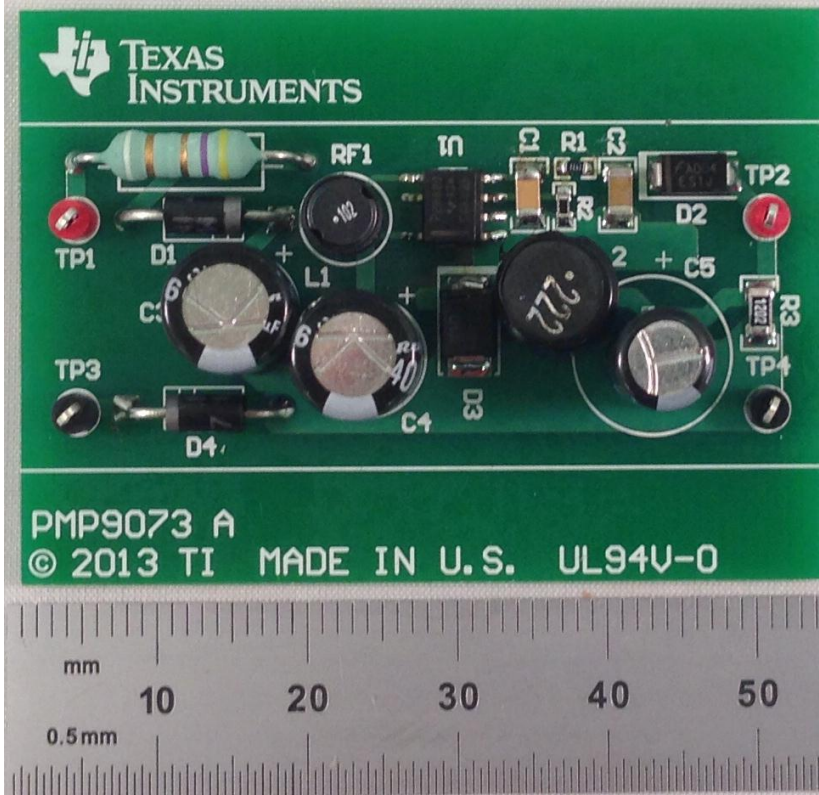


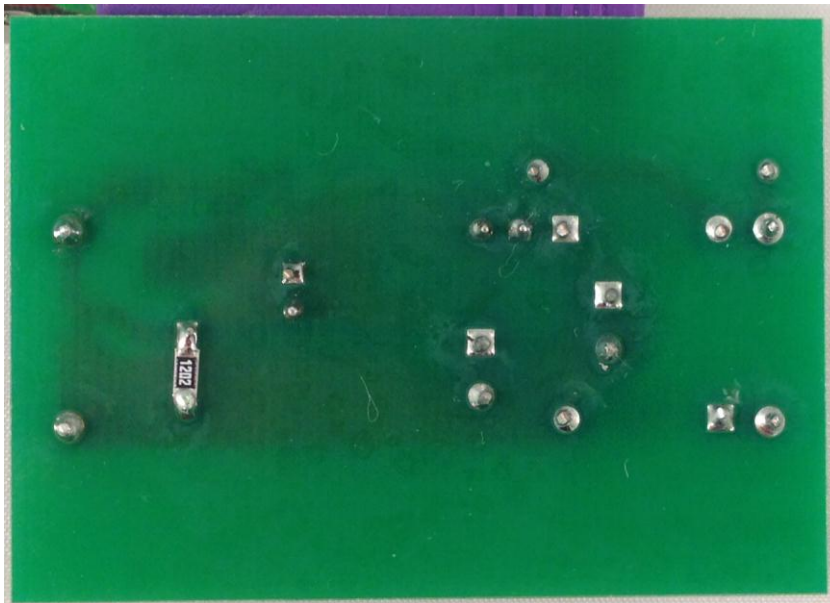
1 Photo

The photographs below show the PMP10765 Rev A assembly. This circuit was built on a PMP9073 Rev A PCB.

Top side

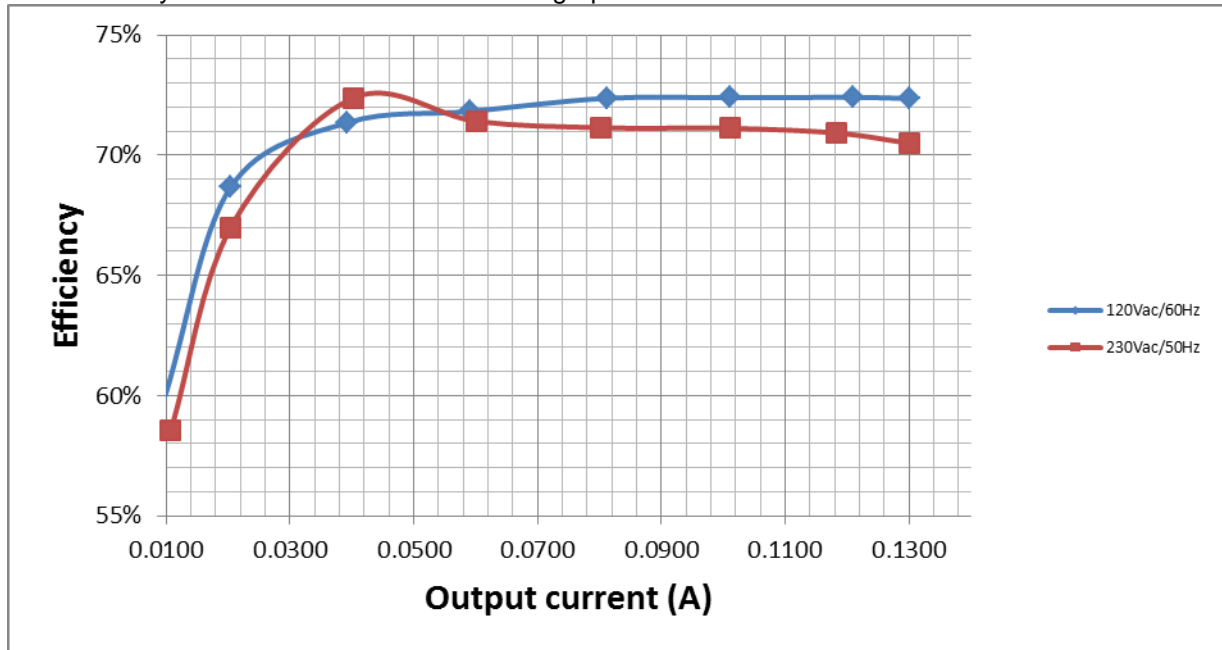


Bottom side



2 Converter Efficiency

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



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

V _{in} (V)	I _{in} (mA)	P _{in} (W)	V _{out} (V)	I _{out} (A)	P _{out} (W)	Losses(W)	Efficiency (%)
120.02	64.96	2.713	15.09	0.1301	1.963	0.750	72.36%
120.03	61.29	2.525	15.11	0.1210	1.828	0.697	72.41%
120.03	53.19	2.122	15.18	0.1012	1.536	0.586	72.39%
120.04	44.53	1.711	15.25	0.0812	1.238	0.473	72.37%
120.05	34.39	1.261	15.3	0.0592	0.906	0.355	71.83%
120.06	24.49	0.846	15.35	0.0393	0.604	0.242	71.36%
120.06	14.44	0.458	15.41	0.0204	0.315	0.144	68.68%
120.06	8.61	0.255	15.54	0.0098	0.153	0.102	60.01%
120.07	2.70	0.066	16.47	0.0000	0.000	0.066	0.00%

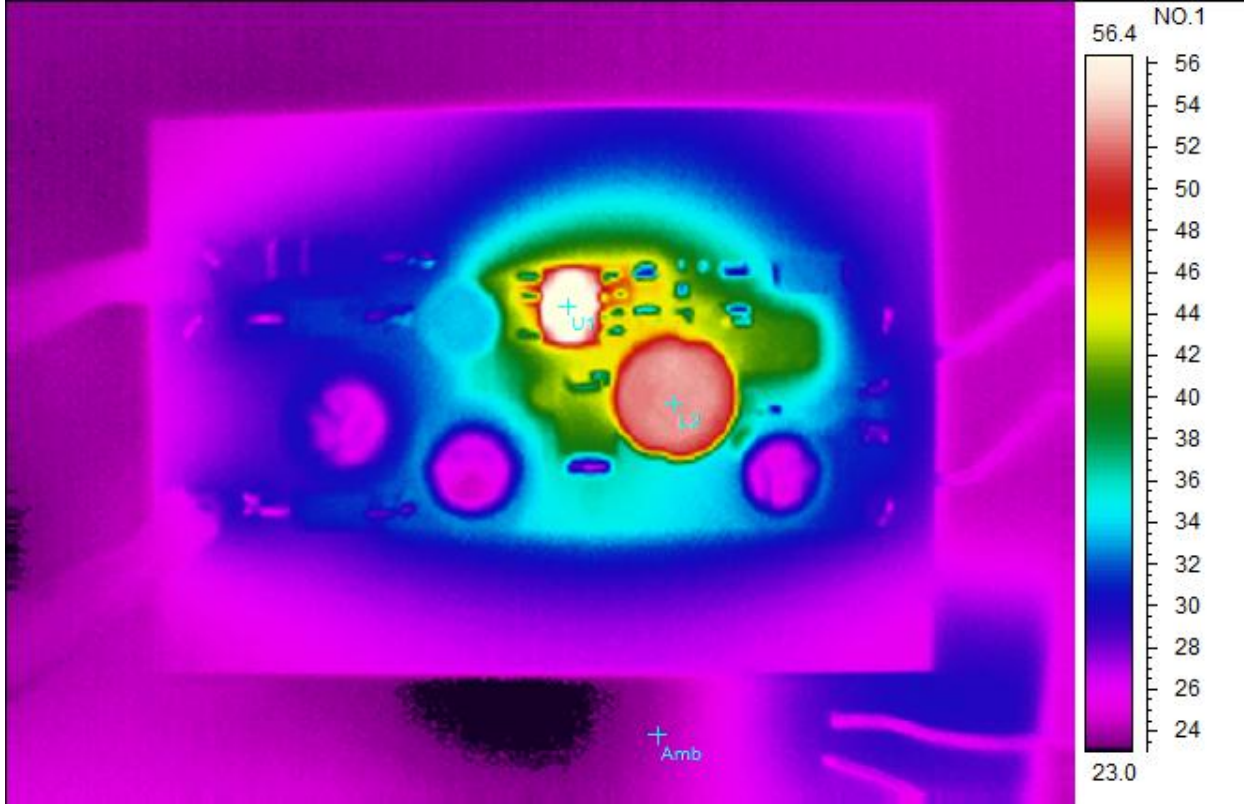
V_{in}=230V_{AC}/50Hz

Vin(V)	Iin(mA)	Pin(W)	Vout(V)	Iout(A)	Pout(W)	Losses(W)	Efficiency (%)
230	43.04	2.781	15.07	0.1301	1.961	0.820	70.50%
230	39.62	2.522	15.12	0.1183	1.789	0.733	70.92%
230	34.73	2.160	15.18	0.1012	1.536	0.624	71.12%
230	28.59	1.718	15.24	0.0802	1.222	0.496	71.14%
230	22.39	1.289	15.29	0.0602	0.920	0.369	71.41%
230	15.63	0.853	15.33	0.0403	0.617	0.236	72.39%
230	9.26	0.470	15.41	0.0204	0.315	0.155	66.99%
230	5.94	0.285	15.52	0.0107	0.167	0.118	58.55%
230	1.91	0.077	16.5	0.0000	0.000	0.077	0.00%

3 Thermal Images

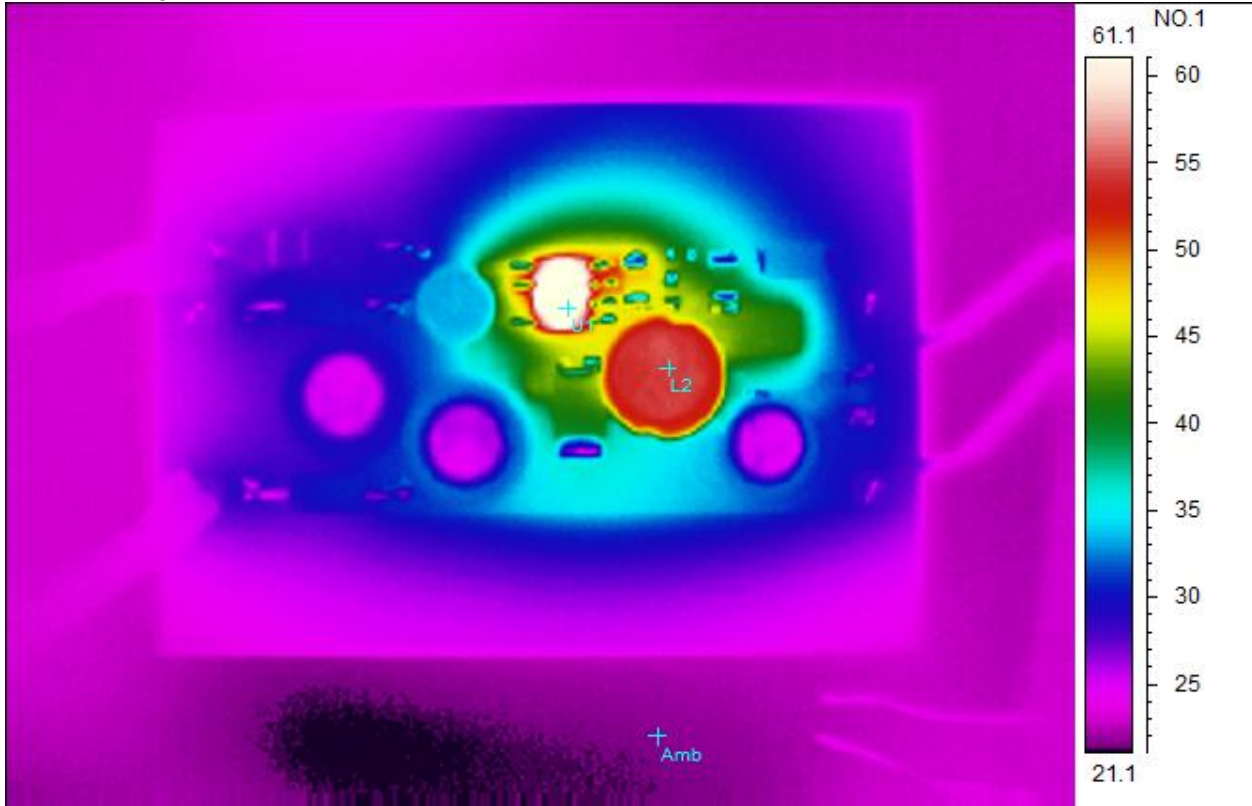
The thermal images below show a top view and bottom view of the board under 100V_{AC}/60Hz and 230V_{AC}/50Hz input conditions. The ambient temperature was 20°C with no forced air flow. The output was at full load: 15V/0.13A.

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



Spot analysis	Value
U1Temperature	64.3°C
L2Temperature	53.1°C
Amb Temperature	24.2°C

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

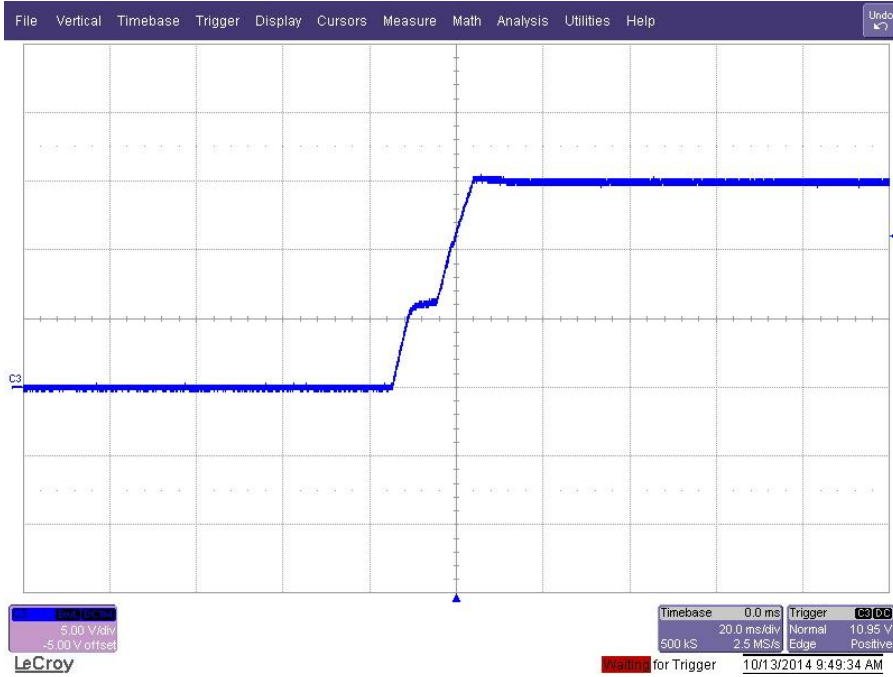


Spot analysis	Value
U1Temperature	68.0°C
L2Temperature	54.9°C
Amb Temperature	21.6°C

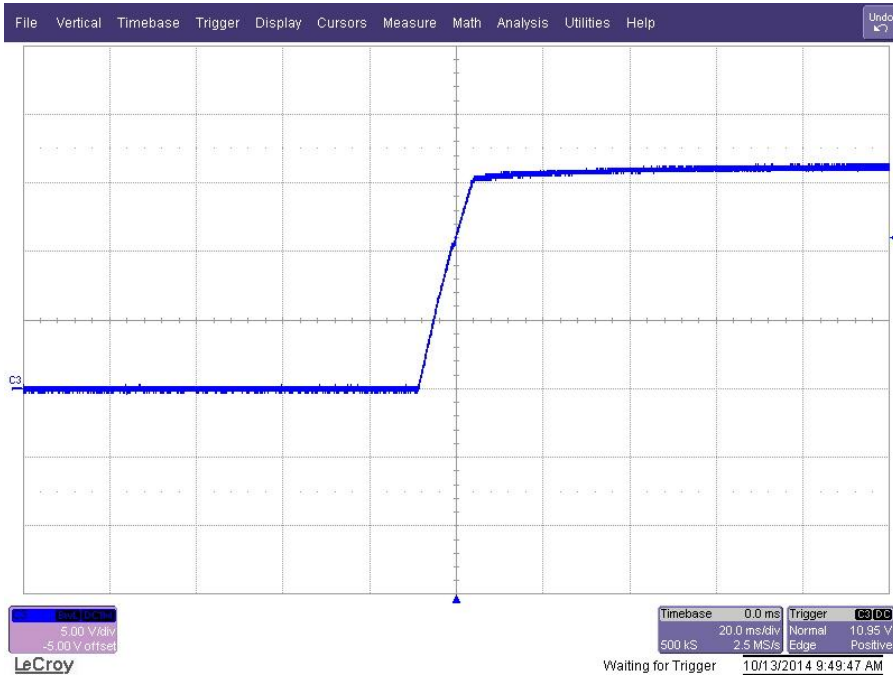
4 Startup Waveforms

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

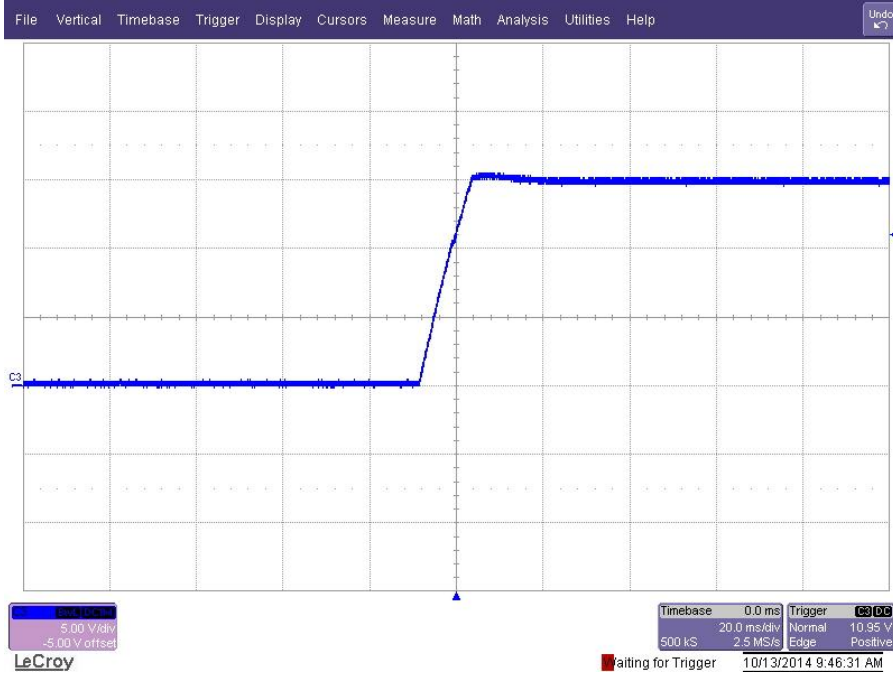
4.1 Start Up @ 85V_{AC}/60Hz: 15V/0.13A.



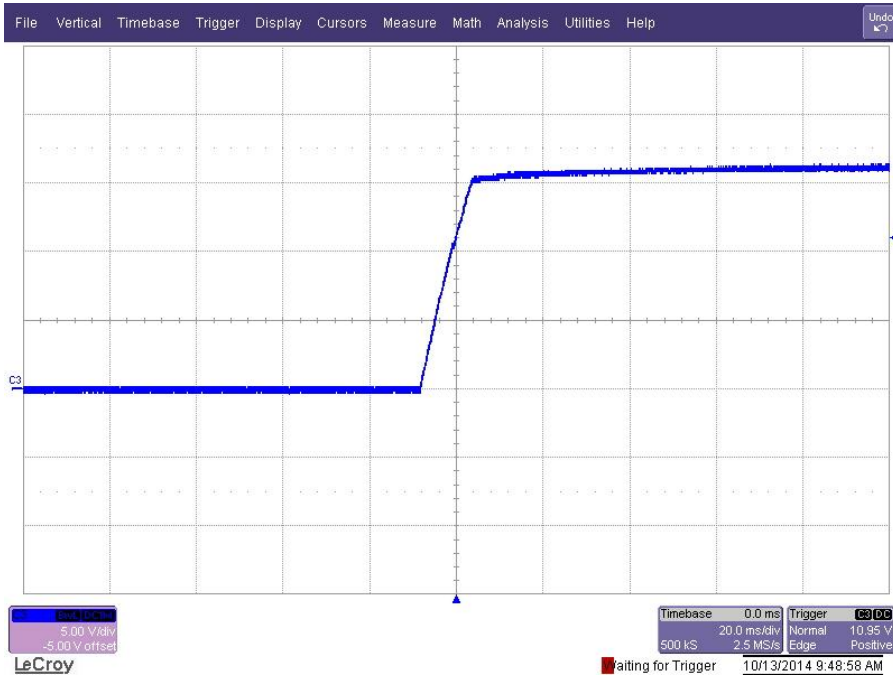
4.2 Start Up @ 85V_{AC}/60Hz: no load.



4.3 Start Up @ 230V_{AC}/50Hz: 15V/0.13A.



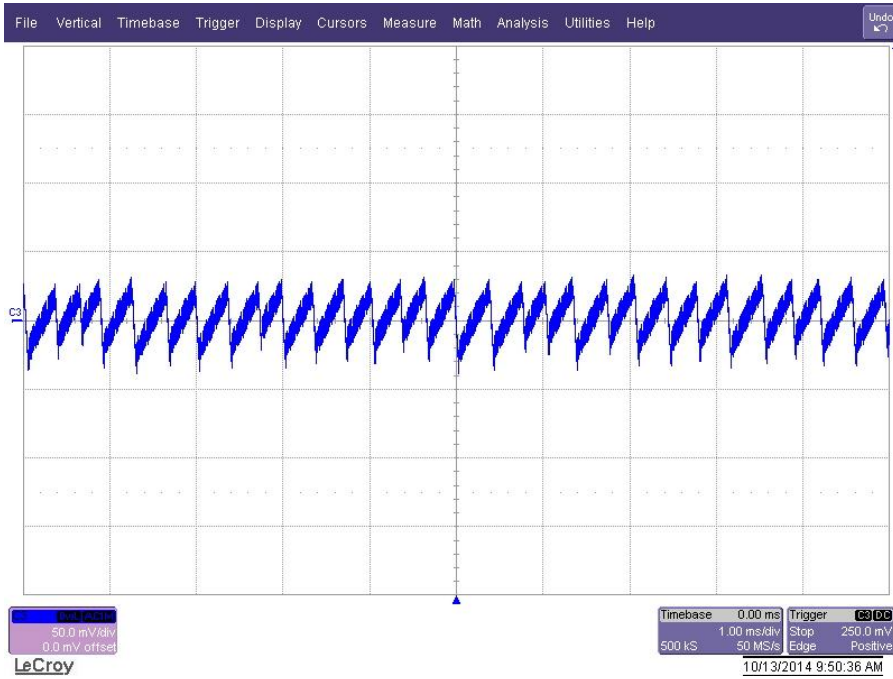
4.4 Start Up @ 230V_{AC}/50Hz: no load.



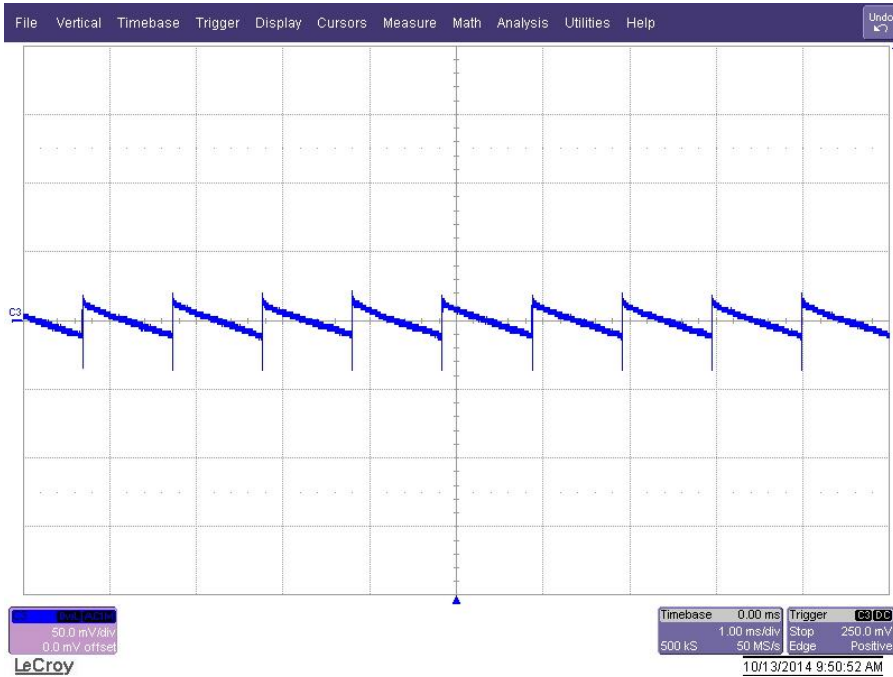
5 Output Ripple Voltages

The output ripple voltages are shown in the plots below.

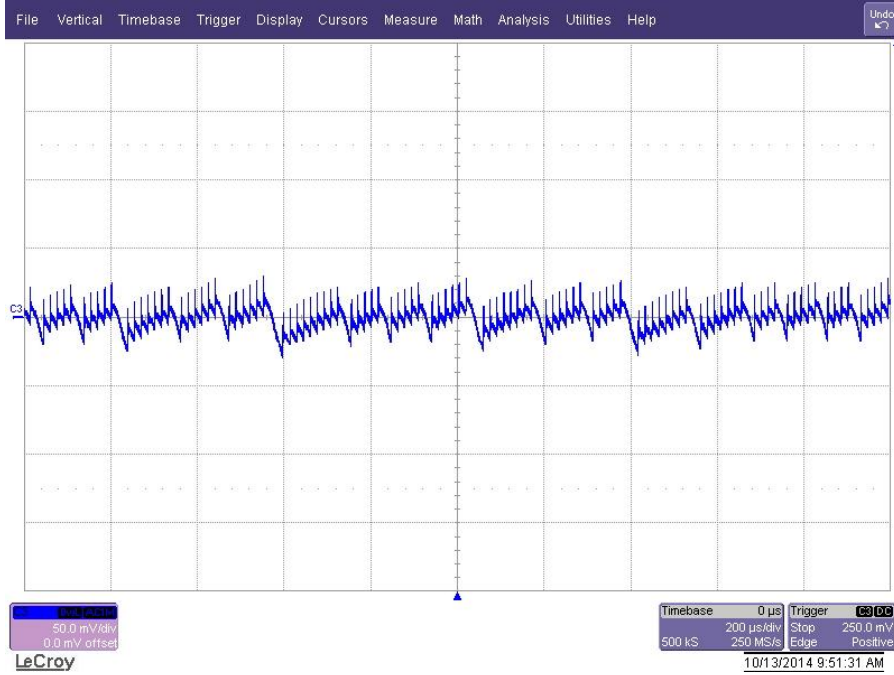
5.1 120V_{AC}/60Hz: 15V/0.13A.



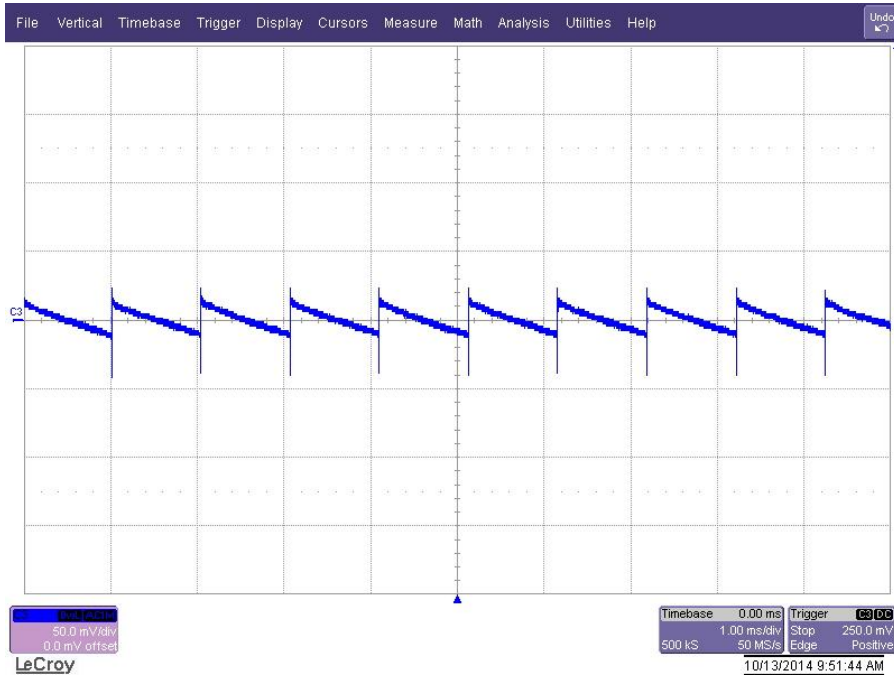
5.2 120V_{AC}/60Hz: No load.



5.3 230V_{AC}/50Hz: 15V/0.13A.



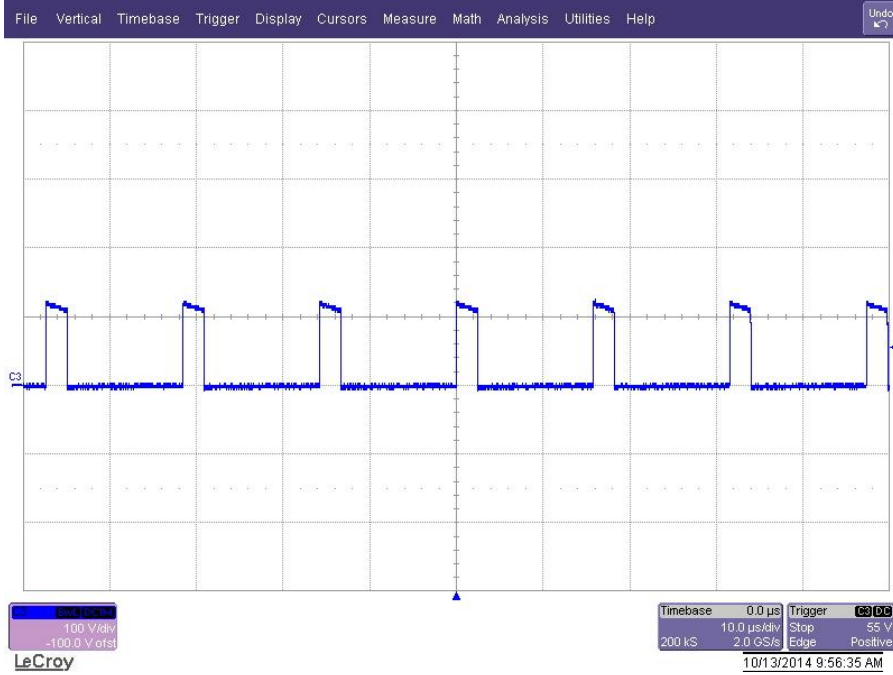
5.4 230V_{AC}/50Hz: No load.



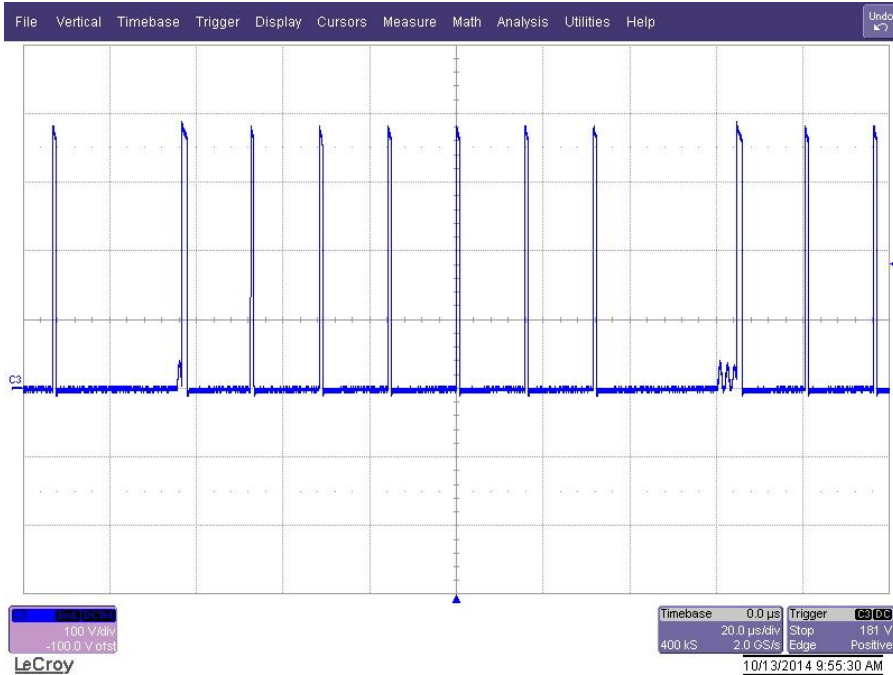
6 Switching Waveforms

The images below show key switching waveforms of PMP10765RevA. The waveforms are measured with 0.13A full load.

6.1 Diode D4 @ 85V_{AC}/60Hz



6.2 Diode D4 @ 264V_{AC}/50Hz



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