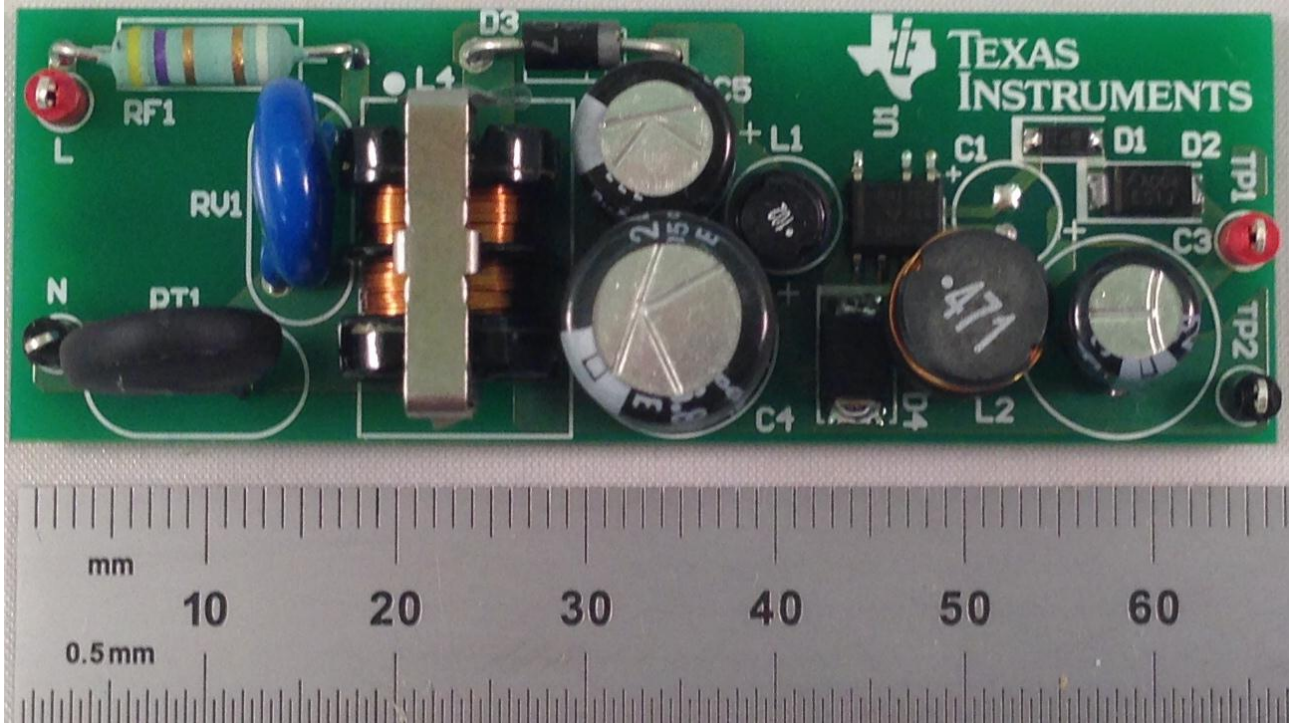


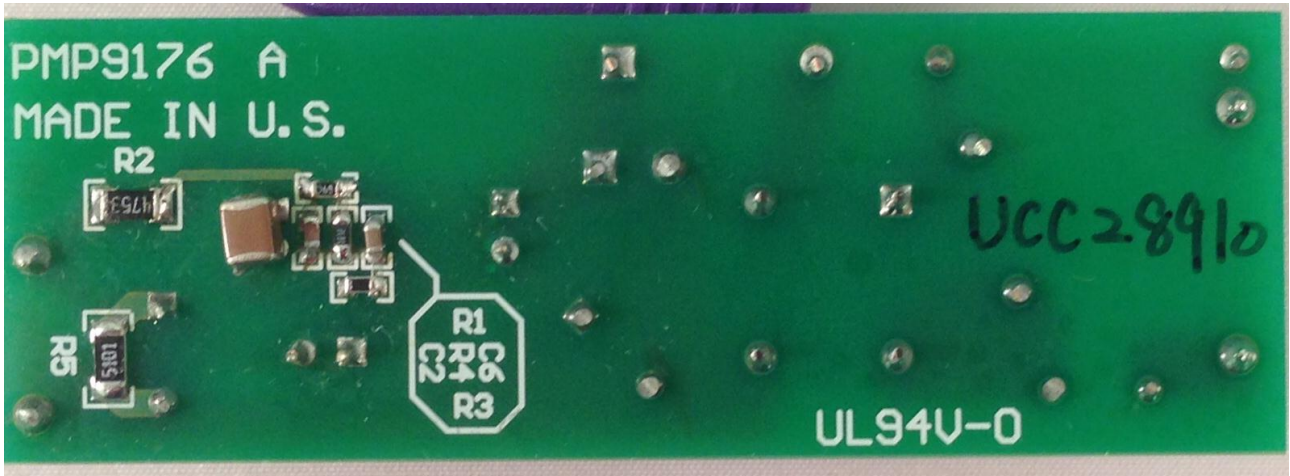
## 1 Photo

The photographs below show the PMP10766 Rev A assembly. This circuit was built on a PMP9176 Rev A PCB.

### Top side

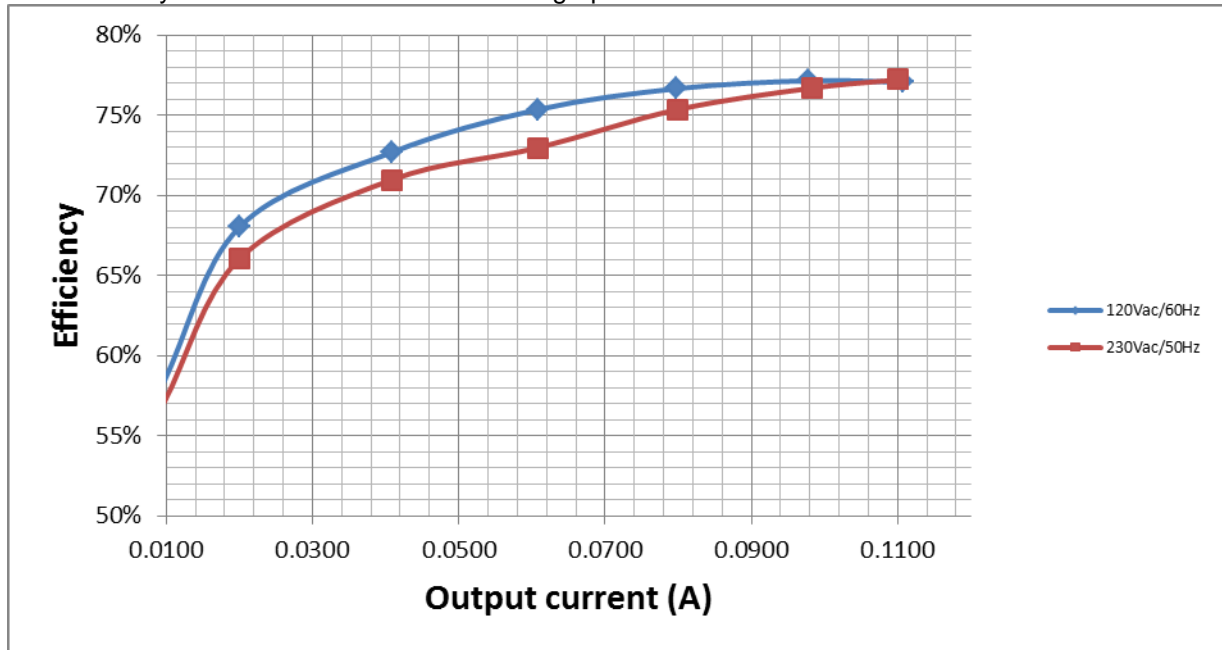


### Bottom side



## 2 Converter Efficiency

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



### V<sub>in</sub>=120V<sub>AC</sub>/60Hz

Vin(V)	Iin(mA)	Pin(W)	Vout(V)	Iout(A)	Pout(W)	Losses(W)	Efficiency (%)
120.03	47.10	2.172	15.12	0.1107	1.674	0.498	77.06%
120.05	42.46	1.918	15.13	0.0978	1.480	0.438	77.15%
120.06	36.01	1.574	15.12	0.0798	1.207	0.367	76.66%
120.06	29.07	1.220	15.12	0.0608	0.919	0.301	75.35%
120.06	21.50	0.850	15.13	0.0408	0.618	0.232	72.68%
120.07	12.49	0.445	15.11	0.0200	0.303	0.142	68.02%
120.08	7.59	0.247	15.15	0.0095	0.144	0.103	58.17%
120.07	2.33	0.061	15.18	0.0000	0.000	0.061	0.00%

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

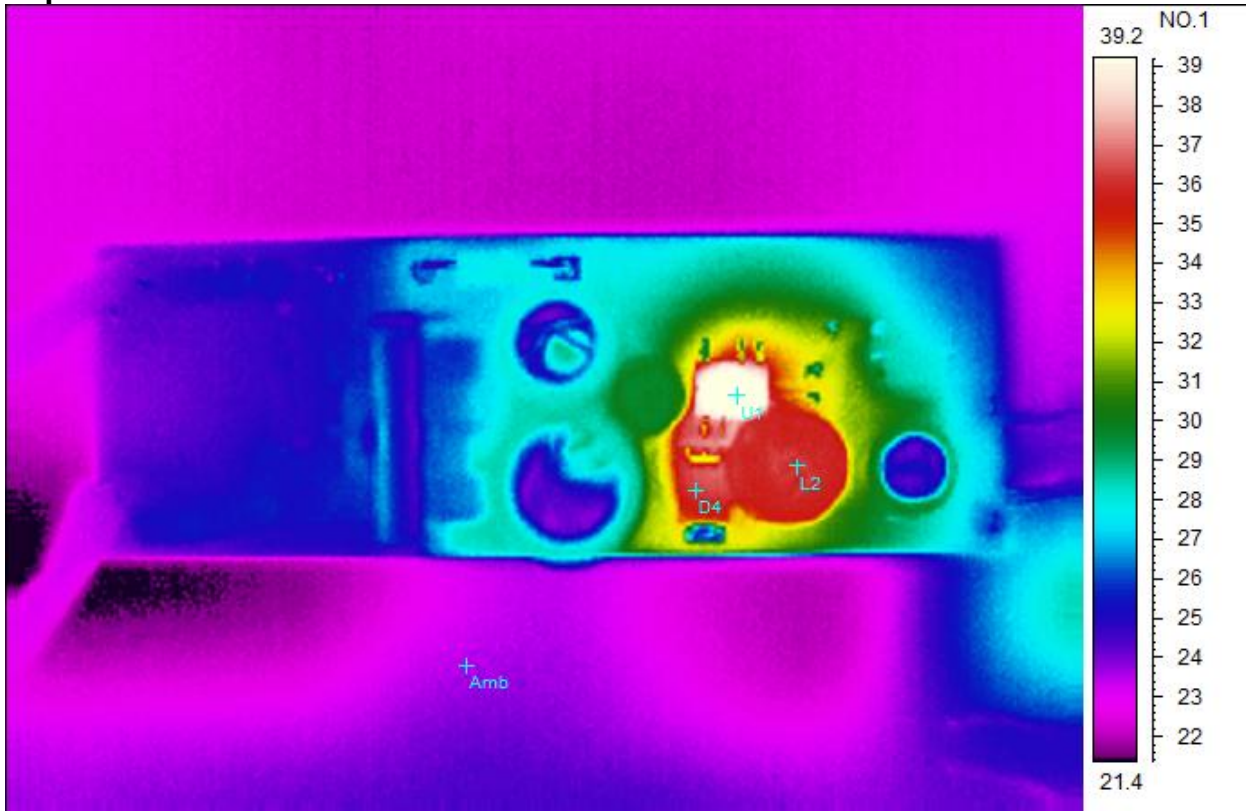
Vin(V)	Iin(mA)	Pin(W)	Vout(V)	Iout(A)	Pout(W)	Losses(W)	Efficiency (%)
230.1	30.37	2.156	15.12	0.1101	1.665	0.491	77.21%
230.1	27.76	1.938	15.12	0.0983	1.486	0.452	76.69%
230.1	23.70	1.604	15.11	0.0800	1.209	0.395	75.36%
230.1	19.32	1.259	15.11	0.0608	0.919	0.340	72.97%
230.1	14.14	0.868	15.09	0.0408	0.616	0.252	70.96%
230.1	8.24	0.459	15.13	0.0200	0.303	0.156	66.05%
230.1	4.95	0.253	15.15	0.0095	0.144	0.109	56.90%
230.1	1.53	0.065	15.19	0.0000	0.000	0.065	0.00%

### 3 Thermal Images

The thermal images below show a top view and bottom view of the board under 100V<sub>AC</sub>/60Hz and 230V<sub>AC</sub>/50Hz input conditions. The ambient temperature was 20°C with no forced air flow. The output was at full load: 15V/0.11A.

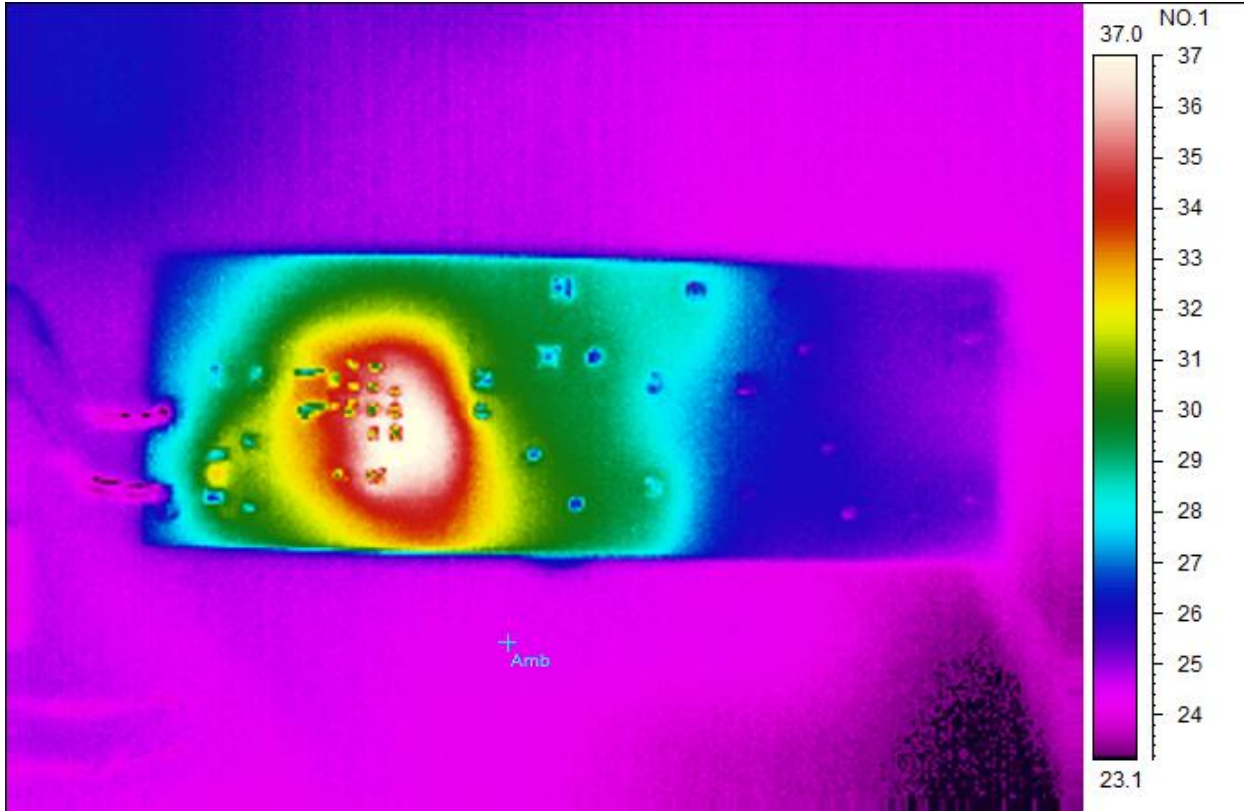
V<sub>in</sub>=100V<sub>AC</sub>/60Hz

Top Side



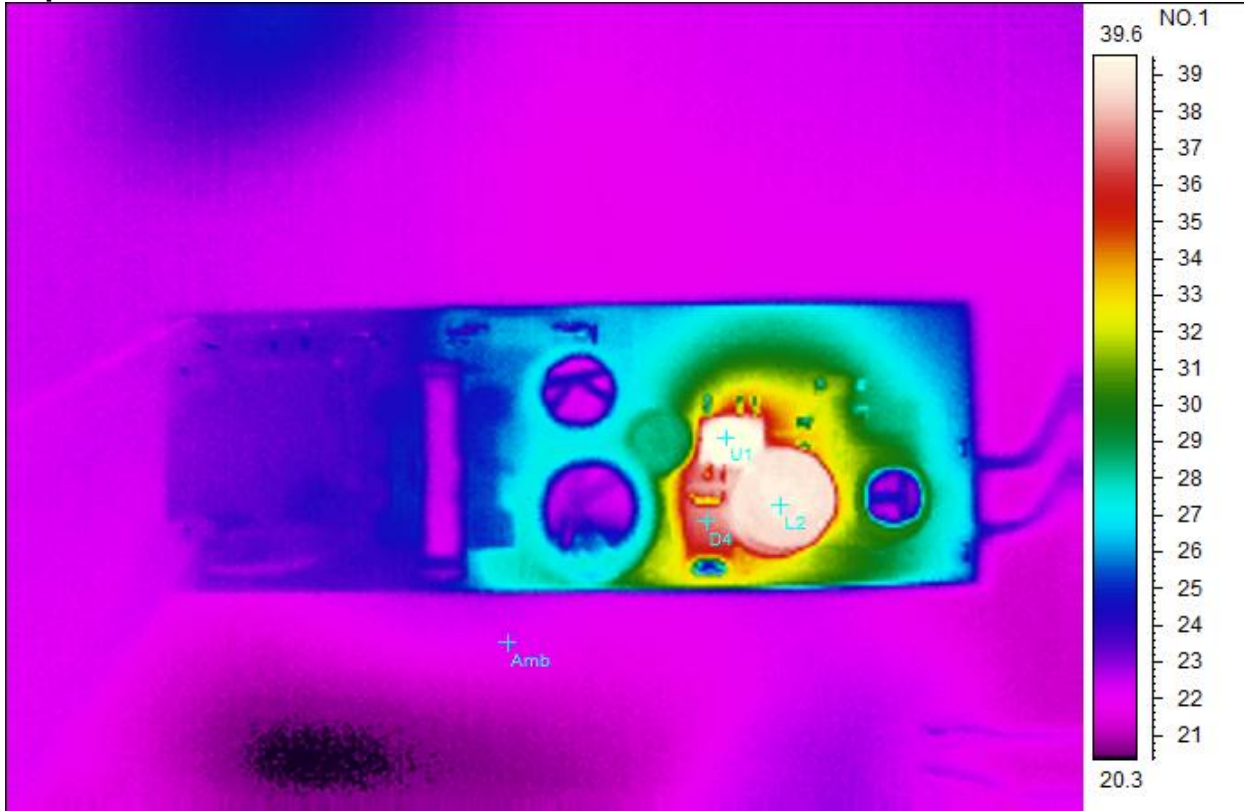
Spot analysis	Value
U1Temperature	40.4°C
L2Temperature	36.3°C
D4Temperature	36.3°C
Amb Temperature	23.7°C

$V_{in}=100V_{AC}/60Hz$   
Bottom Side



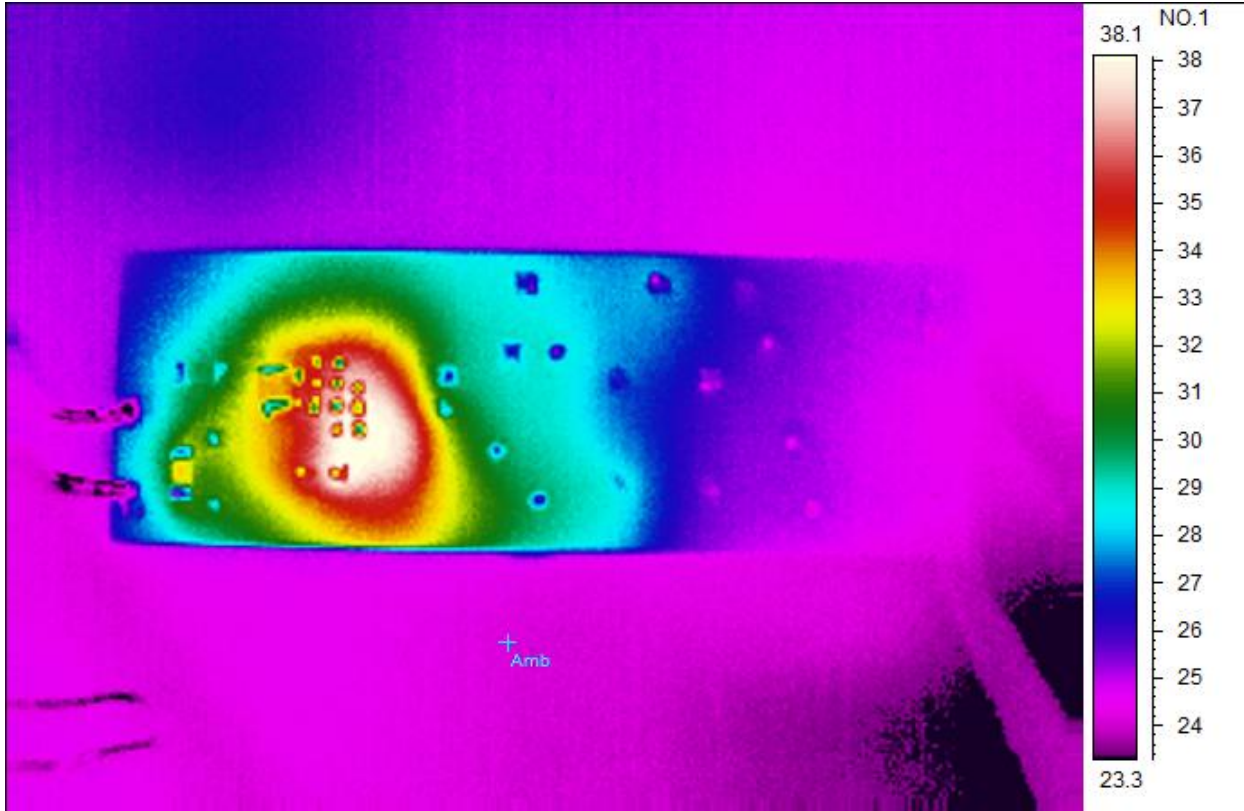
Spot analysis	Value
Amb Temperature	24.4°C

**V<sub>in</sub>=230V<sub>AC</sub>/50Hz**  
**Top Side**



Spot analysis	Value
Amb Temperature	22.1°C
U1 Temperature	40.6°C
L2 Temperature	39.2°C
D4 Temperature	37.4°C

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

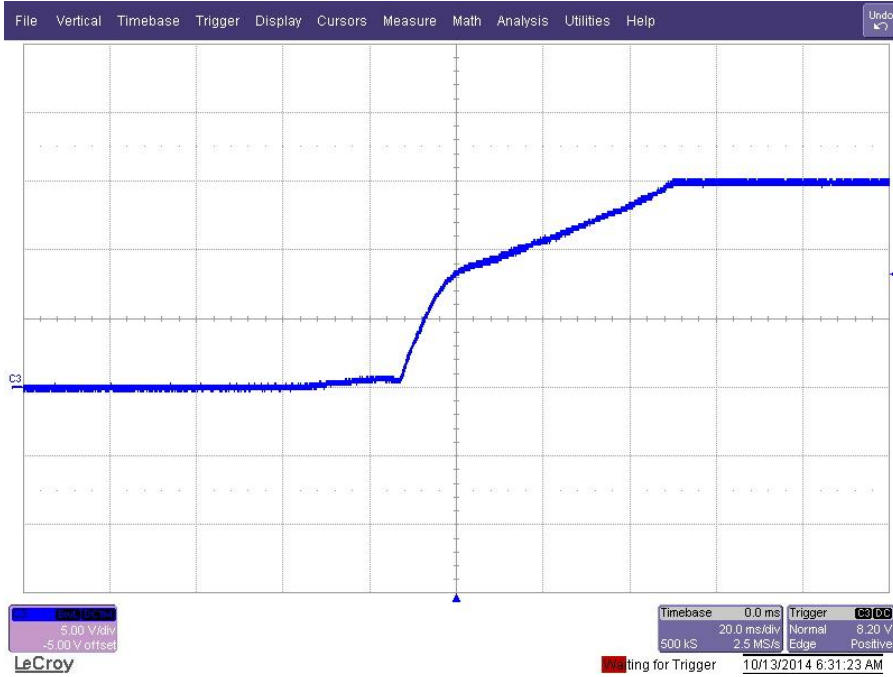


Spot analysis	Value
Amb Temperature	24.1°C

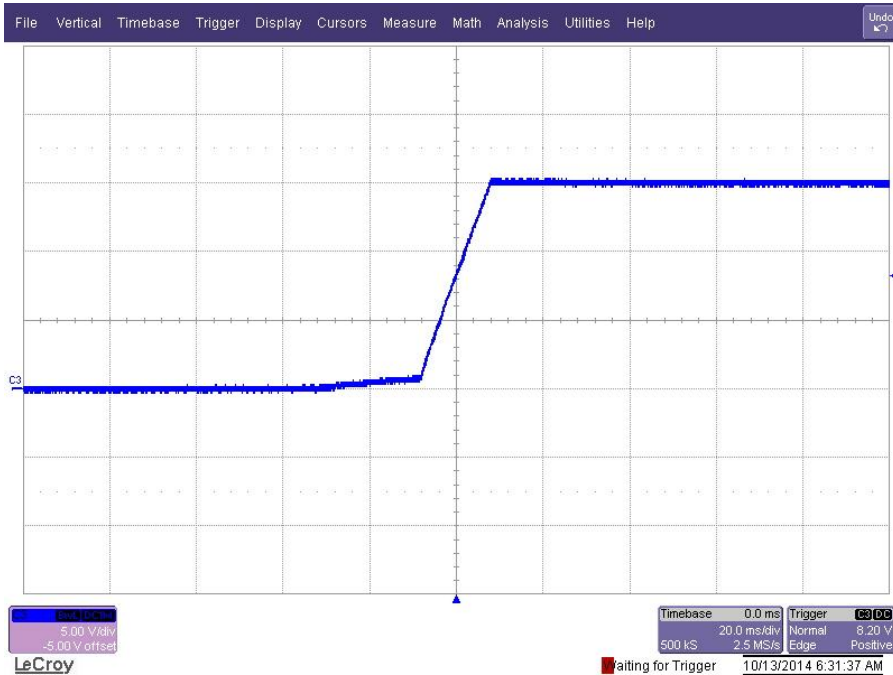
## 4 Startup Waveforms

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

### 4.1 Start Up @ 85V<sub>AC</sub>/60Hz: 15V/0.11A.

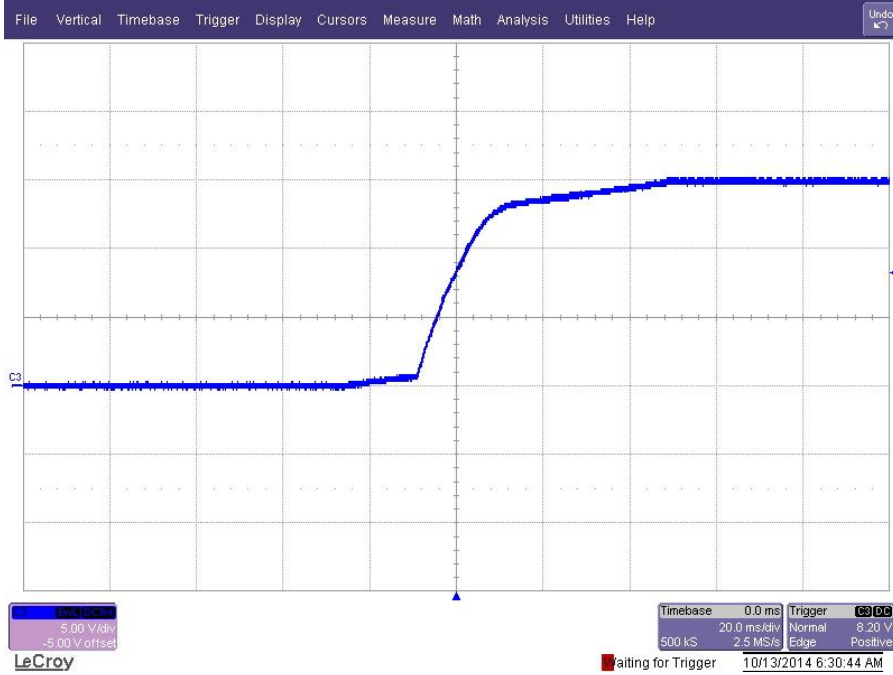


### 4.2 Start Up @ 85V<sub>AC</sub>/60Hz: no load.

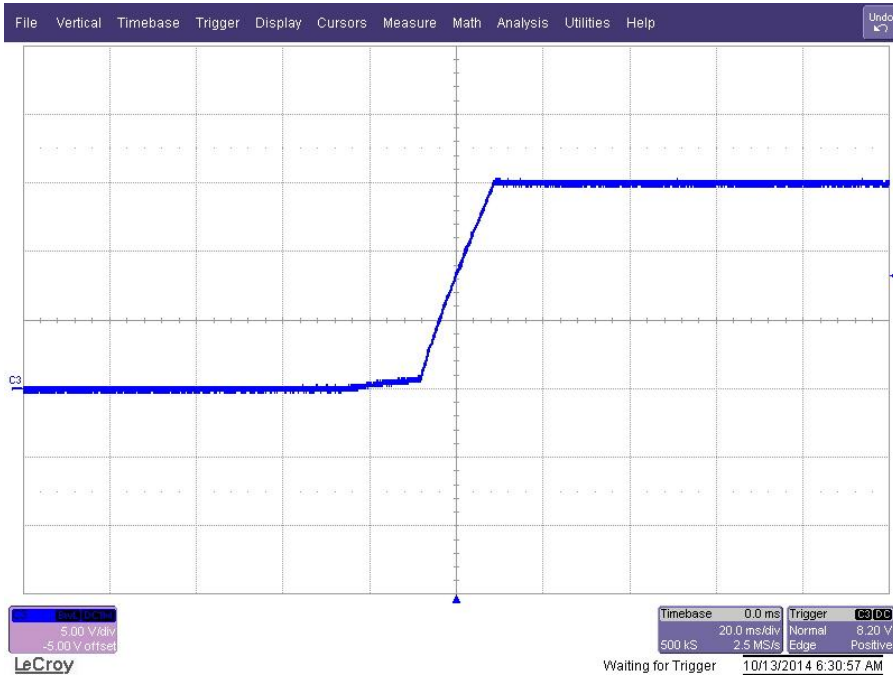




### 4.3 Start Up @ 230V<sub>AC</sub>/50Hz: 15V/0.11A.



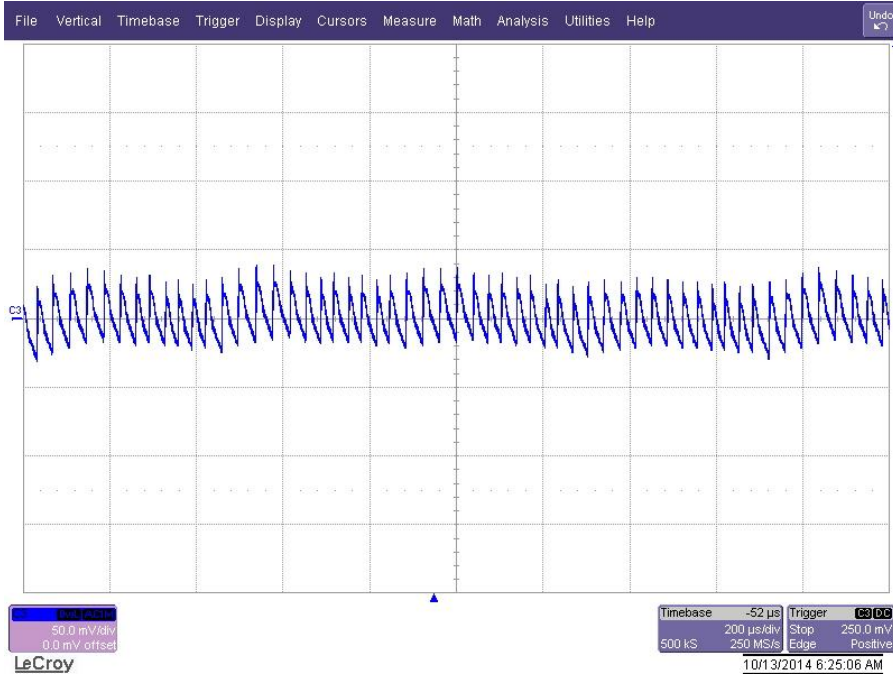
### 4.4 Start Up @ 230V<sub>AC</sub>/50Hz: no load.



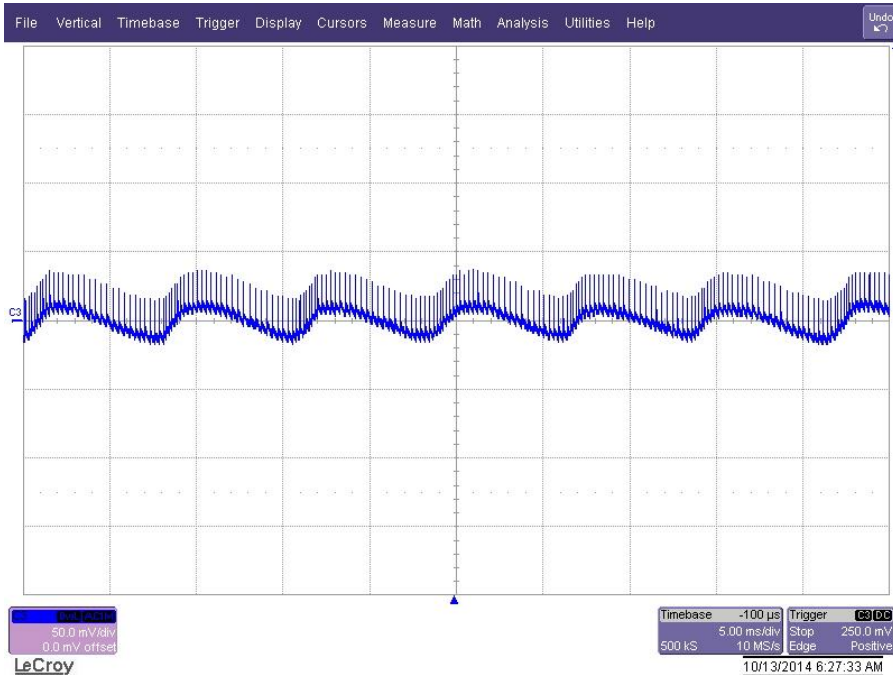
## 5 Output Ripple Voltages

The output ripple voltages are shown in the plots below.

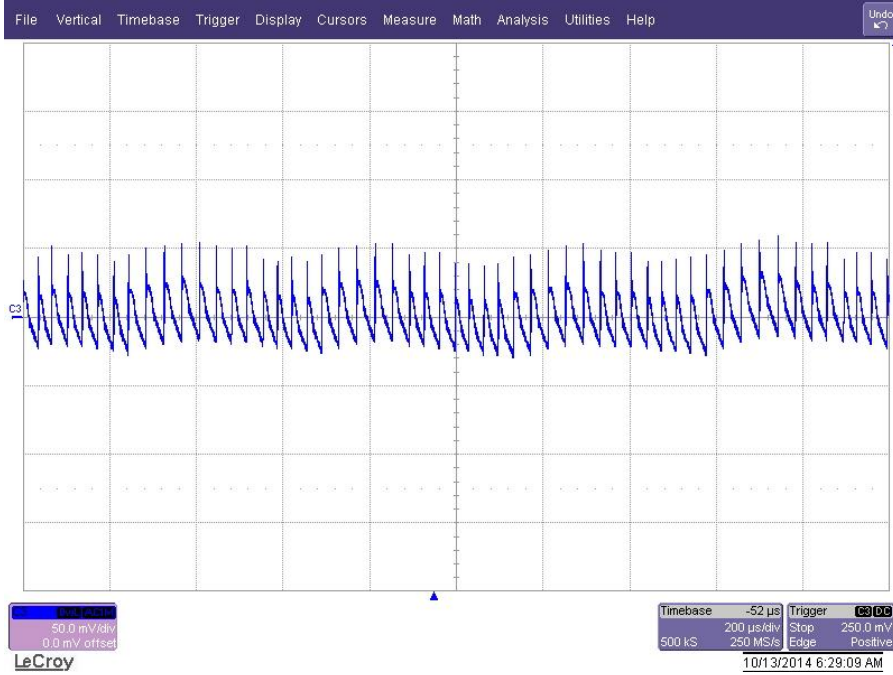
### 5.1 120V<sub>AC</sub>/60Hz: 15V/0.11A.



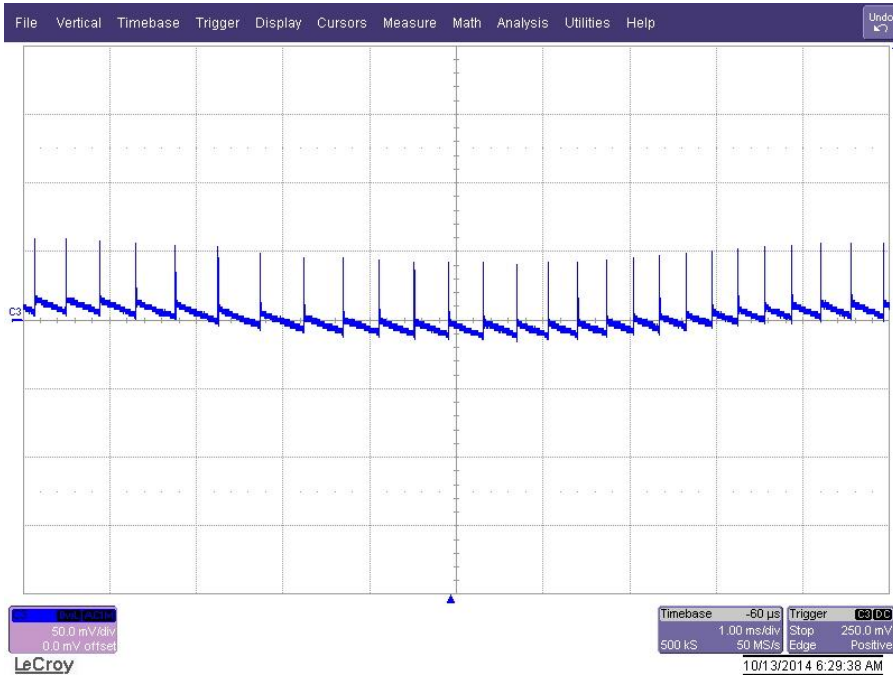
### 5.2 120V<sub>AC</sub>/60Hz: No load.



### 5.3 230V<sub>AC</sub>/50Hz: 15V/0.11A.



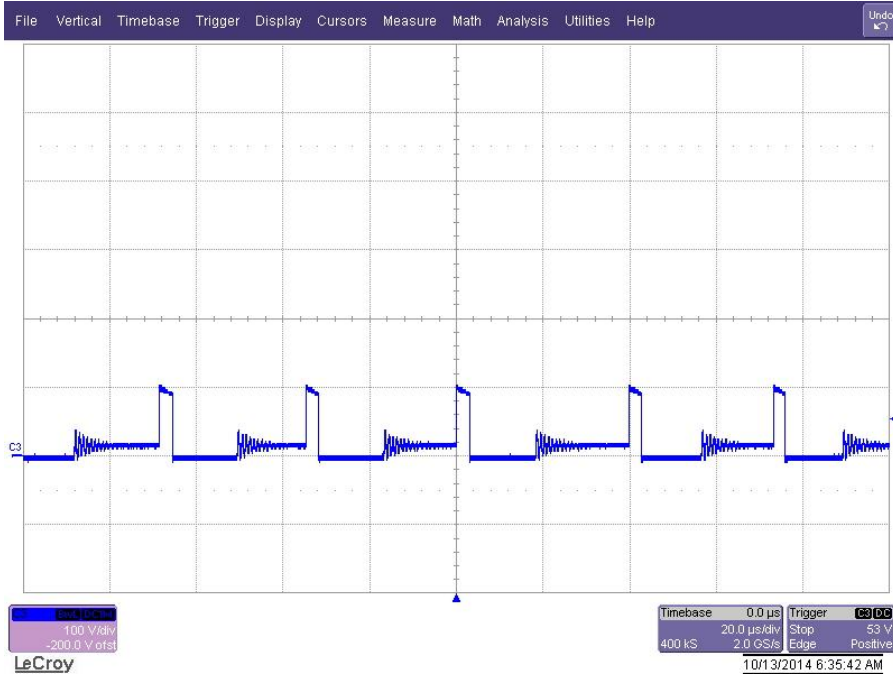
### 5.4 230V<sub>AC</sub>/50Hz: No load.



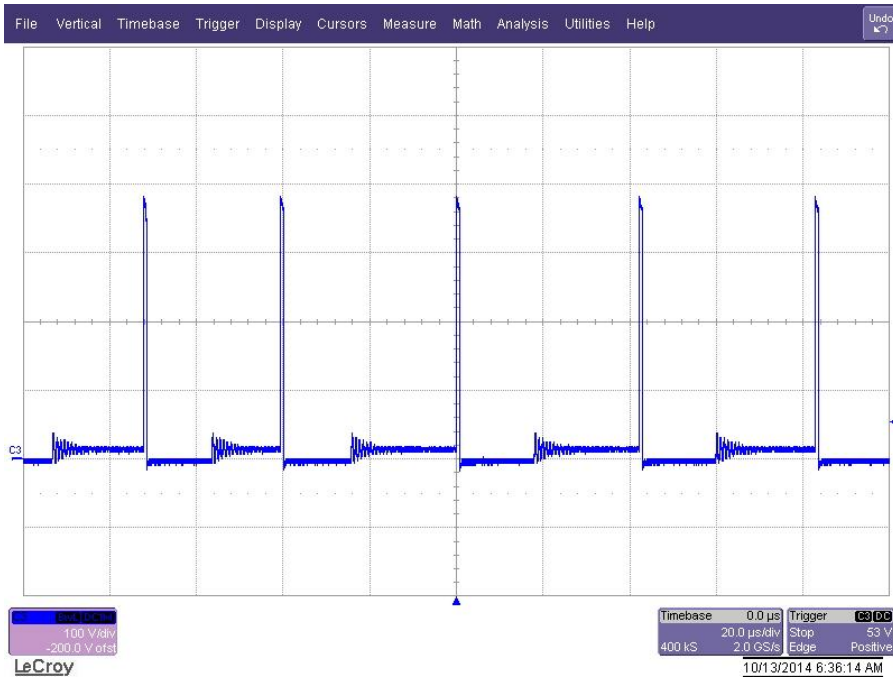
## 6 Switching Waveforms

The images below show key switching waveforms of PMP10766RevA. The waveforms are measured with 0.11A full load.

### 6.1 Diode D4 @ 85V<sub>AC</sub>/60Hz



### 6.2 Diode D4 @ 264V<sub>AC</sub>/50Hz



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