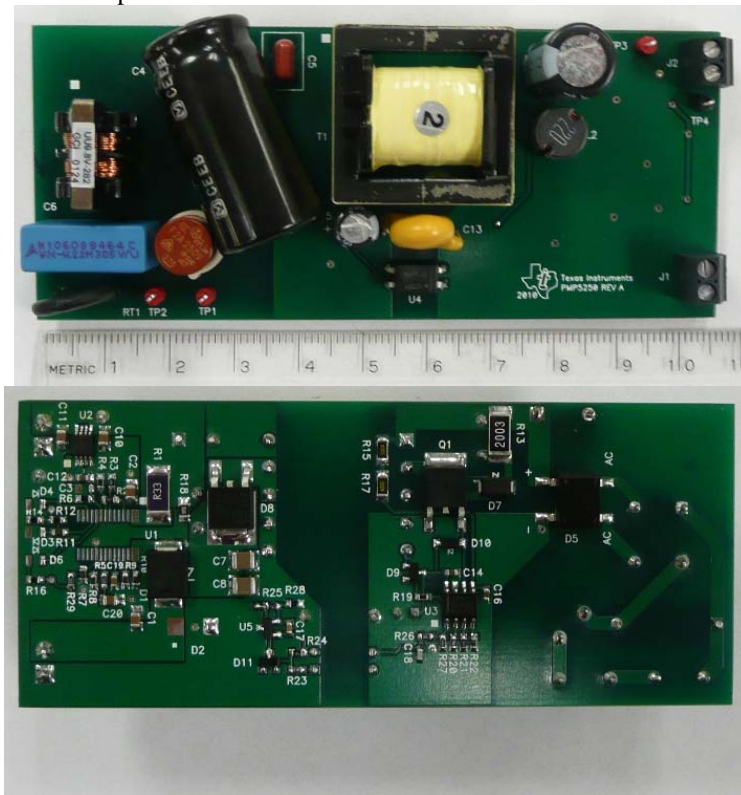


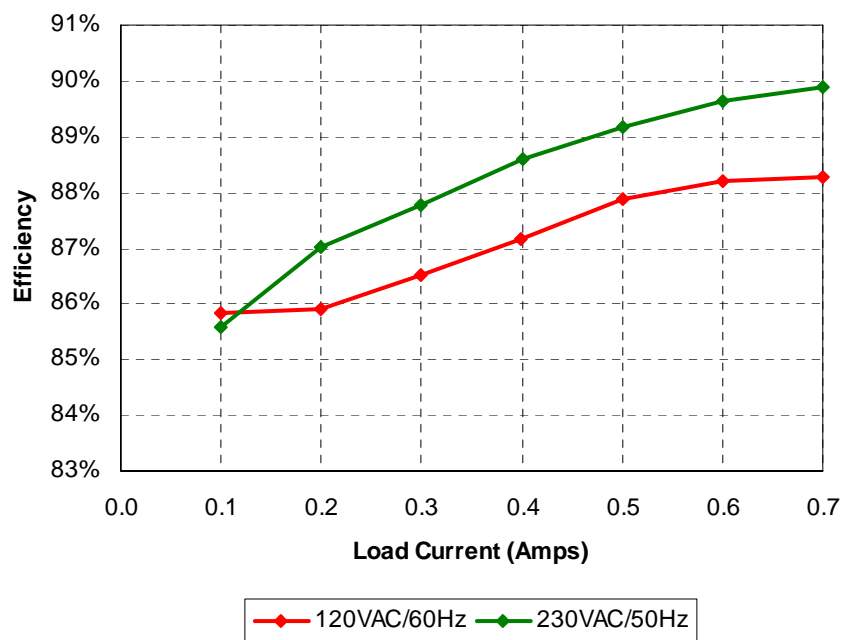
## 1 Photo

The photographs below show the top and bottom views of the PMP5250 Rev A demo board.



## 2 Efficiency

The efficiency data is shown in the tables and graph below. U1, D3, D4, D6 and R2 were depopulated during this test.



**120VAC/60Hz**

I <sub>out</sub>	V <sub>out</sub>	V <sub>in</sub>	I <sub>in</sub> (mA)	P <sub>in</sub>	PF	P <sub>out</sub>	Losses	Efficiency
0.100	57.6	120.4	113.8	6.71	0.49	5.76	0.95	85.8%
0.200	57.6	120.2	208.9	13.41	0.53	11.52	1.89	85.9%
0.300	57.6	120.0	296.7	19.97	0.56	17.28	2.69	86.5%
0.399	57.6	119.9	382.4	26.37	0.57	22.98	3.39	87.2%
0.500	57.6	119.7	467.0	32.77	0.59	28.80	3.97	87.9%
0.600	57.6	119.6	551.2	39.18	0.59	34.56	4.62	88.2%
0.700	57.6	119.5	635.3	45.67	0.60	40.32	5.35	88.3%

**230VAC/50Hz**

I <sub>out</sub>	V <sub>out</sub>	V <sub>in</sub>	I <sub>in</sub> (mA)	P <sub>in</sub>	PF	P <sub>out</sub>	Losses	Efficiency
0.100	57.6	230.0	73.7	6.73	0.40	5.76	0.97	85.6%
0.200	57.6	229.9	130.8	13.24	0.44	11.52	1.72	87.0%
0.300	57.6	229.9	184.7	19.69	0.46	17.28	2.41	87.8%
0.400	57.6	229.8	235.8	26.01	0.48	23.04	2.97	88.6%
0.500	57.6	229.7	285.9	32.30	0.49	28.80	3.50	89.2%
0.600	57.6	229.6	333.7	38.55	0.50	34.56	3.99	89.6%
0.700	57.6	229.5	382.4	44.86	0.51	40.32	4.54	89.9%

### 3 Light Load Power Consumption

The tables below show the input power and efficiency during light load operation. U1, D3, D4, D6 and R2 were depopulated during this test.

**120VAC/60Hz**

I <sub>out</sub>	V <sub>out</sub>	V <sub>in</sub>	I <sub>in</sub> (mA)	P <sub>in</sub>	PF	P <sub>out</sub>	Losses	Efficiency
0.000	57.6	122.6	11.0	0.27	0.20	0.00	0.27	0.0%
0.010	57.6	122.6	20.8	0.88	0.37	0.58	0.30	65.5%
0.020	57.6	122.6	32.5	1.56	0.39	1.15	0.41	73.8%
0.030	57.6	122.5	42.6	2.16	0.41	1.73	0.43	80.0%
0.040	57.6	122.5	53.1	2.81	0.43	2.30	0.51	82.0%
0.050	57.6	122.5	62.8	3.42	0.45	2.88	0.54	84.2%

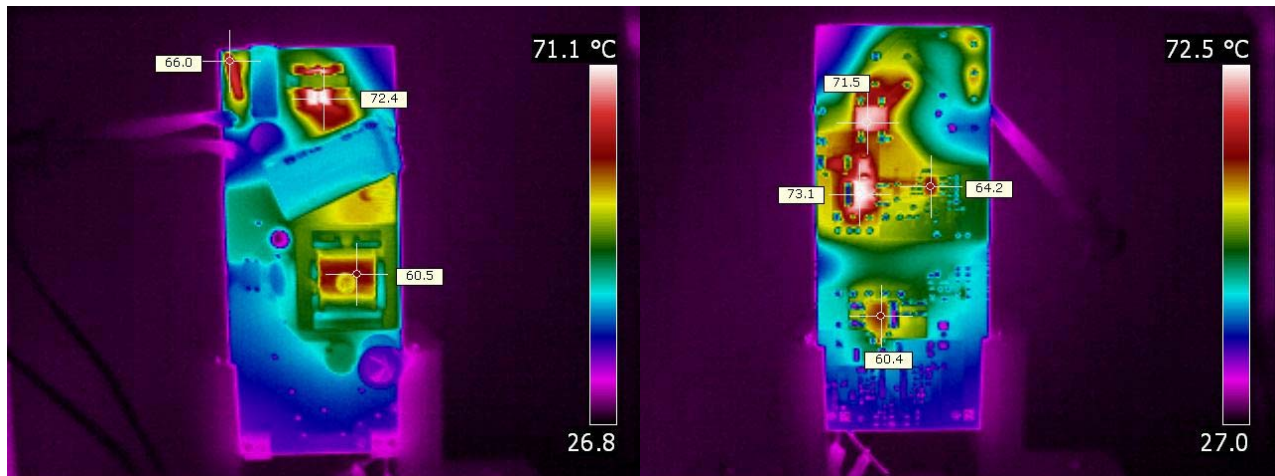
**230VAC/50Hz**

I <sub>out</sub>	V <sub>out</sub>	V <sub>in</sub>	I <sub>in</sub> (mA)	P <sub>in</sub>	PF	P <sub>out</sub>	Losses	Efficiency
0.000	57.6	230.1	14.7	0.33	0.10	0.00	0.33	0.0%
0.010	57.6	230.1	18.8	0.97	0.23	0.58	0.39	59.4%
0.020	57.6	230.1	25.3	1.70	0.29	1.15	0.55	67.8%
0.030	57.6	230.1	31.3	2.32	0.32	1.73	0.59	74.5%
0.040	57.6	230.1	36.9	2.90	0.34	2.30	0.60	79.4%
0.050	57.6	230.1	43.3	3.57	0.36	2.88	0.69	80.7%

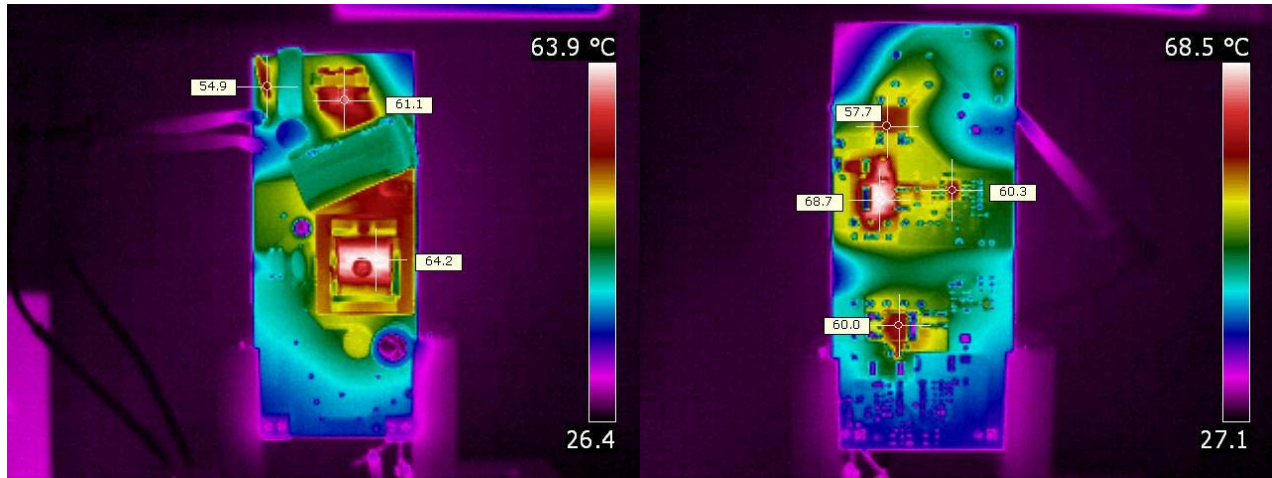
### 4 Thermal Images

The thermal images below show a top view (left) and bottom view (right) of the board. The ambient temperature was 26°C with no forced air flow. The output was loaded with 700mA.

#### 4.1 120VAC, 60Hz Input

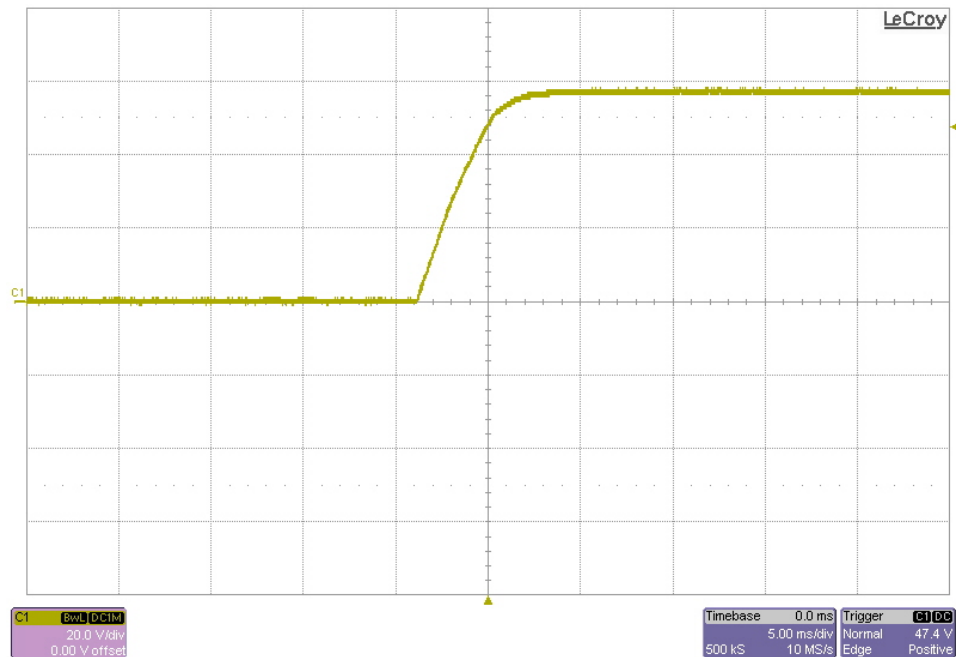


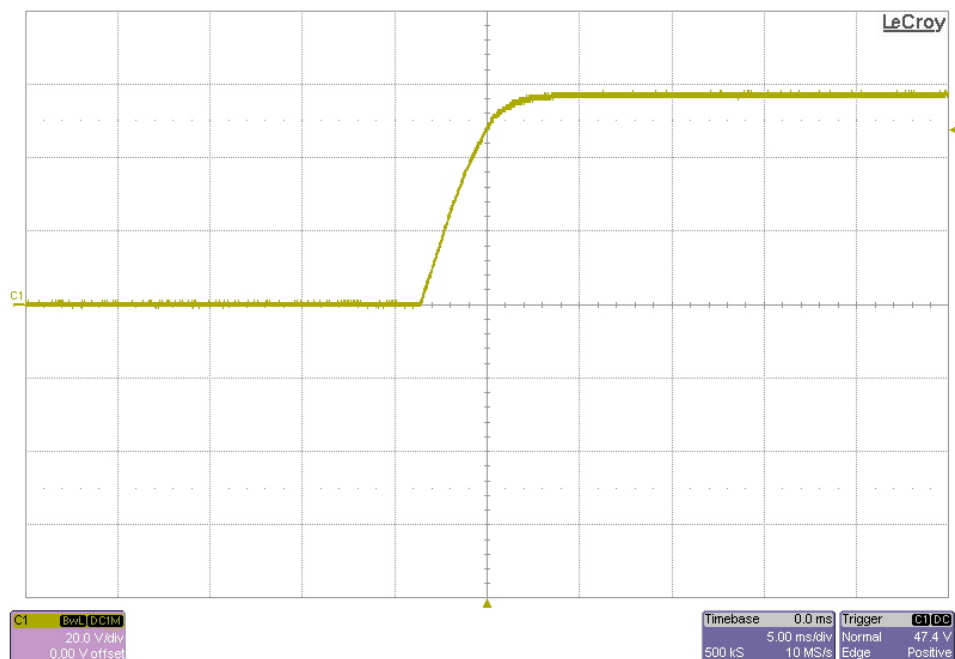
## 4.2 230VAC, 50Hz Input



## 5 Startup – No Load

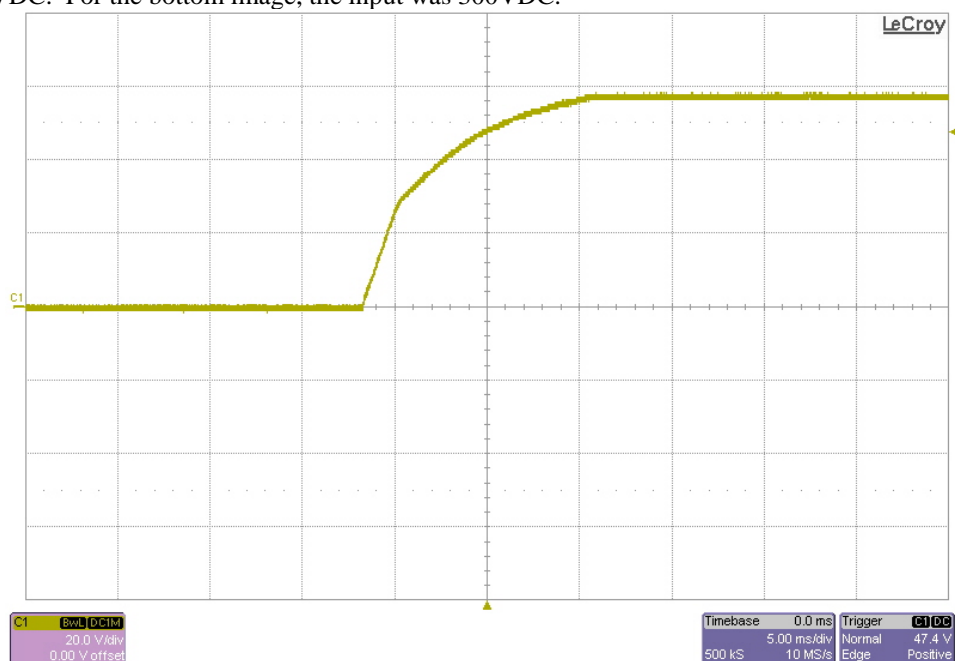
The output voltage at startup is shown in the images below. The output was unloaded. For the top image, the input was 150VDC. For the bottom image, the input was 300VDC.

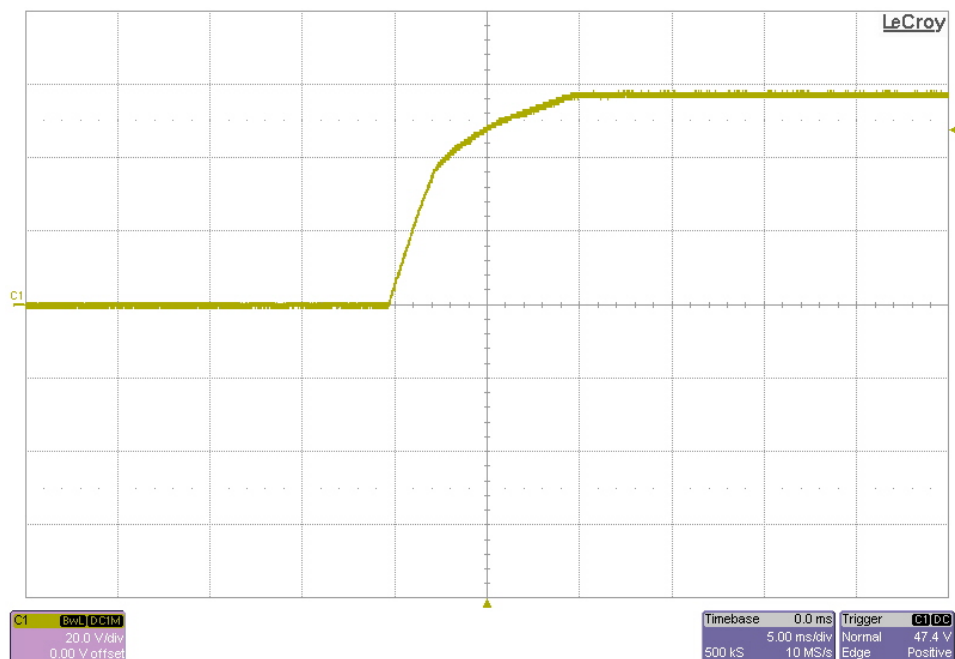




## 6 Startup – Full Load

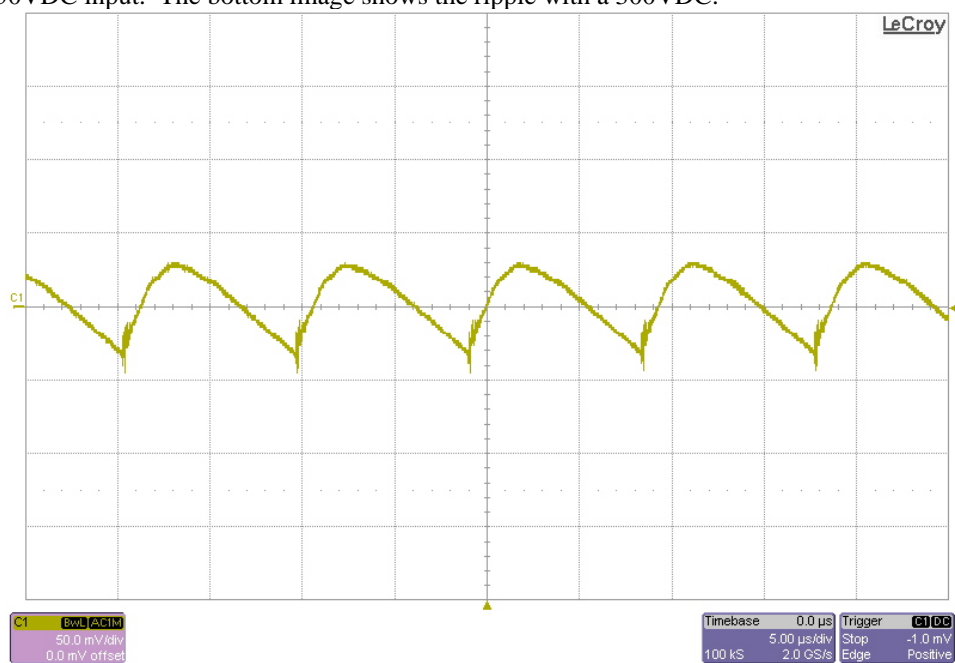
The output voltage at startup is shown in the images below. The output was loaded with 700mA. For the top image, the input was 150VDC. For the bottom image, the input was 300VDC.

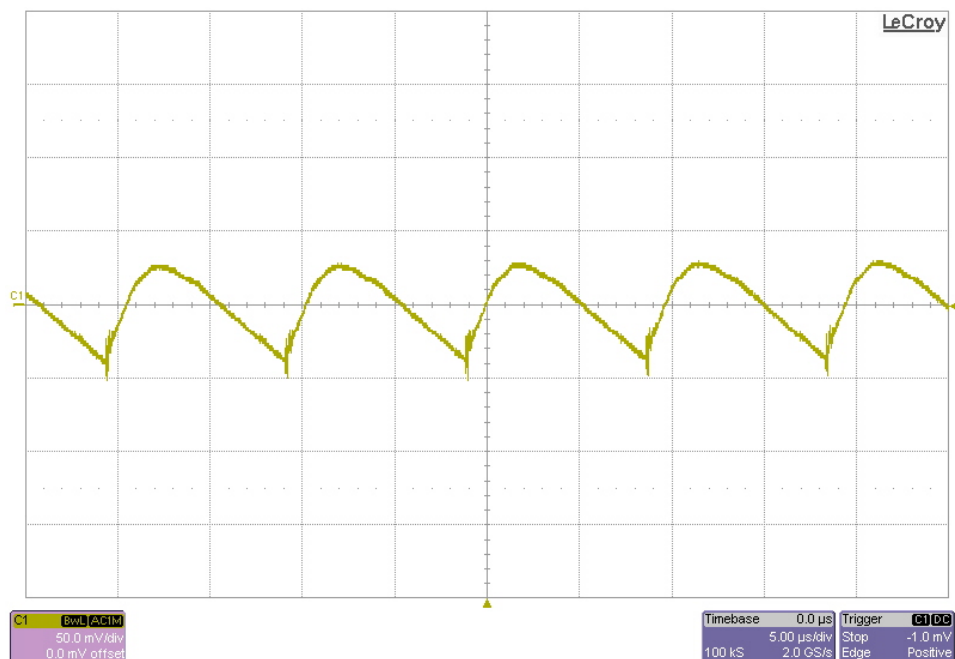




## 7 Output Ripple Voltage – Full Load

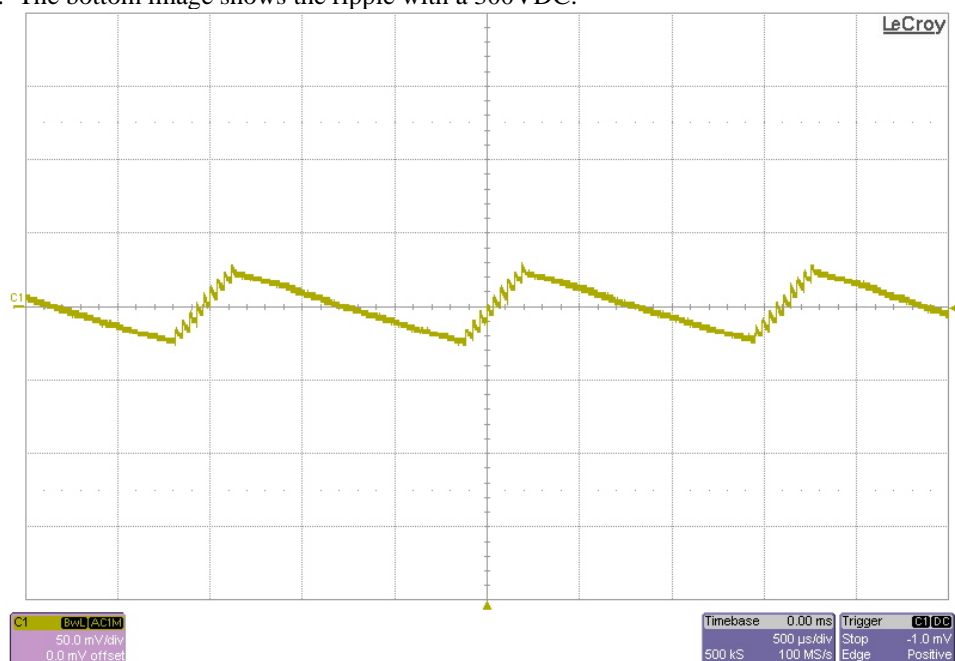
The output ripple voltage during full load (700mA) operation is shown in the plots below. The top image shows the ripple with a 150VDC input. The bottom image shows the ripple with a 300VDC.



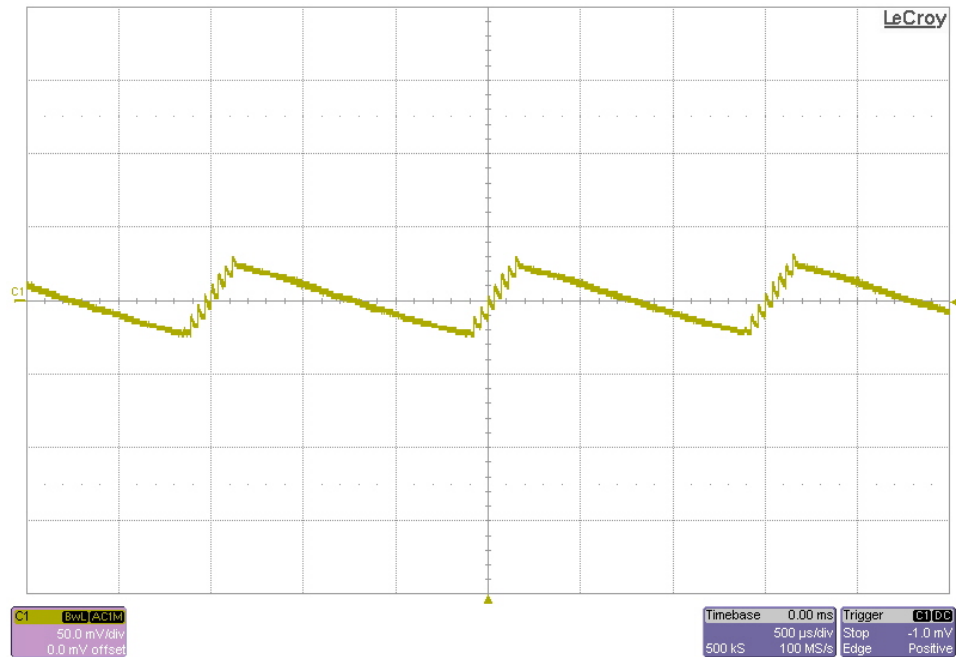


## 8 Output Ripple Voltage – No Load

The output ripple voltage during no load operation is shown in the plots below. The top image shows the ripple with a 150VDC input. The bottom image shows the ripple with a 300VDC.





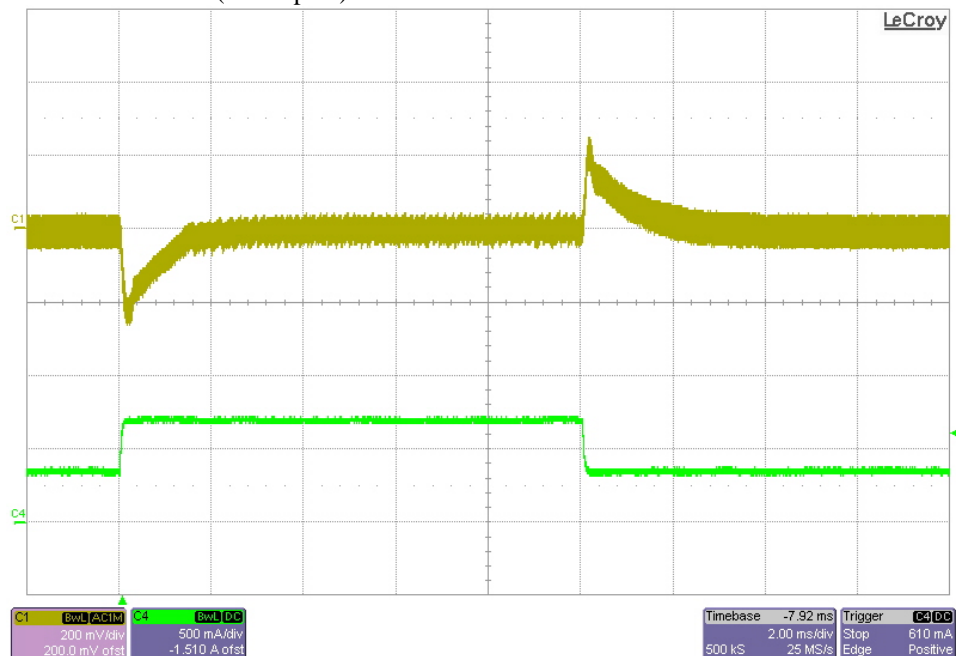


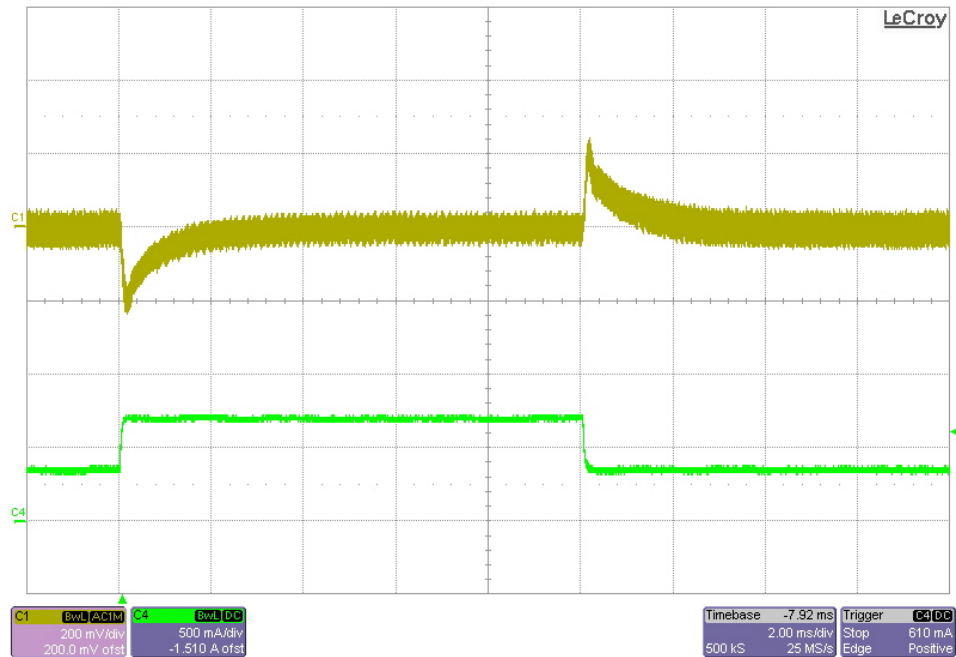
## 9 Load Transients

The images below show the response to a 0.35A to 0.7A load transient. For the top image, the input voltage was set to 150VDC. For the bottom image, the input was set to 300VDC.

Channel 1: Vout (ac coupled) 200mV/div

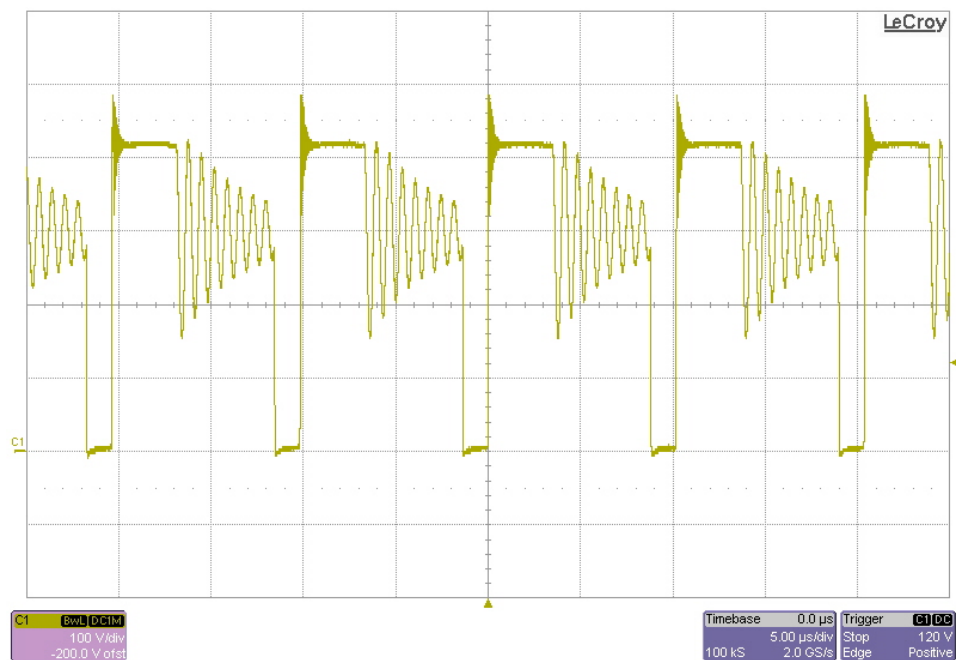
Channel 4: Iout 500mA/div





## 10 Switching Waveforms

The image below shows the drain-to-source voltage waveform on the primary MOSFET (Q1). The load was 1A and the input was set to 300VDC.





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DSP	<a href="http://dsp.ti.com">dsp.ti.com</a>	Computers and Peripherals	<a href="http://www.ti.com/computers">www.ti.com/computers</a>
Clocks and Timers	<a href="http://www.ti.com/clocks">www.ti.com/clocks</a>	Consumer Electronics	<a href="http://www.ti.com/consumer-apps">www.ti.com/consumer-apps</a>
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Logic	<a href="http://logic.ti.com">logic.ti.com</a>	Industrial	<a href="http://www.ti.com/industrial">www.ti.com/industrial</a>
Power Mgmt	<a href="http://power.ti.com">power.ti.com</a>	Medical	<a href="http://www.ti.com/medical">www.ti.com/medical</a>
Microcontrollers	<a href="http://microcontroller.ti.com">microcontroller.ti.com</a>	Security	<a href="http://www.ti.com/security">www.ti.com/security</a>
RFID	<a href="http://www.ti-rfid.com">www.ti-rfid.com</a>	Space, Avionics & Defense	<a href="http://www.ti.com/space-avionics-defense">www.ti.com/space-avionics-defense</a>
RF/IF and ZigBee® Solutions	<a href="http://www.ti.com/lprf">www.ti.com/lprf</a>	Video and Imaging	<a href="http://www.ti.com/video">www.ti.com/video</a>
		Wireless	<a href="http://www.ti.com/wireless-apps">www.ti.com/wireless-apps</a>