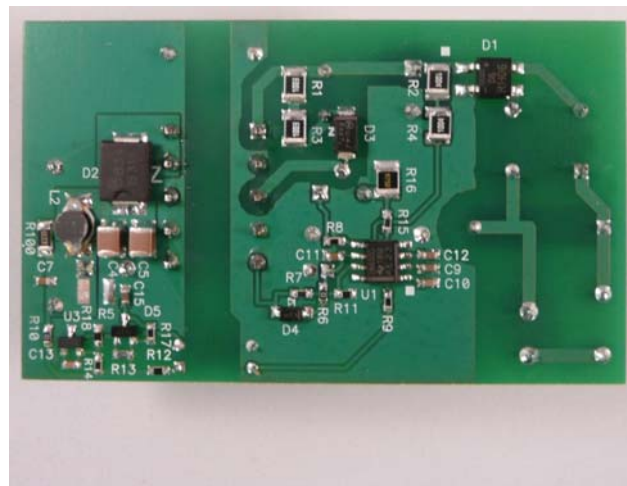


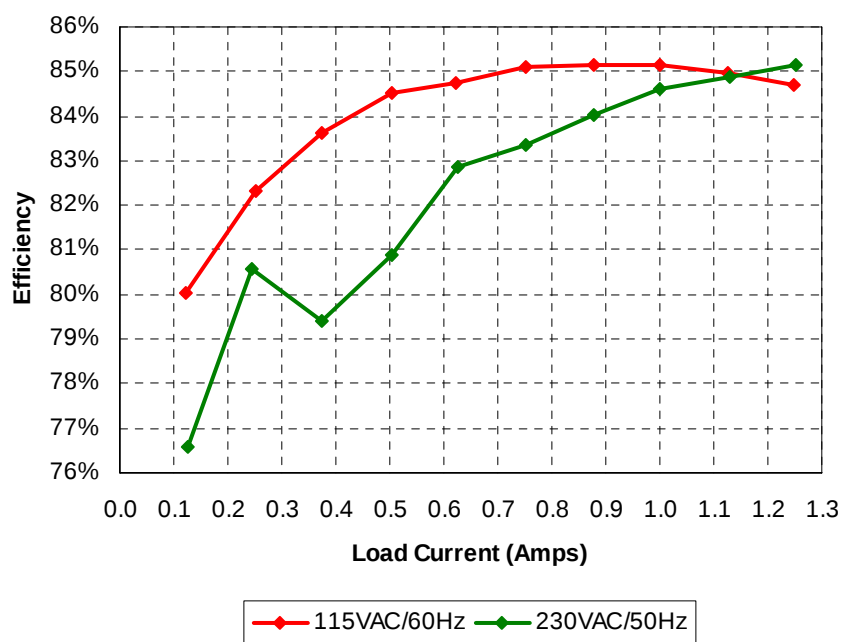
1 Photo

The photographs below show the top and bottom views of the PMP6583 Rev A demo board.



2 Efficiency

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



115VAC/60Hz

Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.124	13.75	115.5	0.044	2.13	0.42	1.71	0.43	80.0%
0.251	13.74	115.5	0.079	4.19	0.46	3.45	0.74	82.3%
0.375	13.74	115.4	0.110	6.16	0.49	5.15	1.01	83.6%
0.502	13.74	115.4	0.140	8.16	0.51	6.90	1.26	84.5%
0.623	13.74	115.3	0.167	10.10	0.52	8.56	1.54	84.8%
0.750	13.74	115.3	0.195	12.11	0.54	10.31	1.81	85.1%
0.877	13.74	115.3	0.222	14.15	0.55	12.05	2.10	85.2%
0.999	13.74	115.2	0.248	16.12	0.57	13.73	2.39	85.2%
1.125	13.74	115.2	0.274	18.19	0.58	15.46	2.73	85.0%
1.249	13.74	115.2	0.300	20.26	0.59	17.16	3.10	84.7%

230VAC/50Hz

Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.126	13.74	232.4	0.028	2.26	0.34	1.73	0.53	76.6%
0.244	13.74	232.4	0.048	4.16	0.38	3.35	0.81	80.6%
0.373	13.73	232.4	0.397	6.45	0.40	5.12	1.33	79.4%
0.503	13.73	232.3	0.089	8.54	0.41	6.91	1.63	80.9%
0.626	13.74	232.3	0.105	10.38	0.43	8.60	1.78	82.9%
0.751	13.74	232.3	0.122	12.38	0.44	10.32	2.06	83.4%
0.877	13.74	232.3	0.138	14.34	0.45	12.05	2.29	84.0%
1.000	13.74	232.2	0.154	16.24	0.45	13.74	2.50	84.6%
1.128	13.74	232.2	0.170	18.26	0.46	15.50	2.76	84.9%
1.251	13.74	232.2	0.185	20.19	0.47	17.19	3.00	85.1%

3 Standby Mode Power Consumption

The tables below show the input power and efficiency during light load operation.

115VAC/60Hz

Iout	Vout	Vin	Iin (mA)	Pin	Pout	Losses	Efficiency
0.000	13.75	116.1	5.4	0.14	0.00	0.14	0.0%
0.024	13.74	116.1	12.9	0.51	0.33	0.18	64.7%
0.048	13.74	116.1	20.4	0.90	0.66	0.24	73.3%

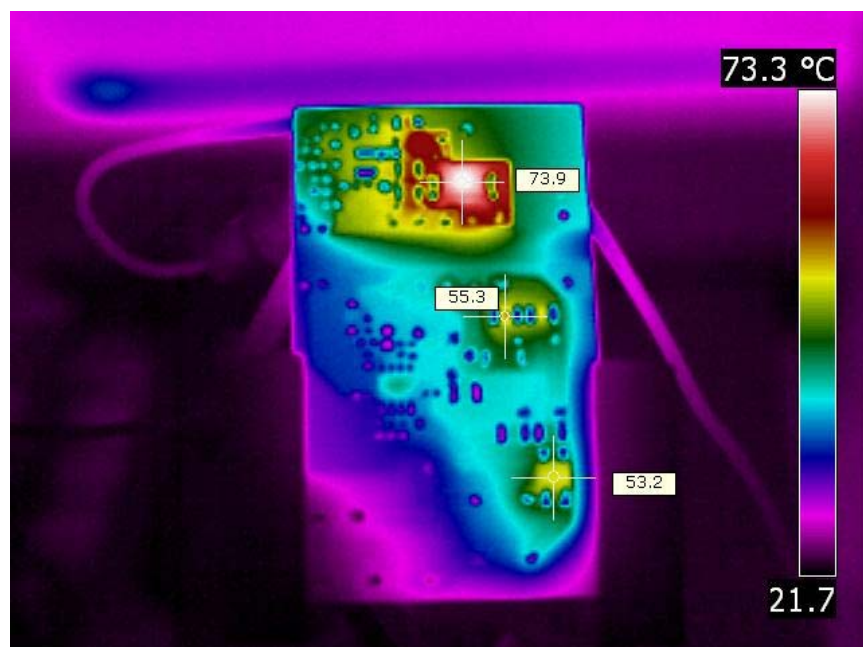
230VAC/50Hz

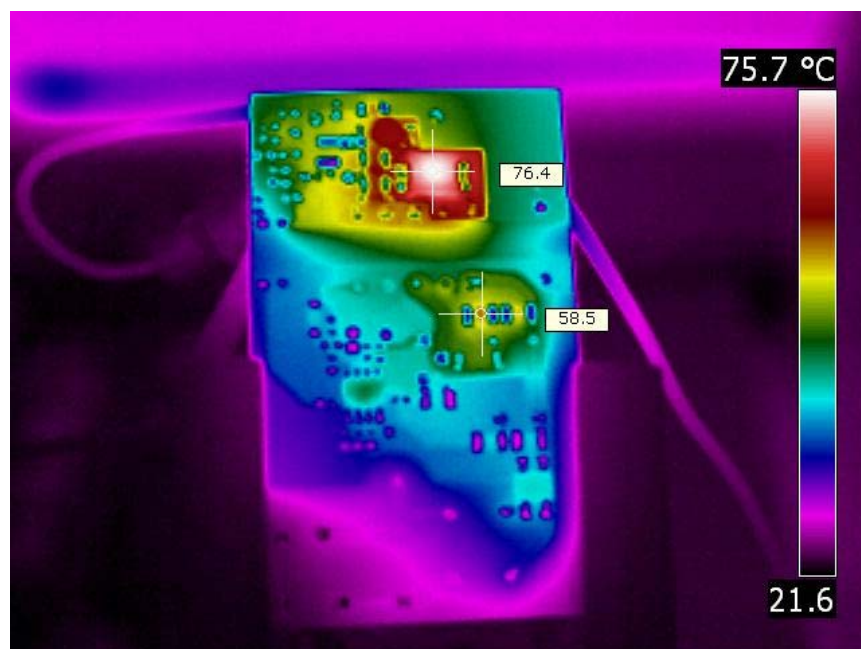
Iout	Vout	Vin	Iin (mA)	Pin	Pout	Losses	Efficiency
0.000	13.74	232.4	7.1	0.22	0.00	0.22	0.0%
0.024	13.74	232.4	10.4	0.59	0.33	0.26	55.9%
0.048	13.74	232.4	14.7	0.98	0.66	0.32	67.3%

4 Thermal Images

The thermal images below show a top view and bottom view of the board. The ambient temperature was 25°C with no forced air flow. The output was loaded with 1.25A.

4.1 115VAC, 60Hz Input

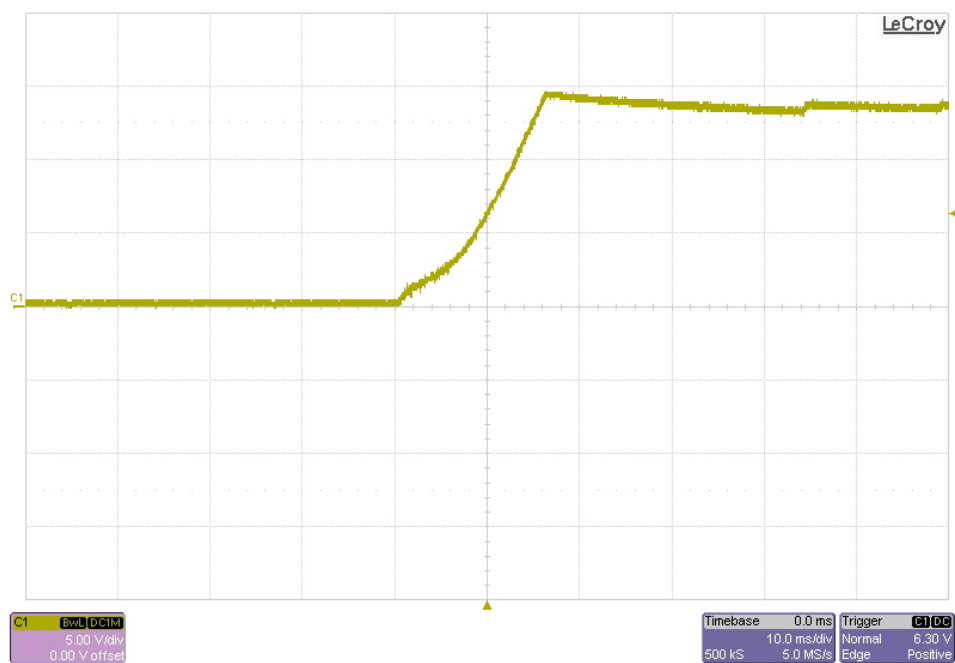
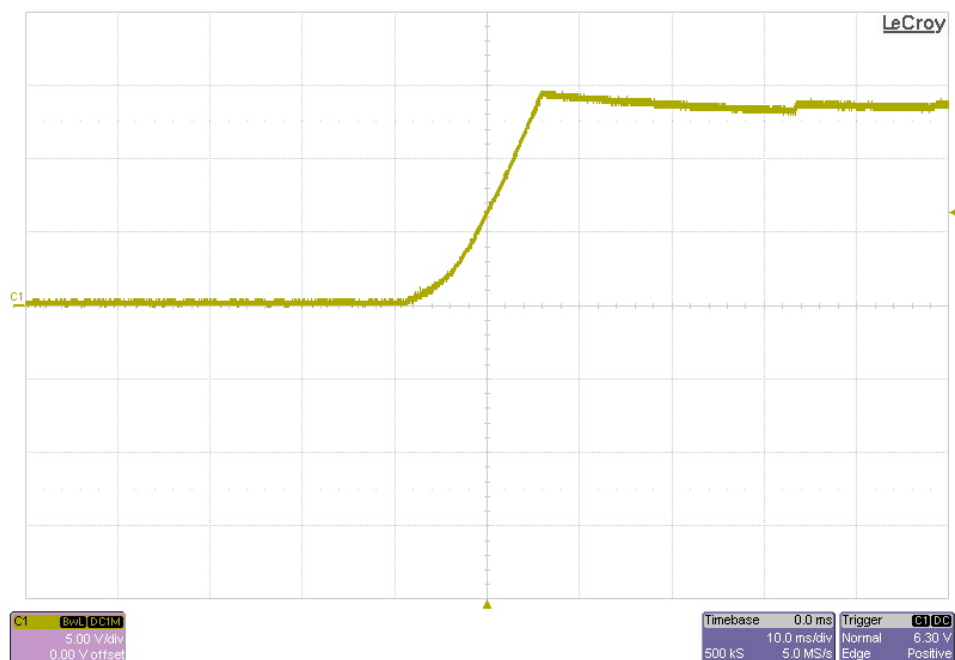


4.2 230VAC, 50Hz Input

5 Startup

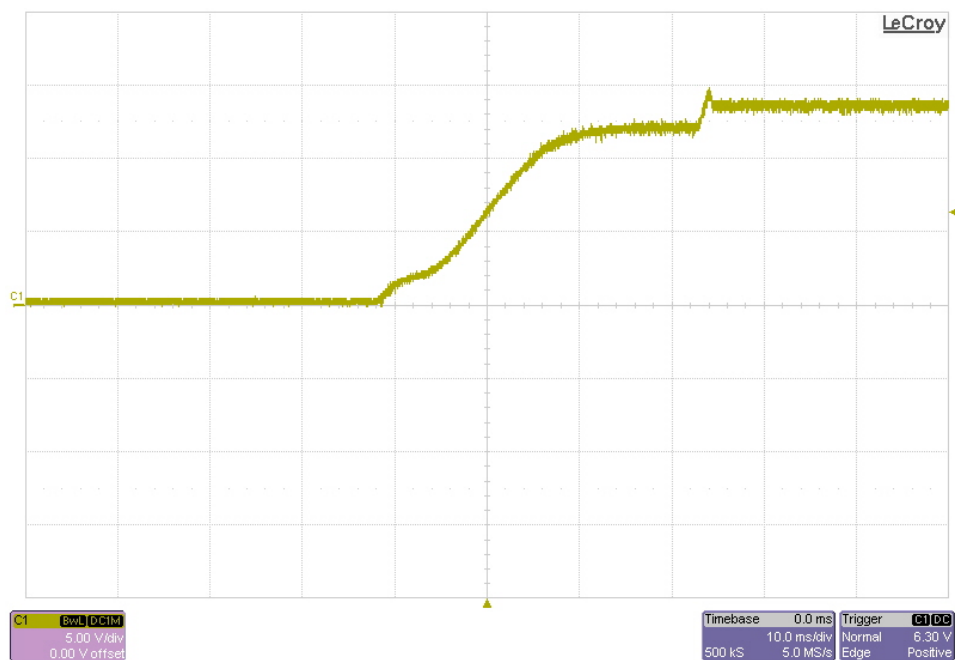
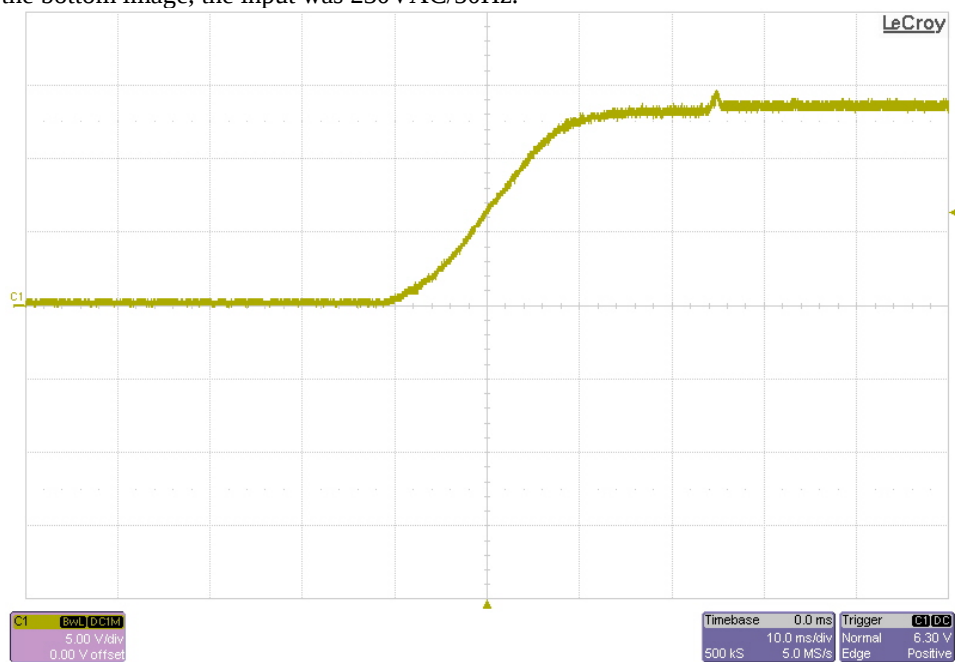
5.1 No Load

The output voltage at startup is shown in the images below. For the top image, the input was 115VAC/60Hz output was unloaded. For the bottom image, the input was 230VAC/50Hz.



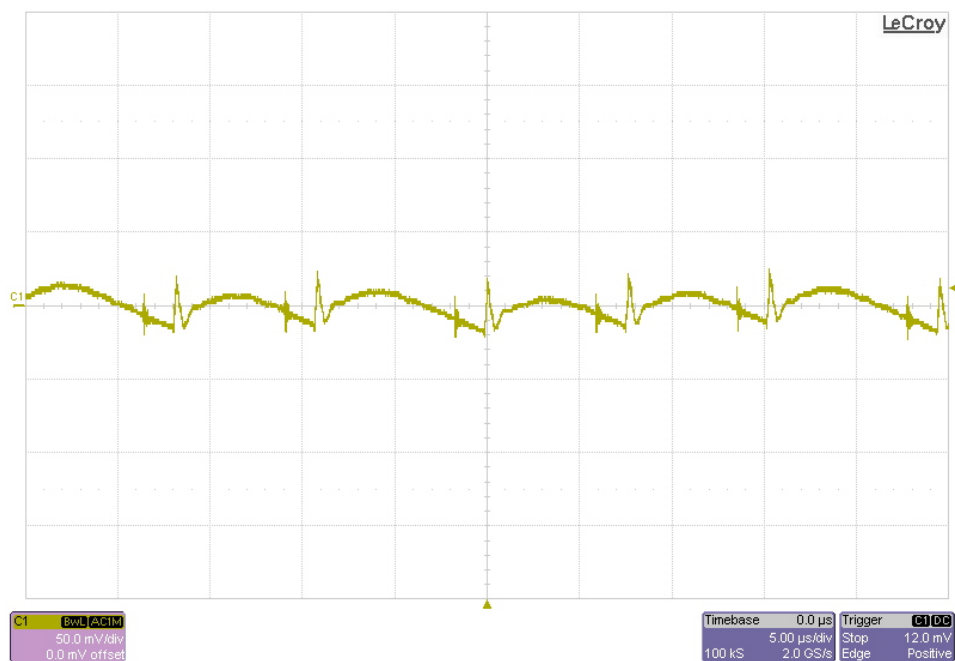
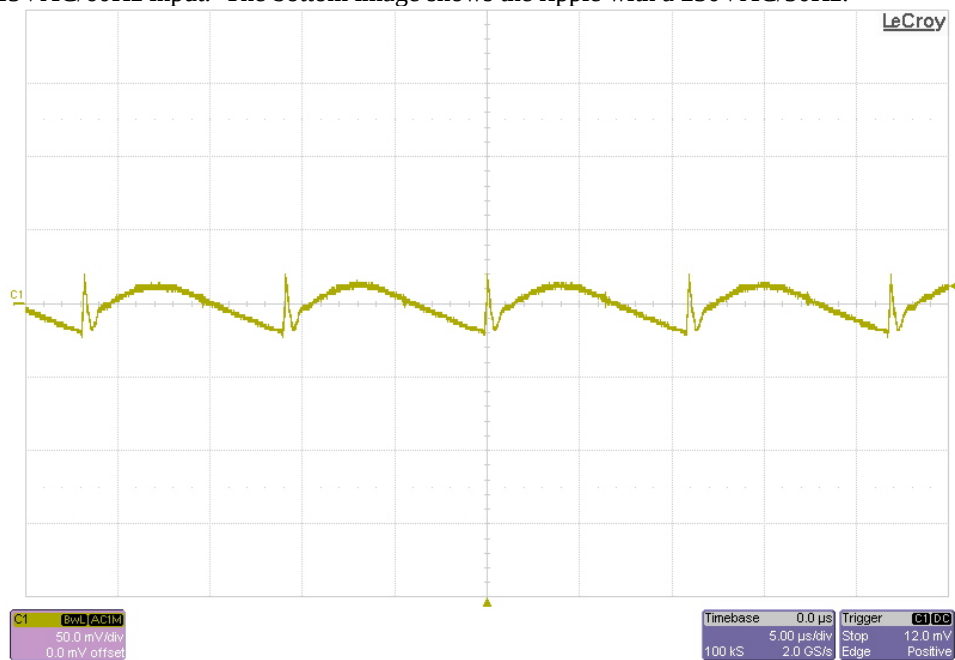
5.2 1.25A Load

The output voltage at startup is shown in the images below. For the top image, the input was 115VAC/60Hz output was unloaded. For the bottom image, the input was 230VAC/50Hz.



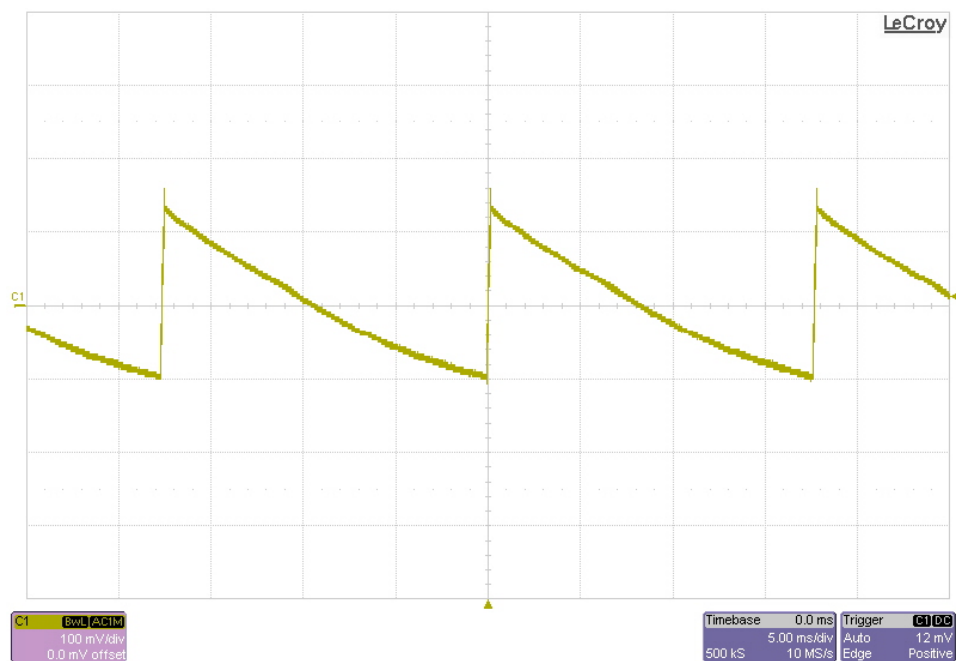
6 Output Ripple Voltage – Full Load

The output ripple voltage during full load (1.25A) operation is shown in the plots below. The top image shows the ripple with a 115VAC/60Hz input. The bottom image shows the ripple with a 230VAC/50Hz.



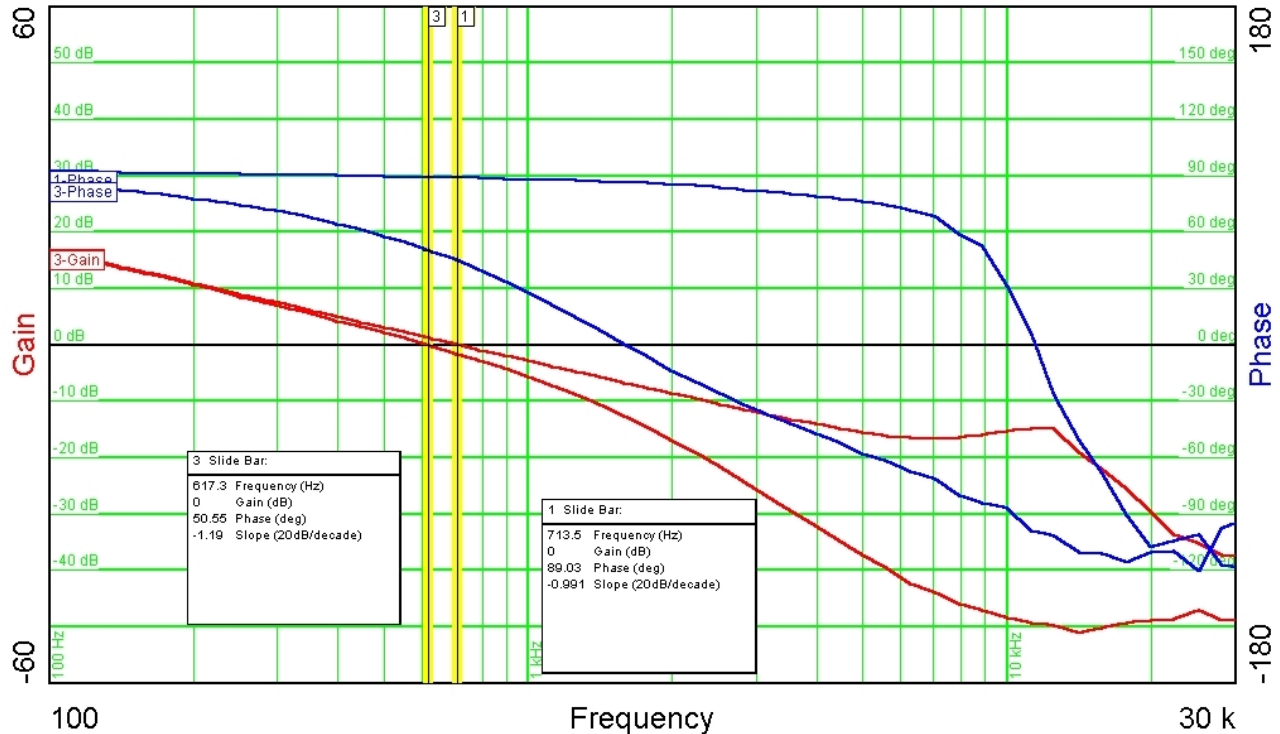
7 Output Ripple Voltage – No Load

The output ripple voltage during no load operation is shown in the plots below. The top image shows the ripple with a 115VAC/60Hz input. The bottom image shows the ripple with a 230VAC/50Hz.



8 Loop Response

The plot below shows the frequency response of the feedback loop. The output was loaded with 1.25A. For the gain/phase plot #1, the input was 350VDC. For the gain/phase plot #3, the input was 100VDC. The loop was broken at R14.

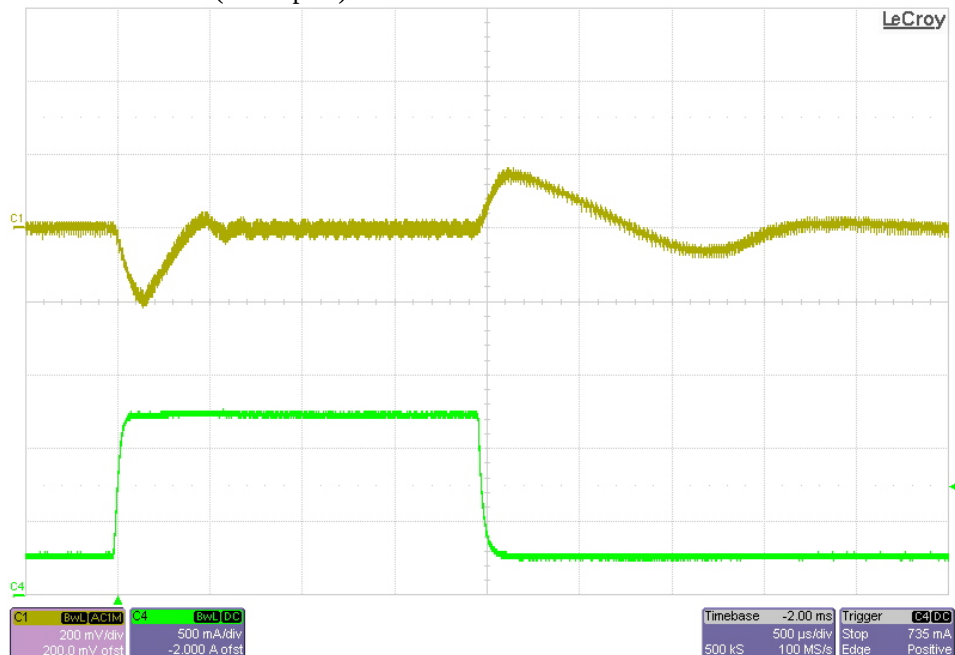


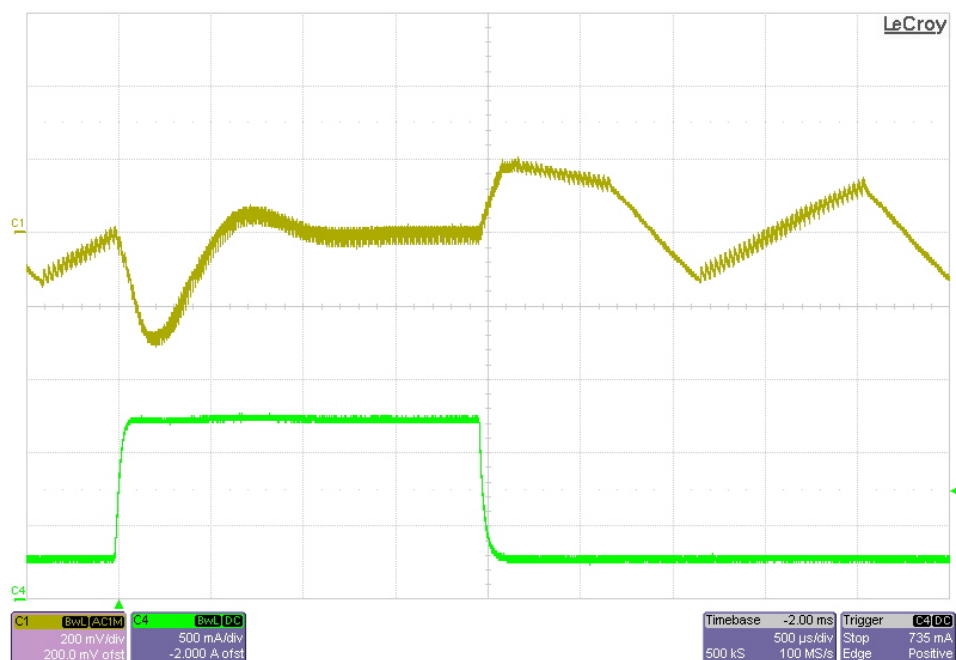
9 Load Transients

The images below show the response to a 0.25A to 1.25A load transient. For the top image, the input voltage was set to 115VAC/60Hz. For the bottom image, the input was set to 230VAC/50Hz.

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

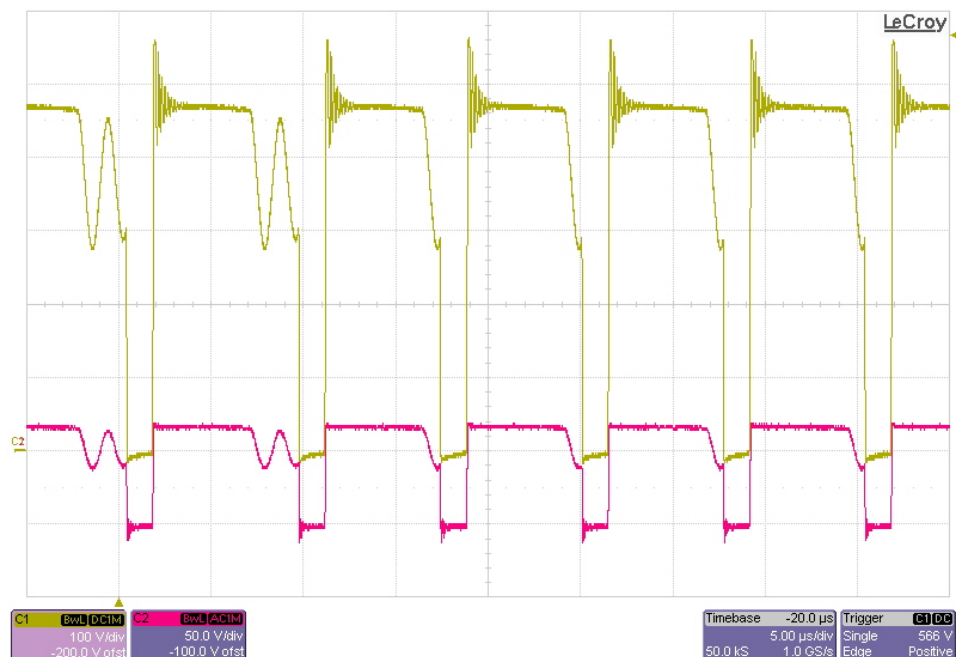
Channel 4: Iout 500mA/div





10 Switching Waveforms

The image below shows the drain-to-source voltage waveform on the primary MOSFET (Q2) on channel 1 and the voltage waveform on the anode pin of D2 on channel 2. The load was 1.25A and the input was set to 265VAC/50Hz.



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