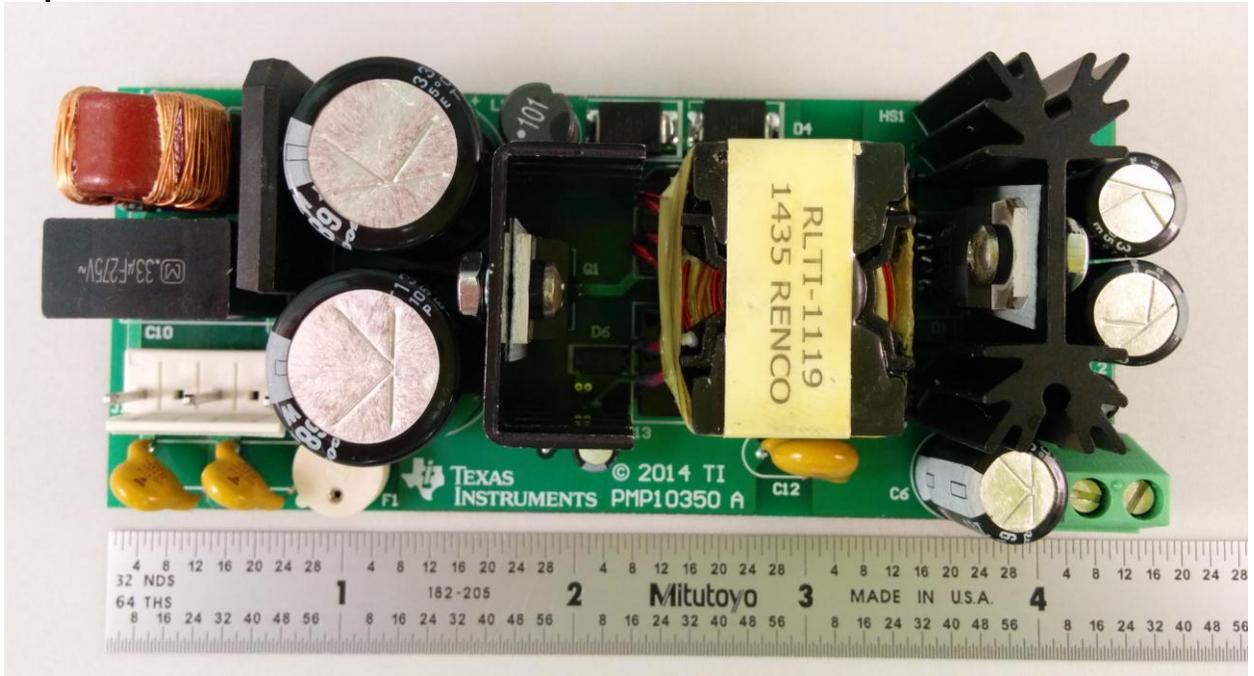


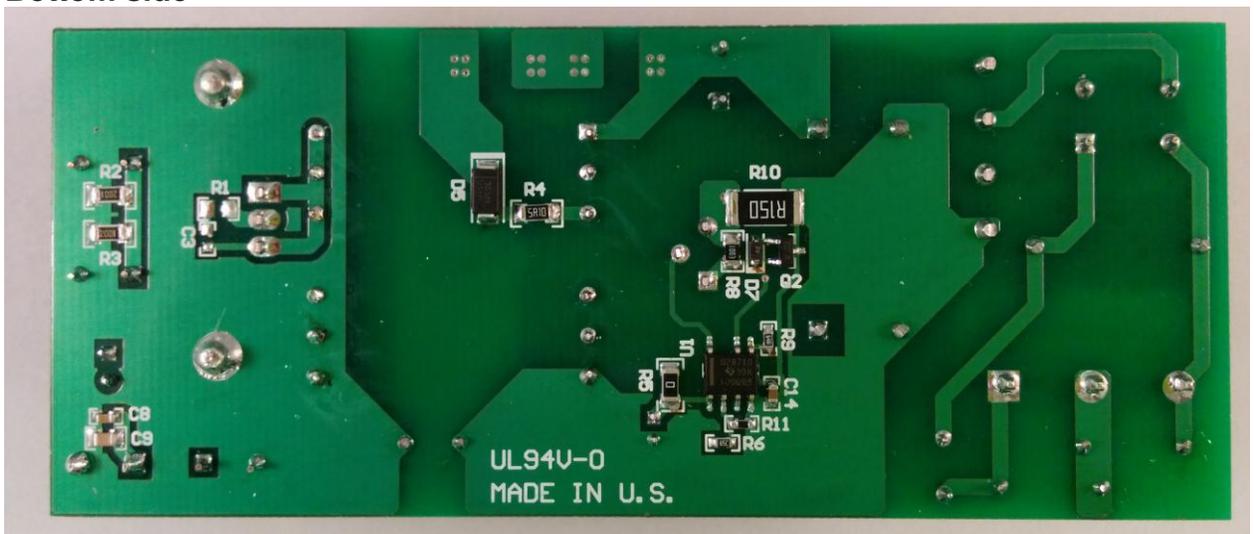
1 Photo

The photographs below show the PMP10350 Rev B assembly. This circuit was built on a PMP10350 Rev A PCB.

Top side

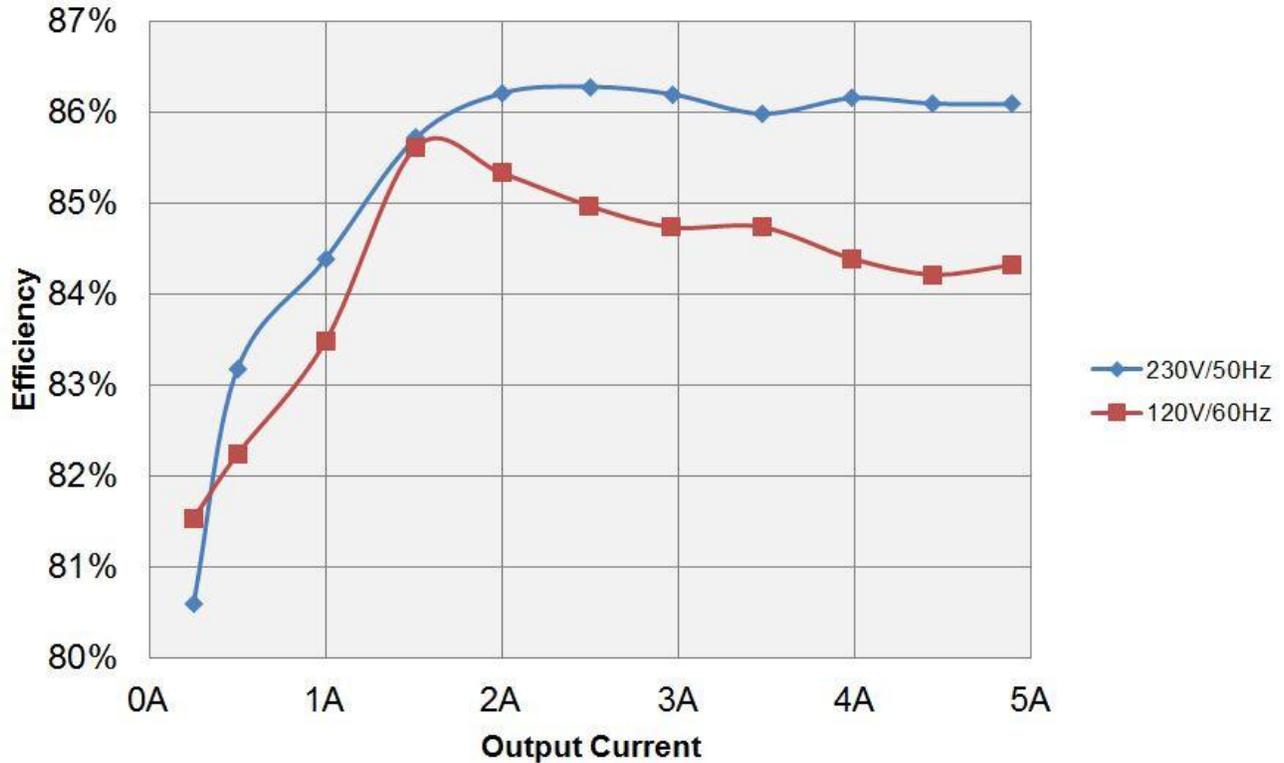


Bottom side



2 Converter Efficiency

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



Vin=120V_{AC}/60Hz

Vin(ac)	Iin(A)	Pin(W)	Vout(V)	Iout(A)	Pout(W)	Eff. (%)
120.25	0.103	3.78	12.23	0.252	3.08	81.53%
120.24	0.179	7.46	12.27	0.500	6.14	82.24%
120.23	0.318	14.71	12.28	1.000	12.28	83.48%
120.23	0.437	21.67	12.27	1.512	18.55	85.61%
120.22	0.55	28.76	12.27	2.000	24.54	85.33%
120.22	0.659	36.00	12.28	2.491	30.59	84.97%
120.21	0.757	42.91	12.30	2.956	36.36	84.73%
120.32	0.863	50.51	12.32	3.474	42.80	84.74%
120.19	0.964	58.15	12.33	3.980	49.07	84.39%
120.18	1.057	65.09	12.34	4.442	54.81	84.21%
120.17	1.143	71.74	12.36	4.894	60.49	84.32%

Vin=230V_{AC}/50Hz

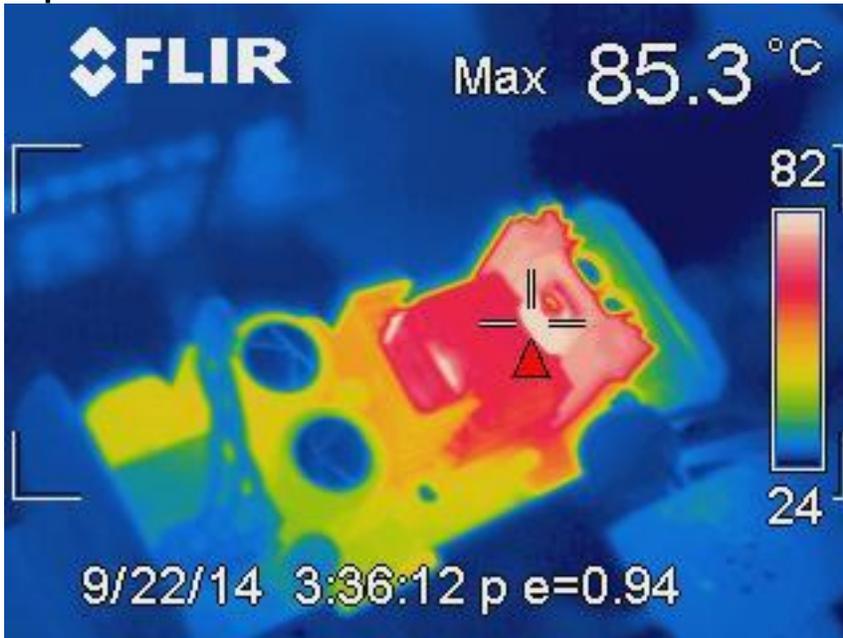
Vin(ac)	Iin(A)	Pin(W)	Vo1(V)	Io1(A)	Pout(W)	Eff. (%)
230.2	0.081	3.83	12.25	0.252	3.09	80.60%
230.2	0.119	7.37	12.26	0.500	6.13	83.18%
230.2	0.198	14.54	12.27	1.000	12.27	84.39%
230.2	0.275	21.64	12.26	1.513	18.55	85.72%
230.2	0.348	28.49	12.28	2.000	24.56	86.21%
230.2	0.422	35.54	12.28	2.497	30.66	86.28%
230.2	0.49	42.29	12.29	2.966	36.45	86.20%
230.2	0.565	49.74	12.3	3.477	42.77	85.98%
230.2	0.635	56.99	12.33	3.982	49.10	86.15%
230.2	0.699	63.64	12.34	4.440	54.79	86.09%
230.2	0.761	70.25	12.36	4.893	60.48	86.09%

3 Thermal Images

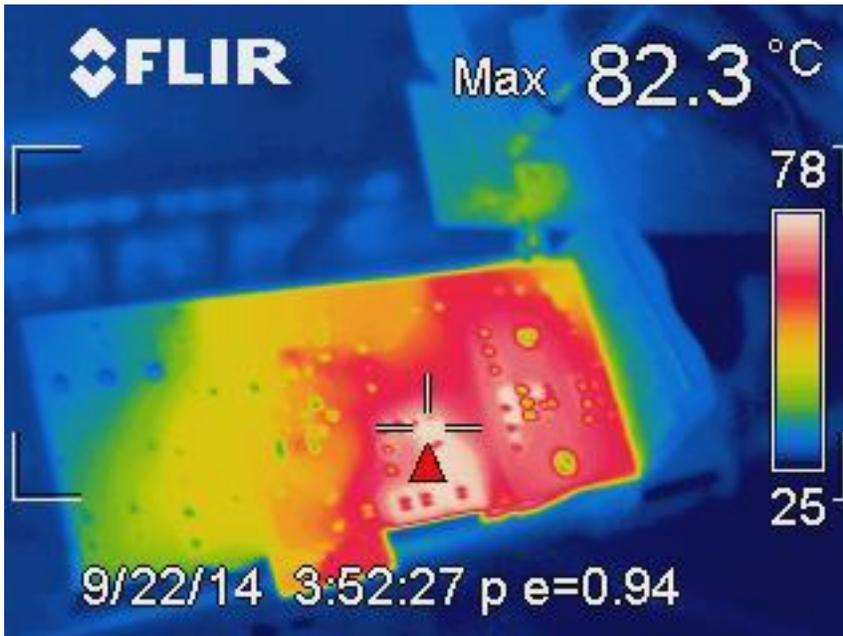
The thermal images below show a top view and bottom view of the board. The ambient temperature was 20°C with no forced air flow. The output was at 12V/5A.

120V_{AC}/60Hz

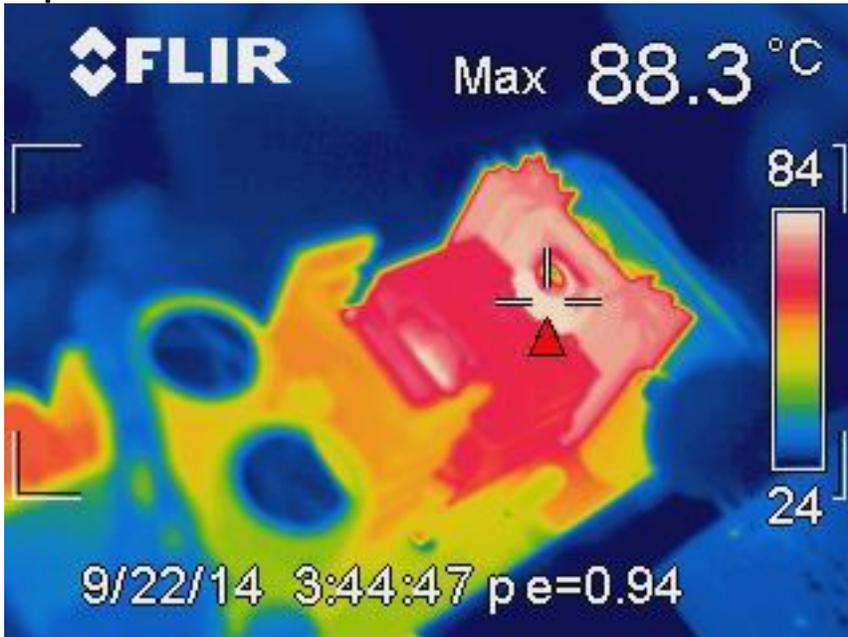
Top Side



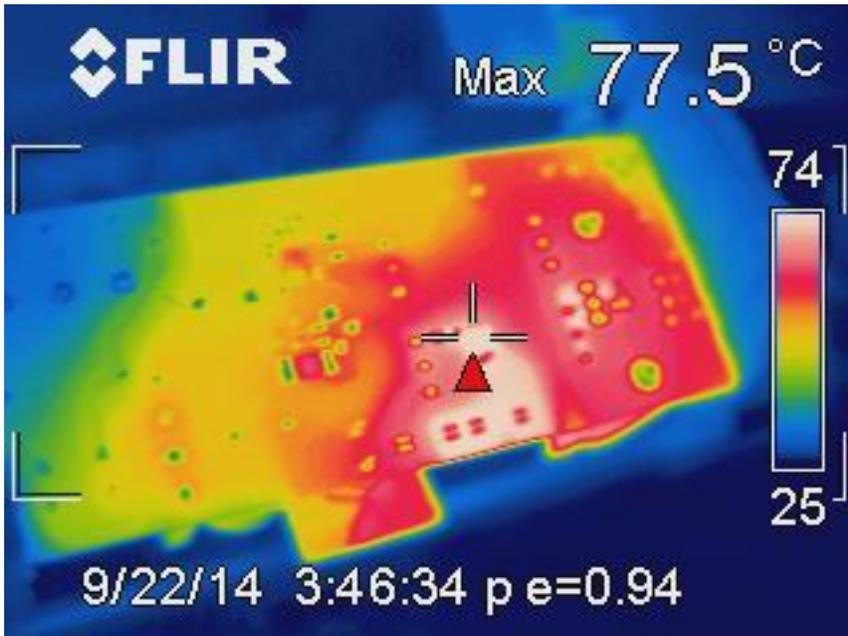
Bottom Side



220V_{AC}/50Hz
Top Side



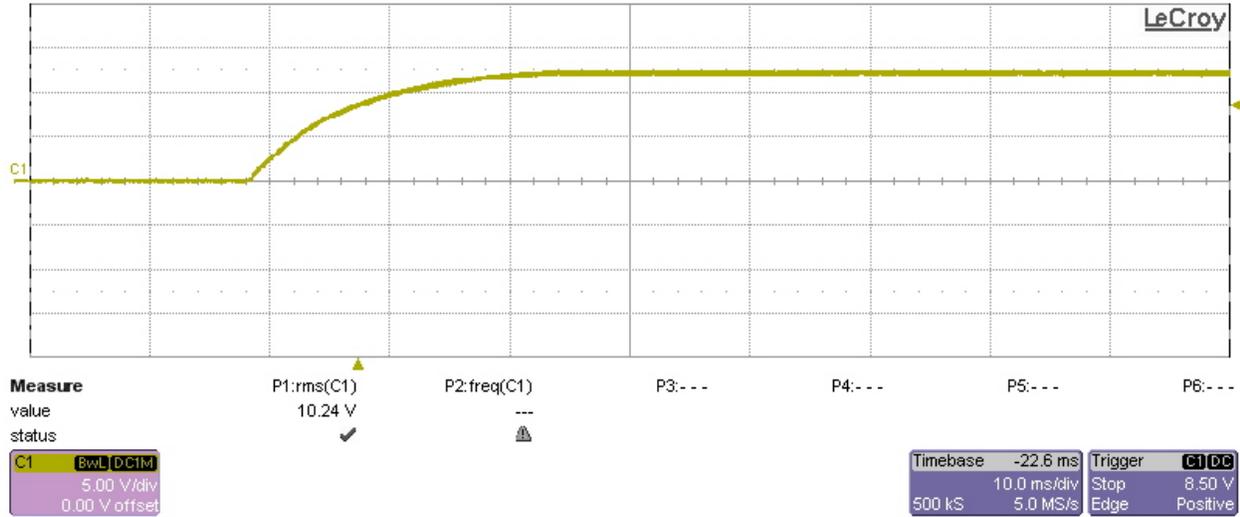
Bottom Side



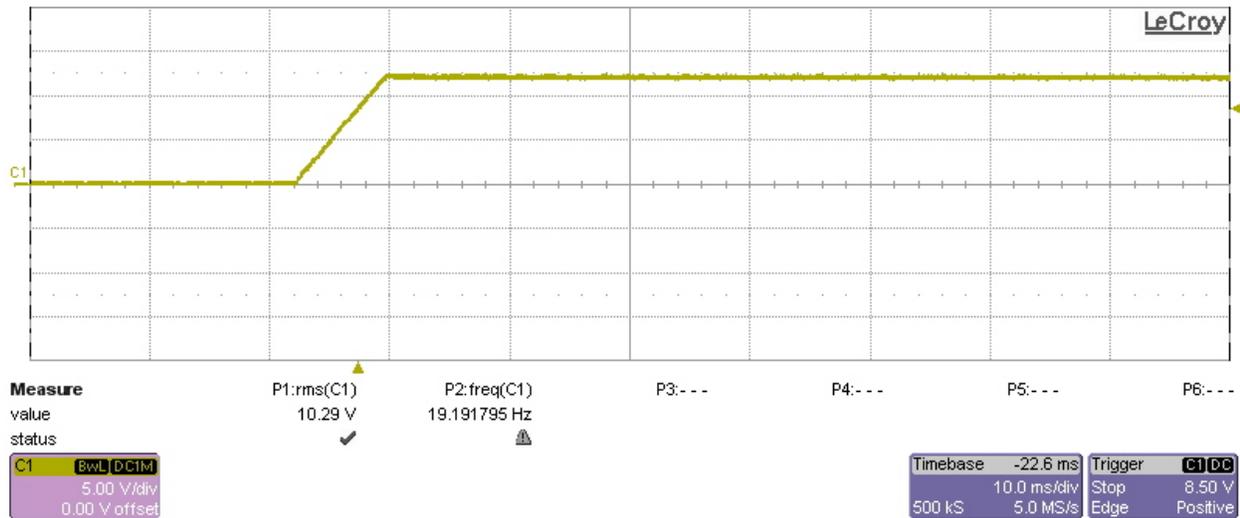
4 Startup

The output voltages at startup are shown in the images below.

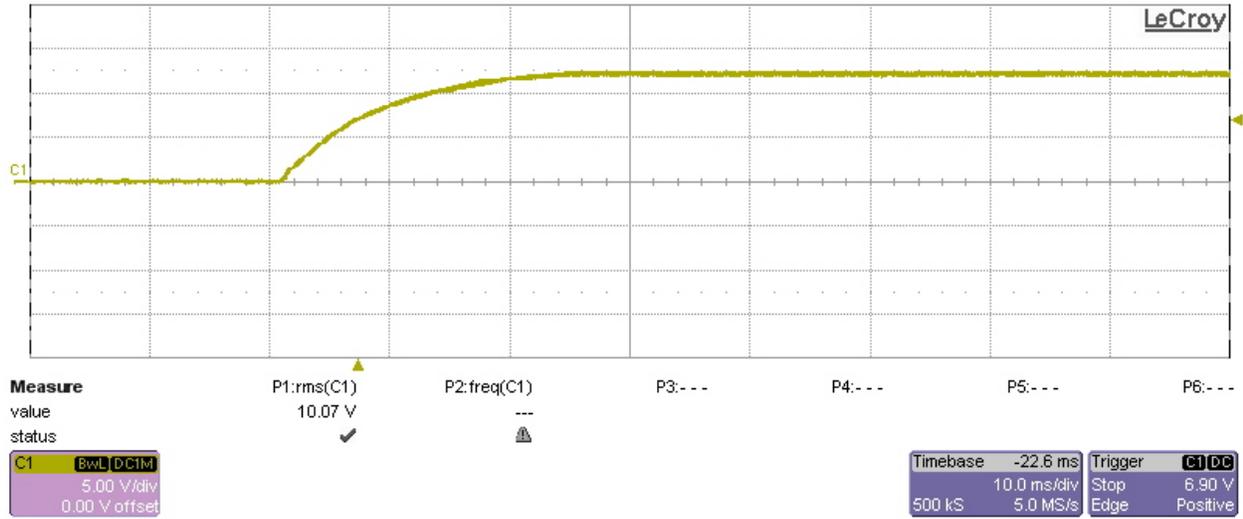
4.1 Start Up @ 120V_{AC}: 12V/5A.



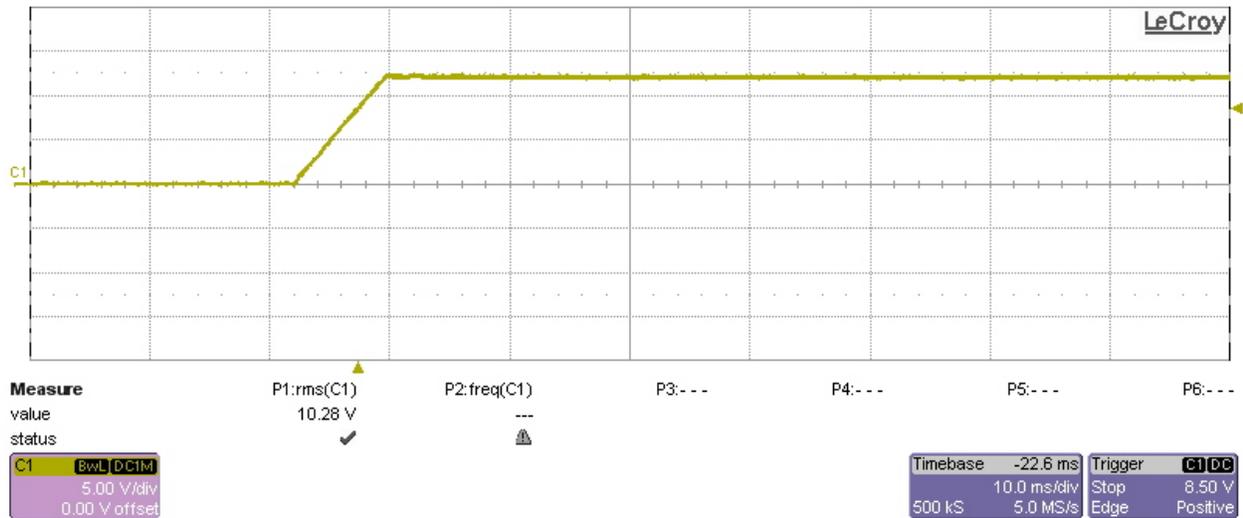
4.2 Start Up @ 120V_{AC}: no load.



4.3 Start Up @ 220V_{AC}: 12V/5A.



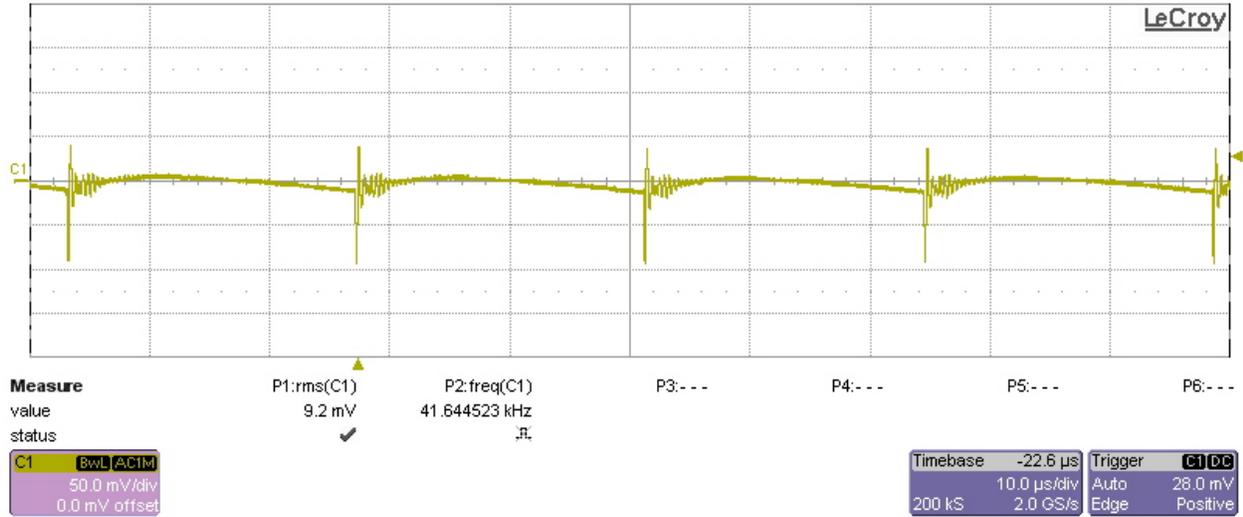
4.4 Start Up @ 220V_{AC}: no load.



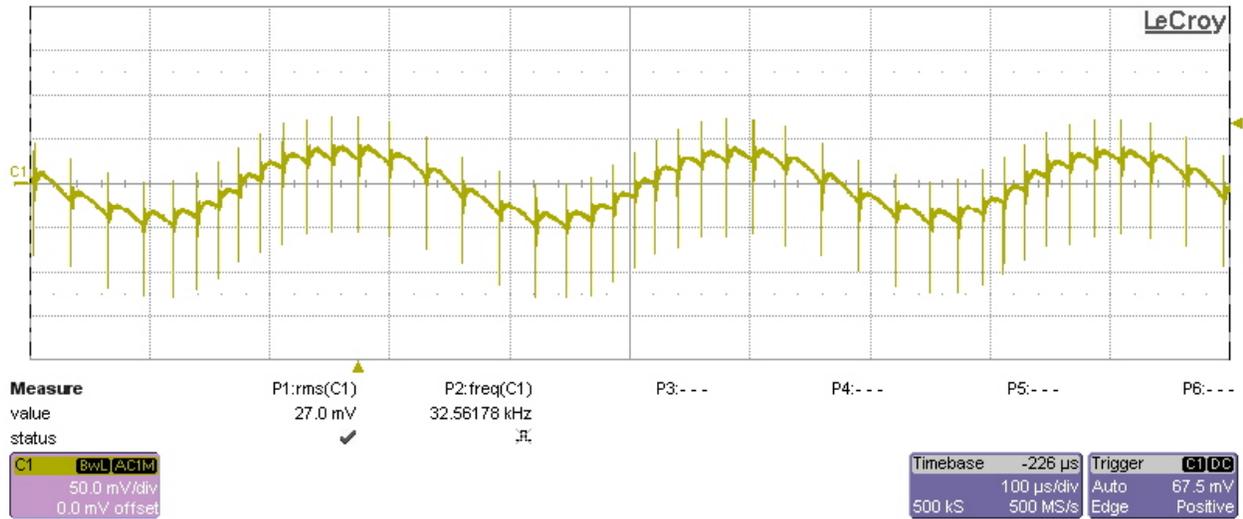
5 Output Ripple Voltages

The output ripple voltage is shown in the plots below at 12V/5A full load.

5.1 12V_{ripple} at 120V_{AC}/60Hz



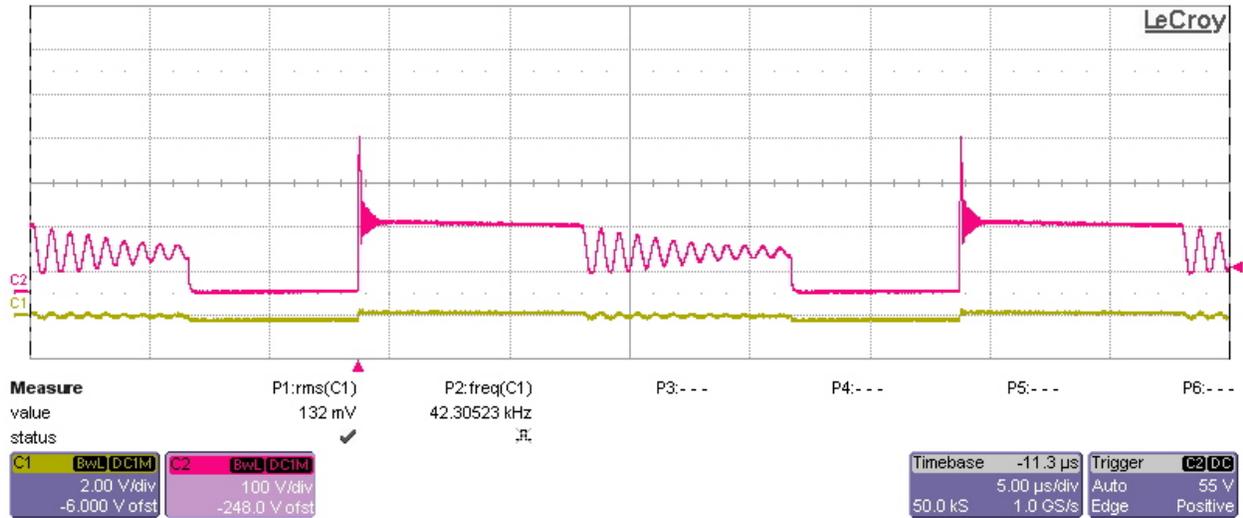
5.2 12V_{ripple} at 230V_{AC}/50Hz



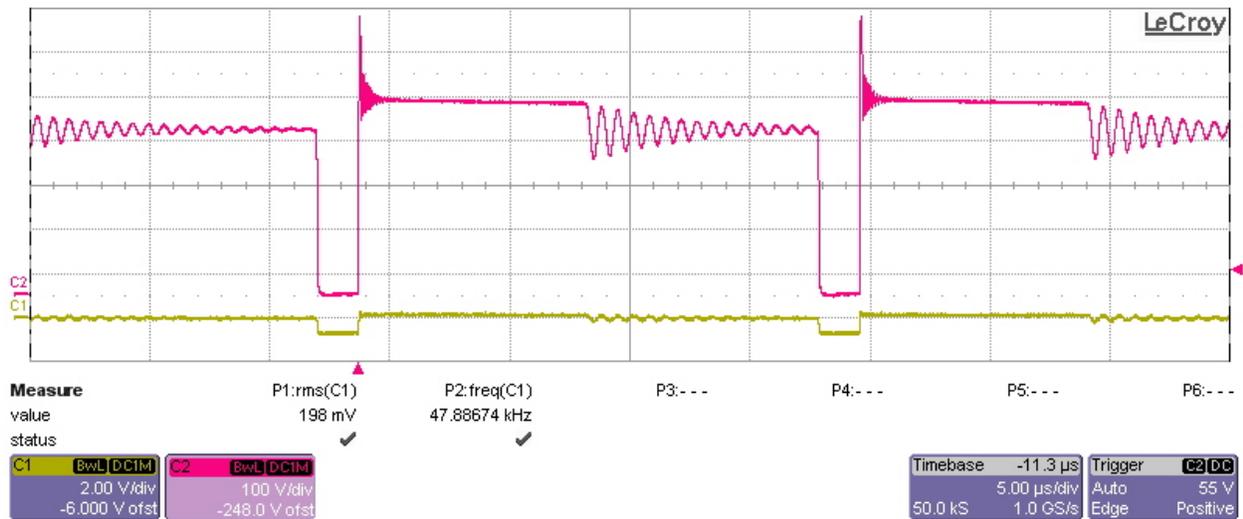
6 Switching Waveforms

The images below show key switching waveforms of PMP10350 RevB. The waveforms are measured with 12V/5A load. CH2: $V_{DS}(Q_1)$, CH1: T1 secondary winding voltage.

6.1 85V_{ao}/60Hz



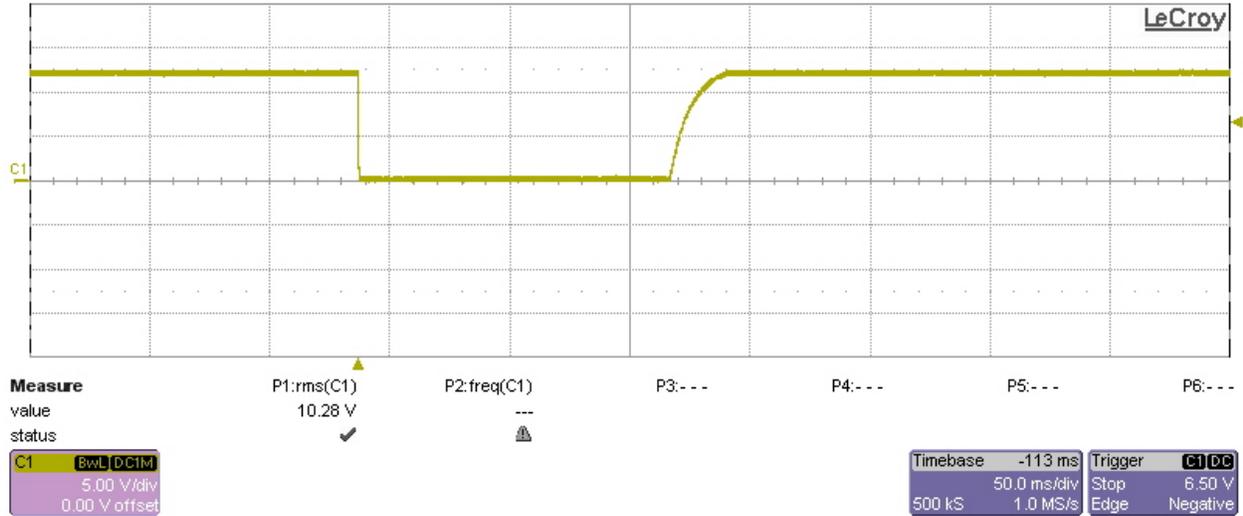
6.2 265V_{ao}/50Hz



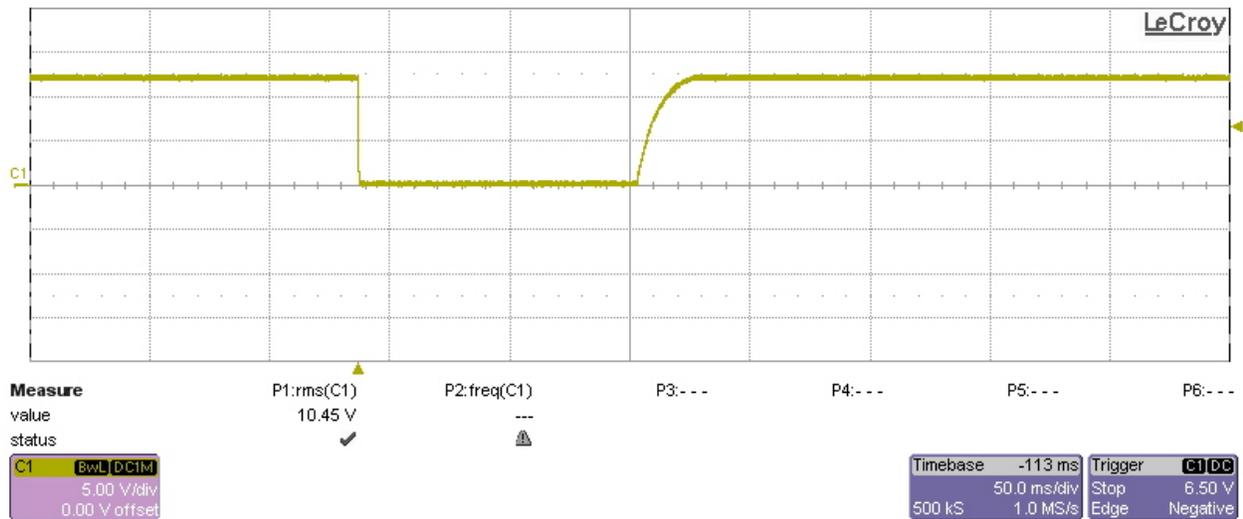
7 Short Circuit Test

The images below show short circuit test results of PMP10350 RevB after power on at 12V/5A load. CH2: V_{CS} at R14, CH3: $12V_{out}$. Output voltage recovers after short is removed.

7.1 $120V_{ac}/60Hz$



7.2 $230V_{ac}/50Hz$



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