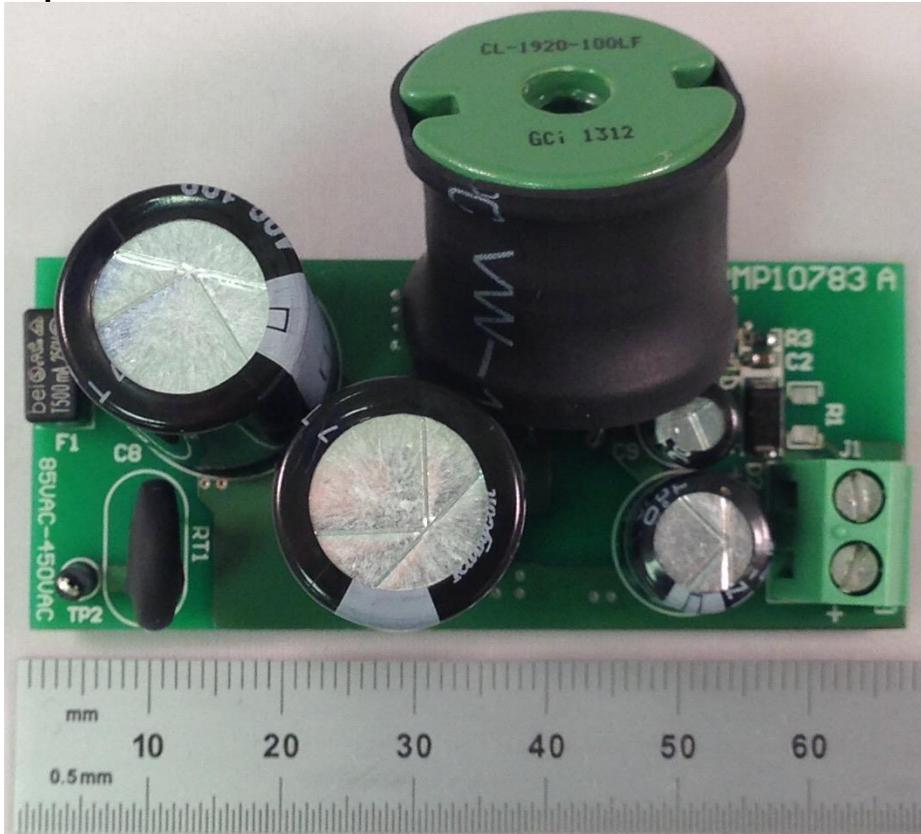


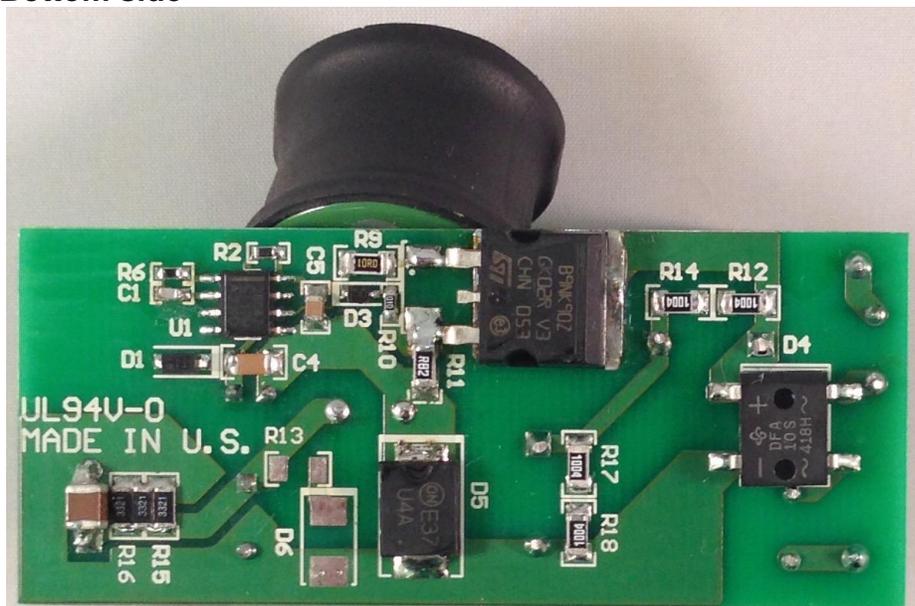
1 Photo

The photographs below show the PMP10833 Rev A assembly. This circuit was built on a PMP10783 Rev A PCB.

Top side

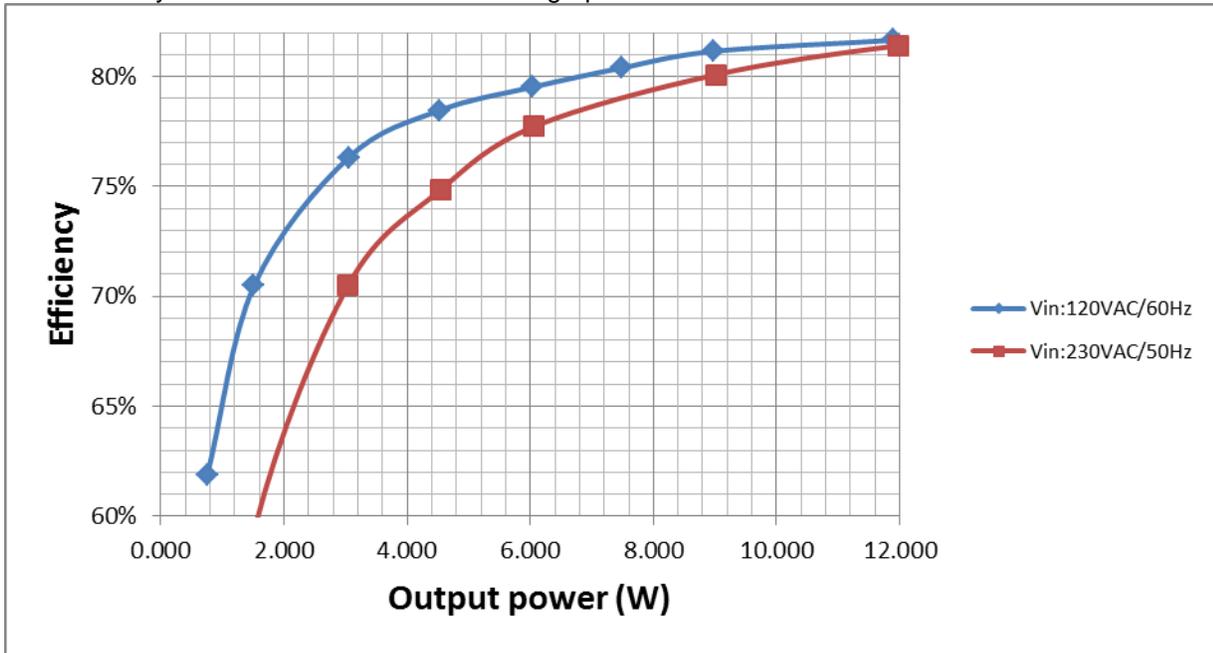


Bottom side



2 Converter Efficiency

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



V_{in}=120V_{AC}/60HZ

V _{in} (ac)	I _{in} (A)	P _{in} (W)	V _{out} (V)	I _{out} (A)	P _{out} (W)	Eff. (%)
120.11	0.22390	14.577	14.880	0.80	11.904	81.66%
120.17	0.17568	11.061	14.960	0.60	8.976	81.15%
120.21	0.15089	9.310	15.000	0.50	7.485	80.40%
120.03	0.12568	7.584	15.040	0.40	6.031	79.52%
120.06	0.09898	5.773	15.100	0.30	4.530	78.47%
120.10	0.07179	3.993	15.160	0.20	3.047	76.31%
120.13	0.04185	2.146	15.280	0.10	1.513	70.49%
120.15	0.02550	1.219	15.390	0.05	0.754	61.86%
120.17	0.00761	0.313	15.610	0.00	0.000	0.00%

V_{in}=230V_{AC}/50Hz

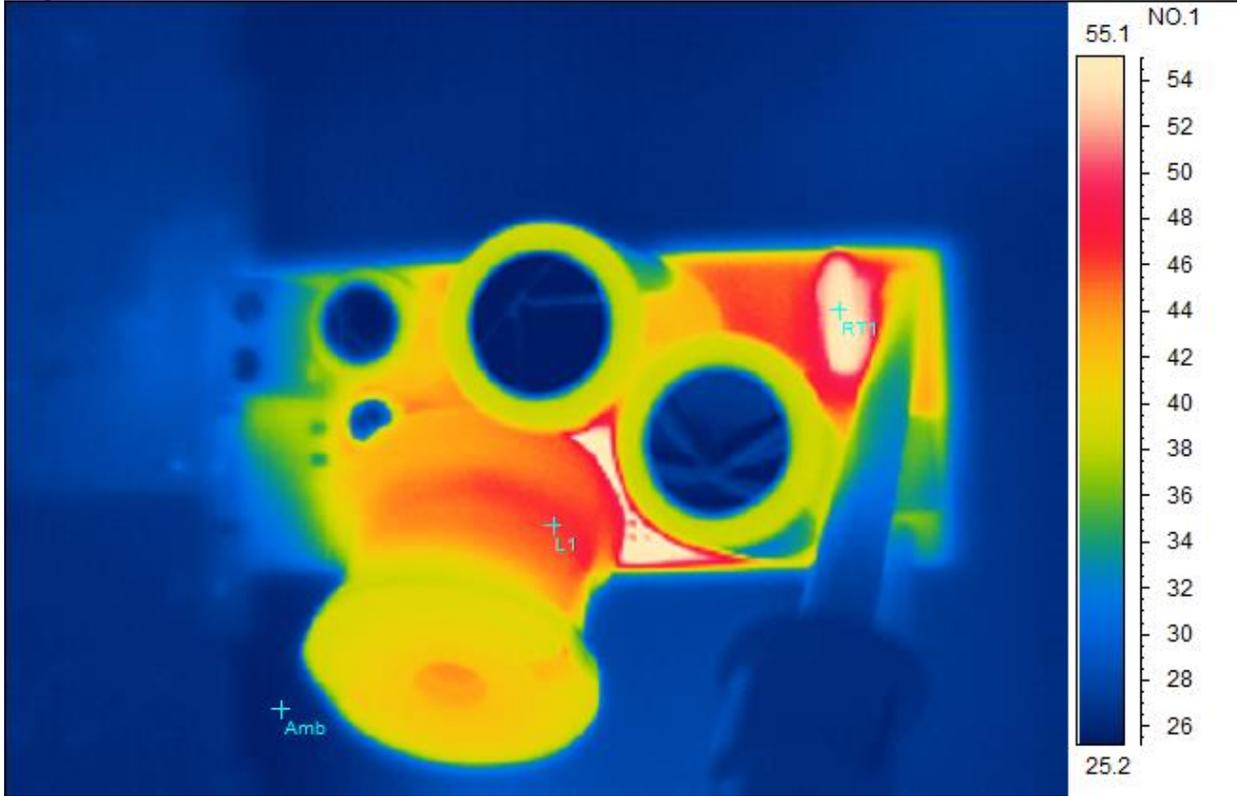
Vin(ac)	Iin(A)	Pin(W)	Vo1(V)	Io1(A)	Pout(W)	Eff. (%)
230.00	0.17096	18.178	14.850	1.01	14.939	82.18%
230.10	0.14220	14.710	14.970	0.80	11.976	81.41%
230.10	0.11269	11.256	15.050	0.60	9.015	80.09%
230.10	0.08173	7.792	15.140	0.40	6.056	77.72%
230.10	0.06558	6.068	15.190	0.30	4.542	74.85%
230.20	0.04860	4.311	15.270	0.20	3.039	70.49%
230.20	0.03100	2.580	15.370	0.10	1.537	59.57%
230.20	0.02132	1.690	15.450	0.05	0.773	45.71%
230.20	0.00933	0.674	15.790	0.00	0.000	0.00%

3 Thermal Images

The thermal images below show a top view and bottom view of the board under 120V_{AC}/60Hz and 230V_{AC}/50Hz input conditions. The ambient temperature was 20°C with no forced air flow.

V_{in}=120V_{AC}/60Hz, V_{out}=15V/1A

Top Side



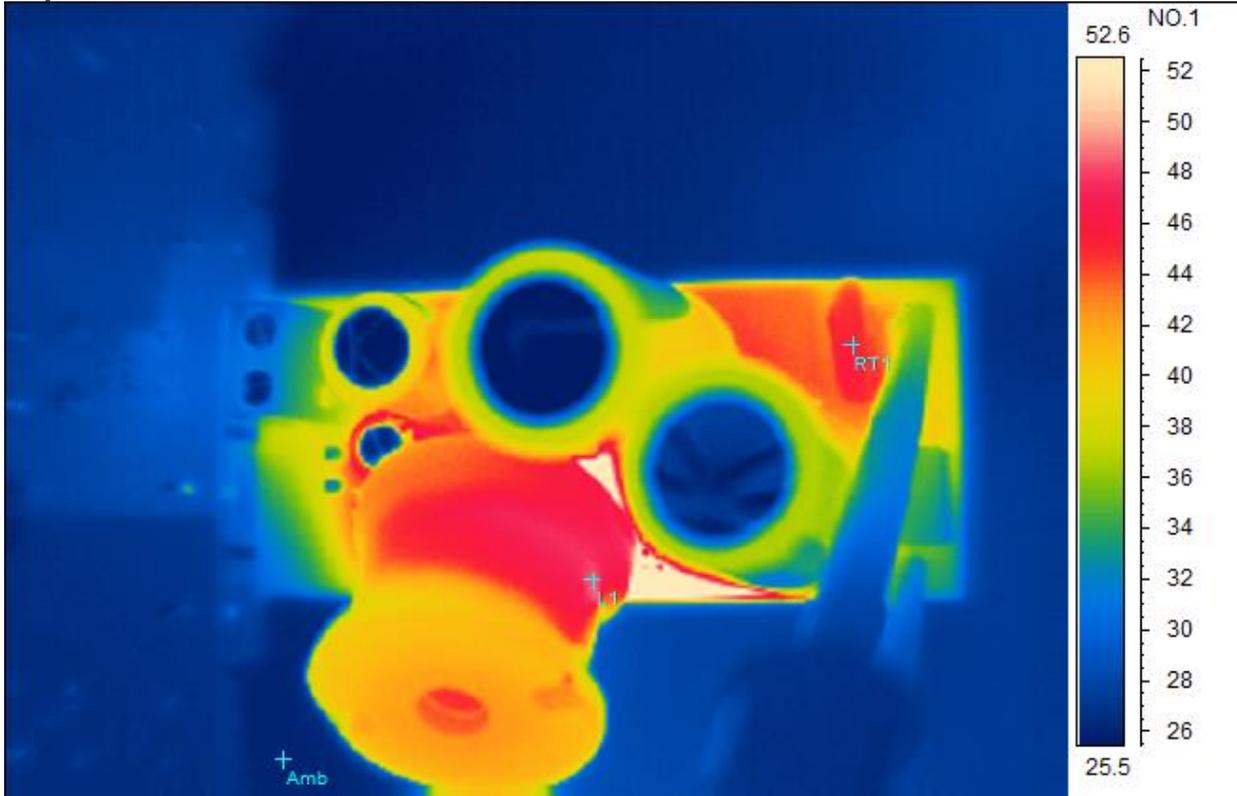
Spot analysis	Value
AmbTemperature	25.7°C
L1Temperature	46.8°C
RT1 Temperature	54.4°C

$V_{in}=120V_{AC}/60Hz$, $V_{out}=15V/1A$
Bottom Side



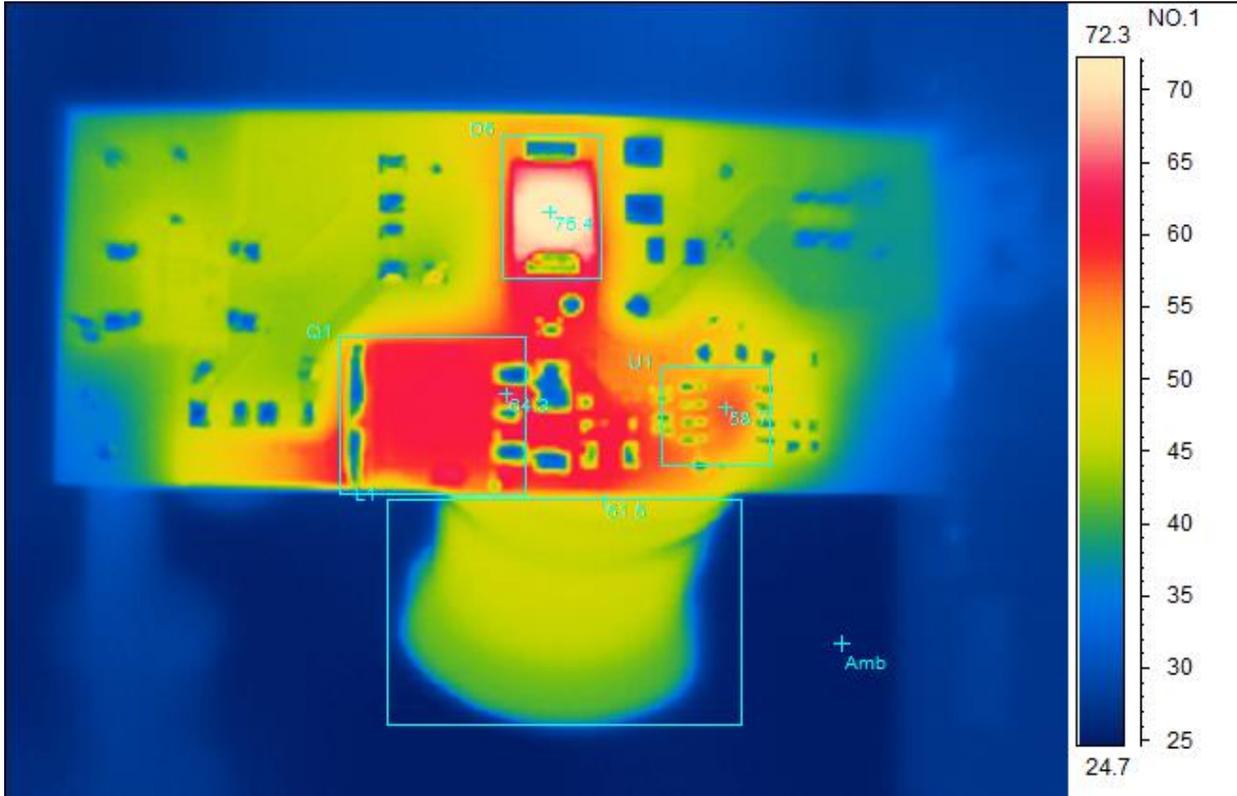
Spot analysis	Value
Amb Temperature	24.5°C
Area analysis	Value
D5Max	73.8°C
Q1Max	61.2°C
U1Max	56.2°C
L1Max	53.2°C

$V_{in}=230V_{AC}/50Hz$, $V_{out}=15V/1A$
Top Side



Spot analysis	Value
LI Temperature	48.7°C
RT1 Temperature	45.5°C
Amb Temperature	26.0°C

$V_{in}=230V_{AC}/50Hz$, $V_{out}=15V/1A$
Bottom Side

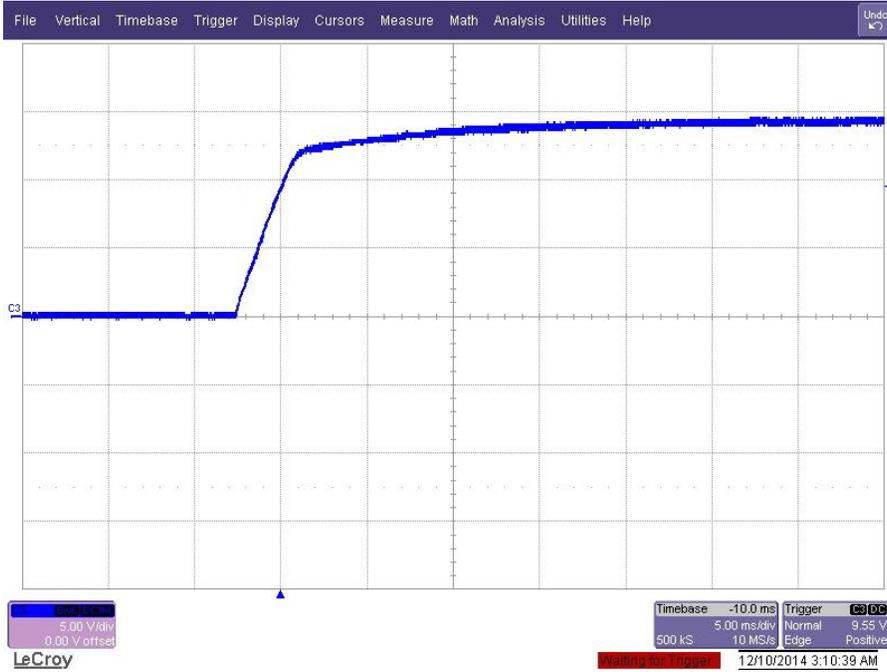


Spot analysis	Value
Amb Temperature	24.9°C
Area analysis	Value
D5Max	75.4°C
Q1 Max	64.3°C
U1Max	58.7°C
L1Max	51.5°C

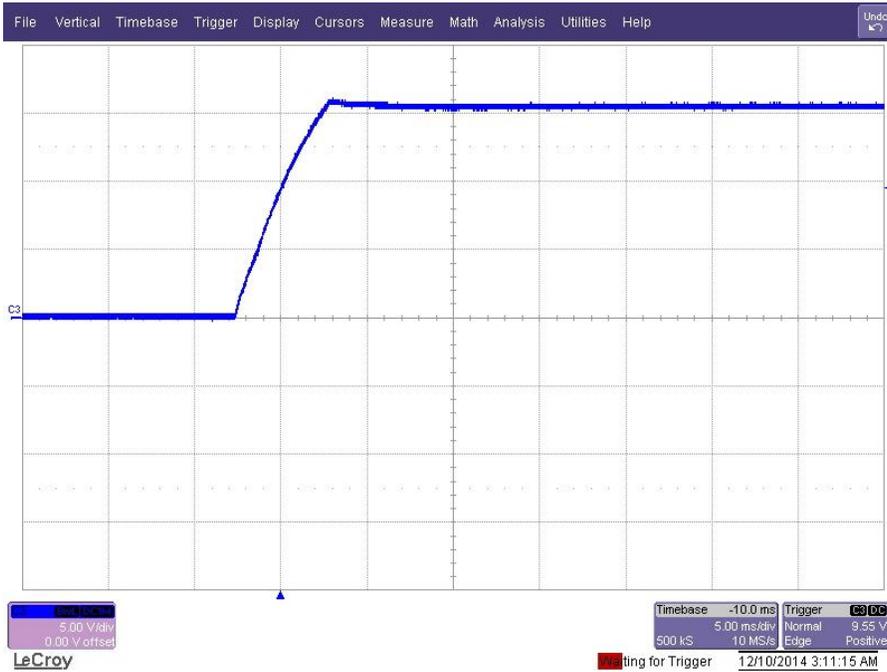
4 Startup Waveforms

The output voltages at startup with constant current load are shown in the images below.

4.1 Start Up @ 85V_{AC}/60Hz: 15V/1A.



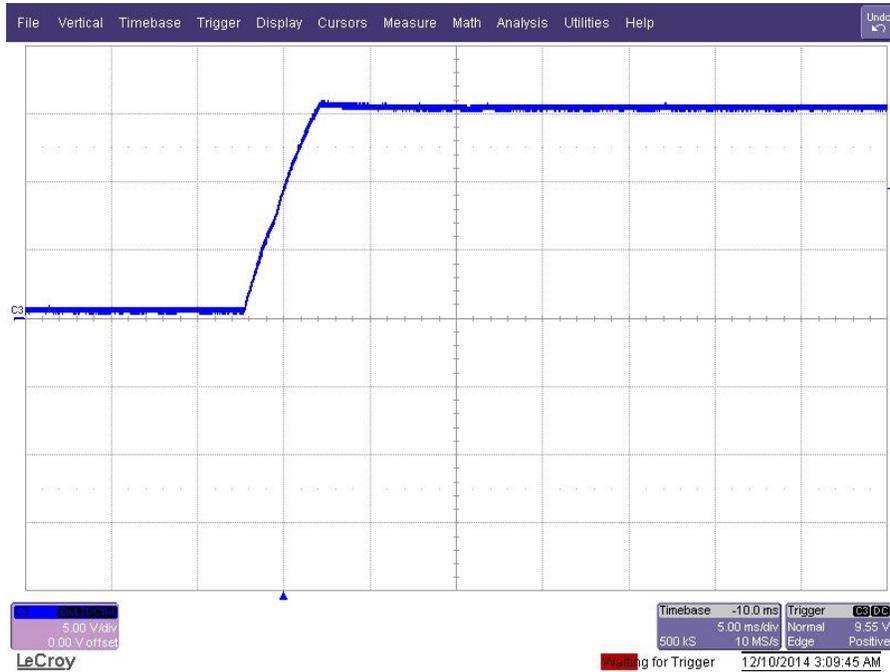
4.2 Start Up @ 85V_{AC}/60Hz: no load.



4.3 Start Up @ 288V_{AC}/50Hz: 15V/1A.



4.4 Start Up @ 288V_{AC}/50Hz: no load.



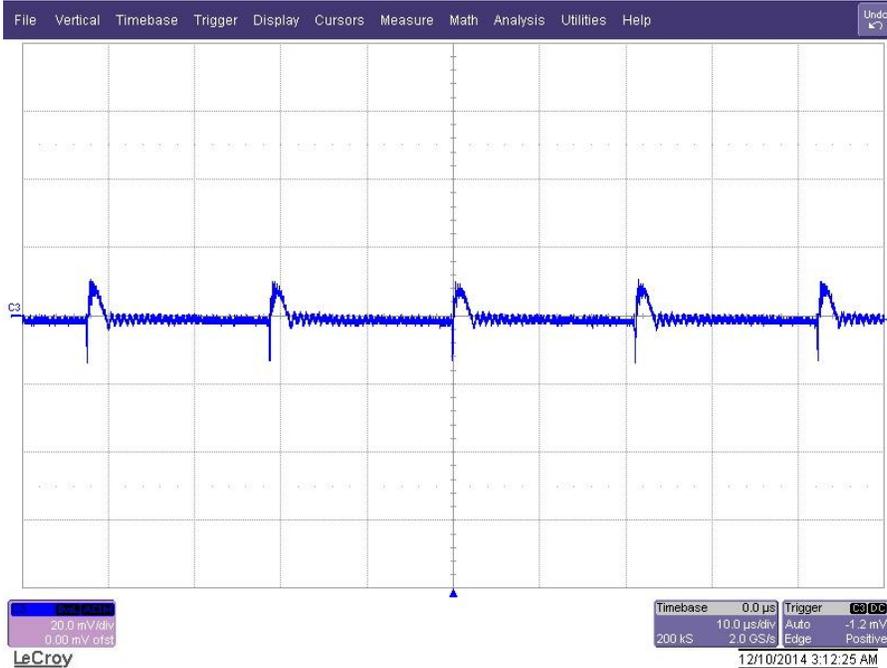
5 Output Ripple Voltages

The output ripple voltages are shown in the plots below.

5.1 $V_{in}=120V_{AC}/60Hz$: 15V/1A.



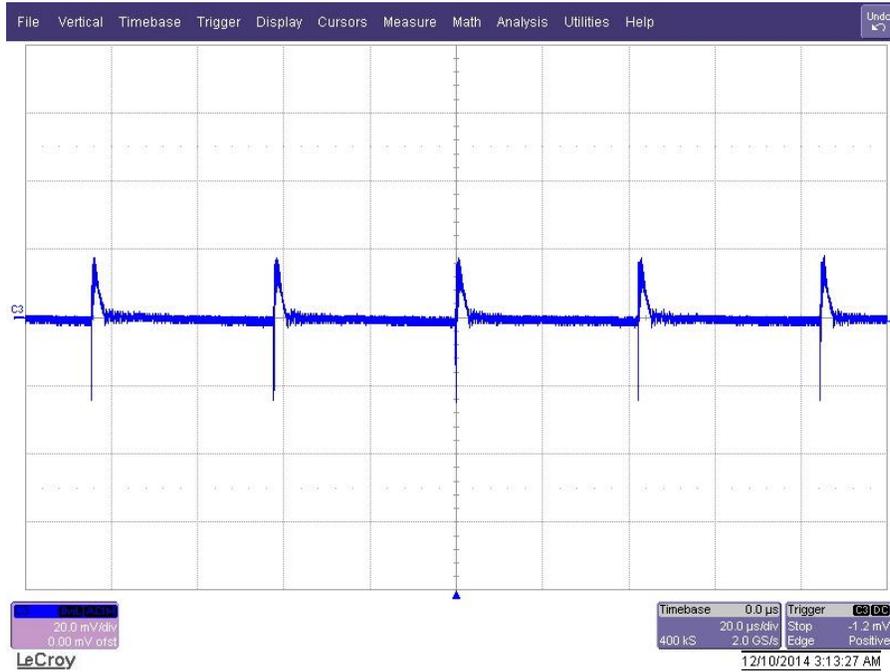
5.2 $V_{in}=120V_{AC}/60Hz$: No load.



5.3 $V_{in}=230V_{AC}/50Hz$: 15V/1A.



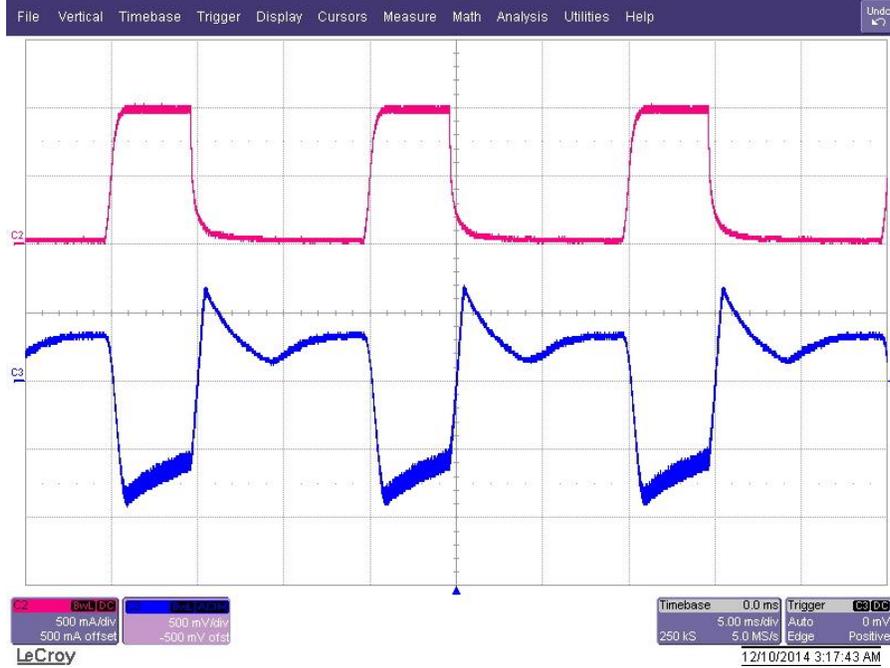
5.4 $V_{in}=230V_{AC}/50Hz$: No load.



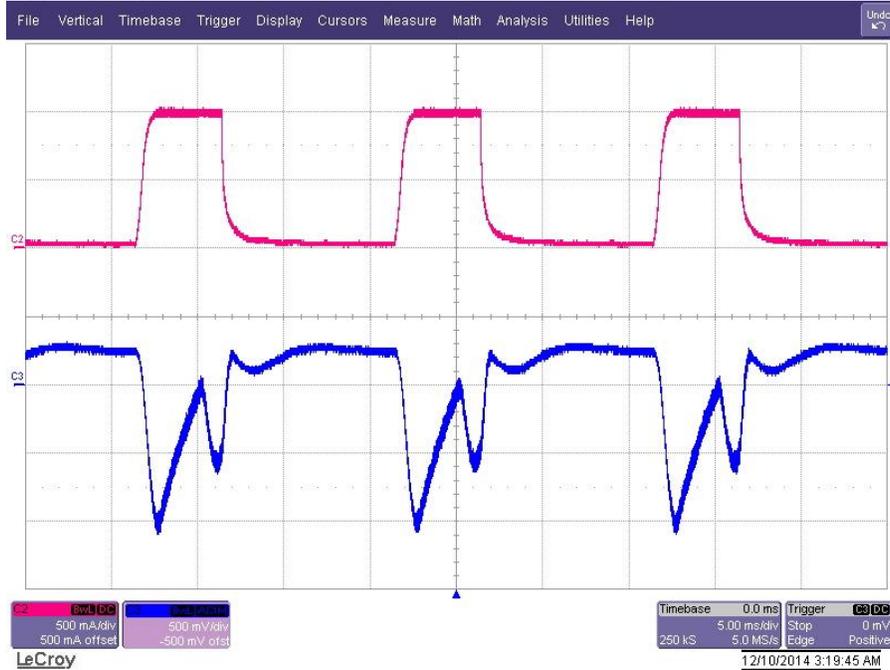
6 Load dynamic response

The load dynamic response is measured with 15V/1A output. Load step from 0.015A to 1A

$V_{in}=120V_{AC}/60Hz$



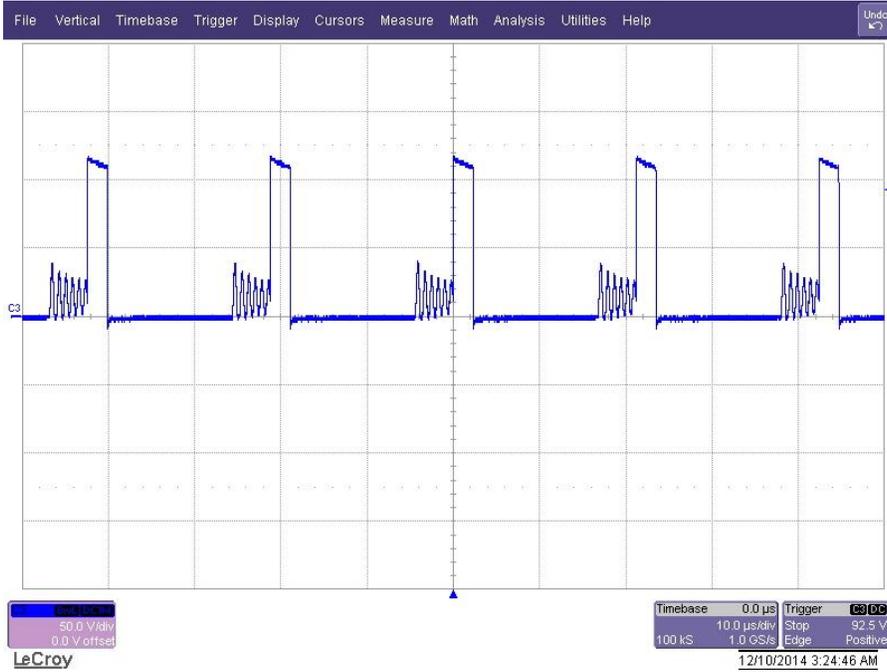
$V_{in}=230V_{AC}/50Hz$



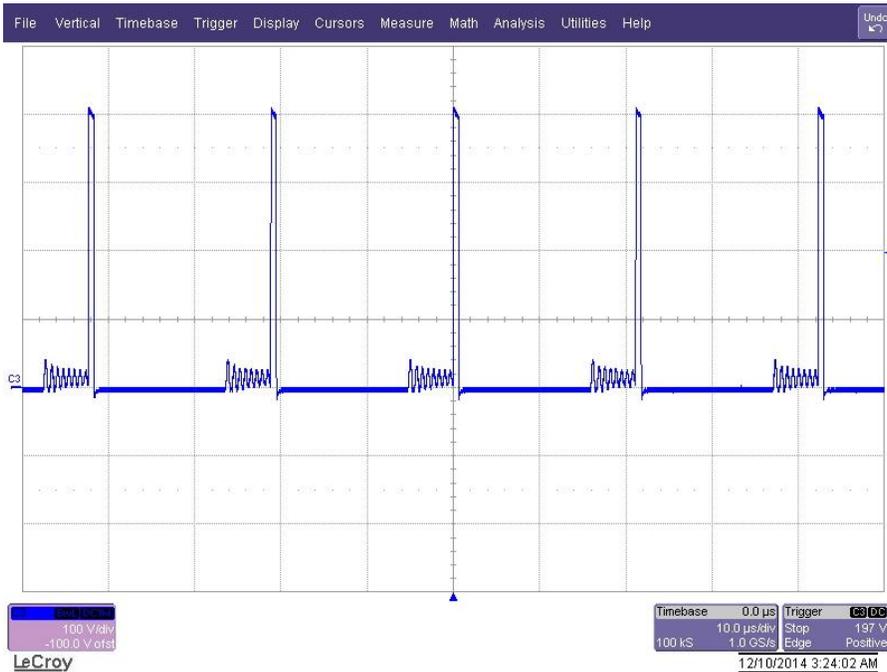
7 Switching Waveforms

The images below show key switching waveforms of PMP10833RevA. The waveforms are measured with 1A full load.

7.1 $V_{in}=85V_{AC}/60Hz$:



7.2 $V_{in}=288V_{AC}/50Hz$:



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