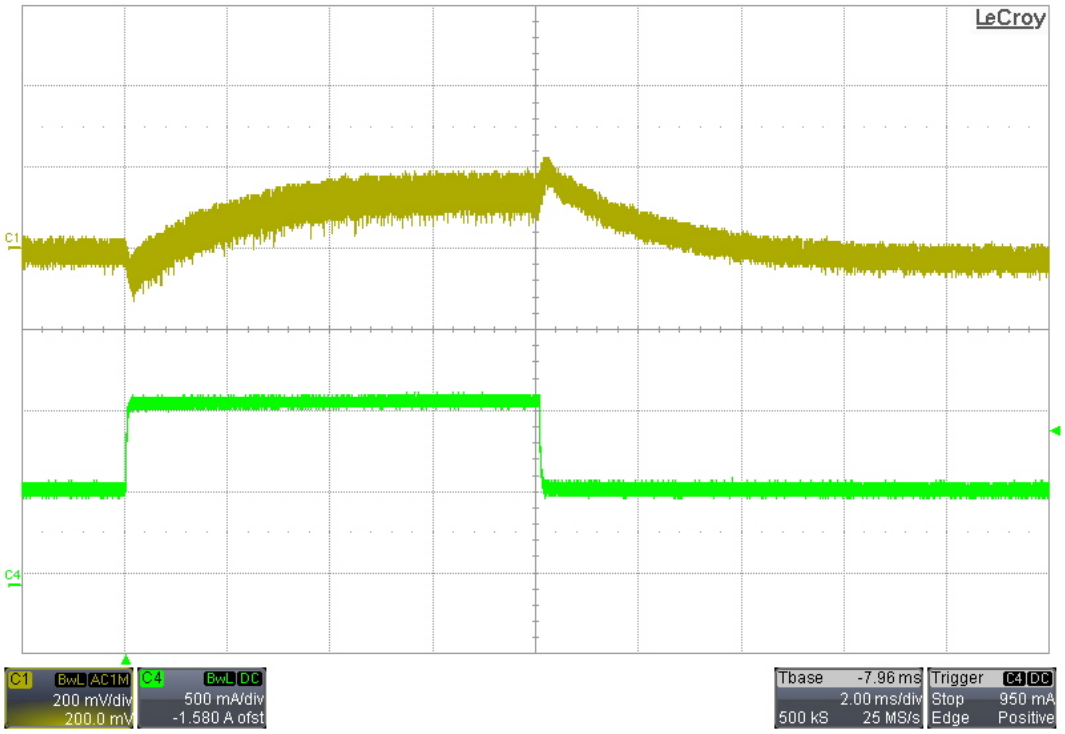


8.2 230VAC/50Hz Output Ripple Voltage

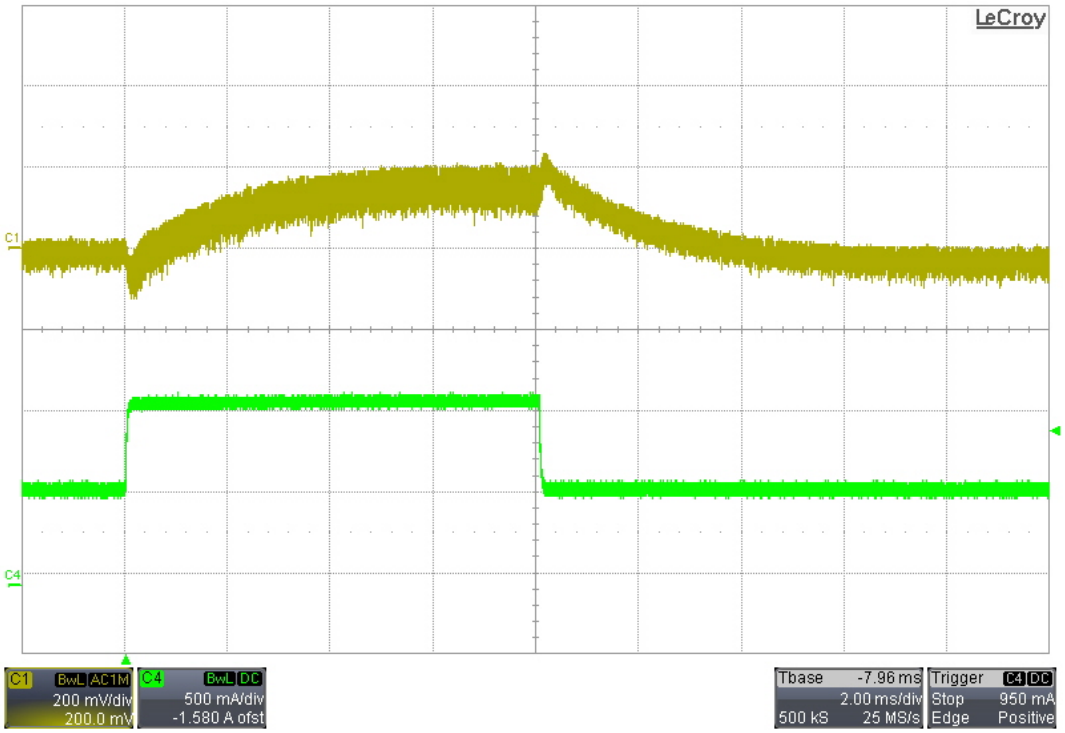


9 Load Transients

9.1 0.5A to 1A Transient – 115VAC/60Hz Input



9.2 0.5A to 1A Transient – 230VAC/50Hz Input

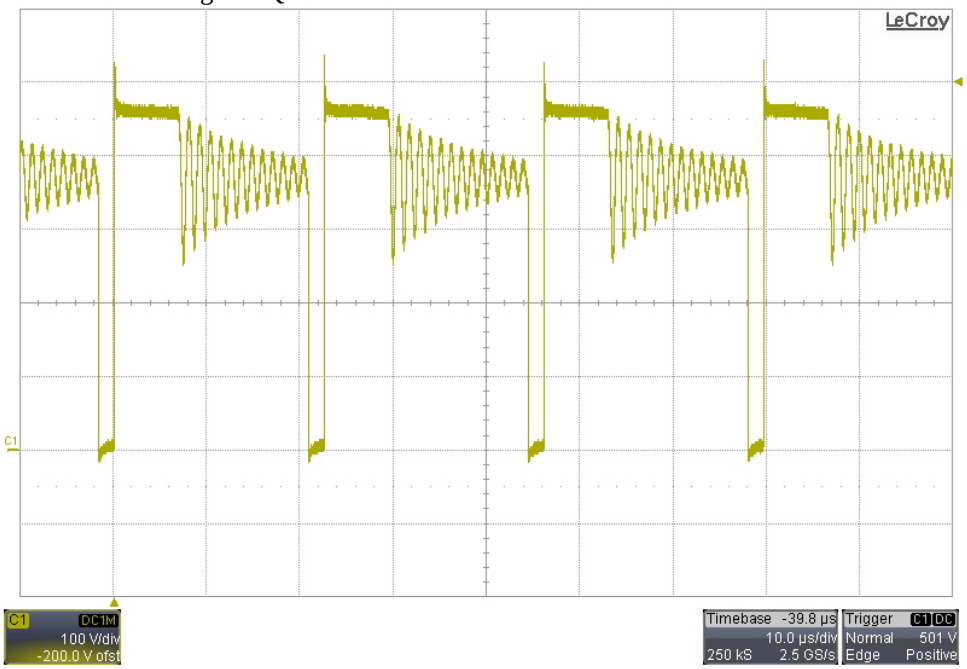


10 Switching Waveforms

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

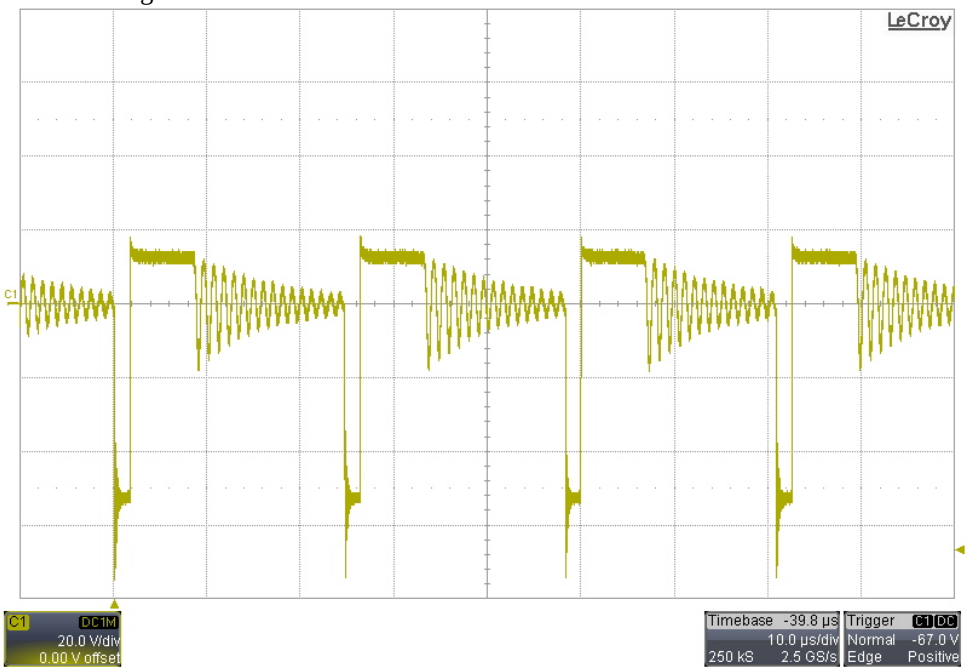
10.1 Primary Waveforms

The image below shows the drain voltage on Q1.



10.2 Secondary Waveforms

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



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