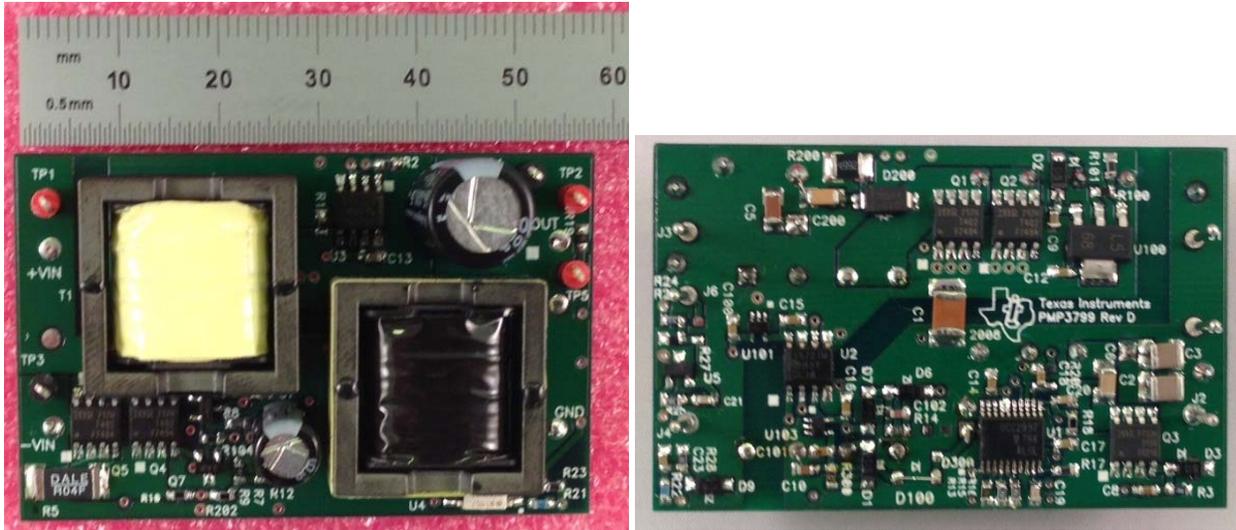


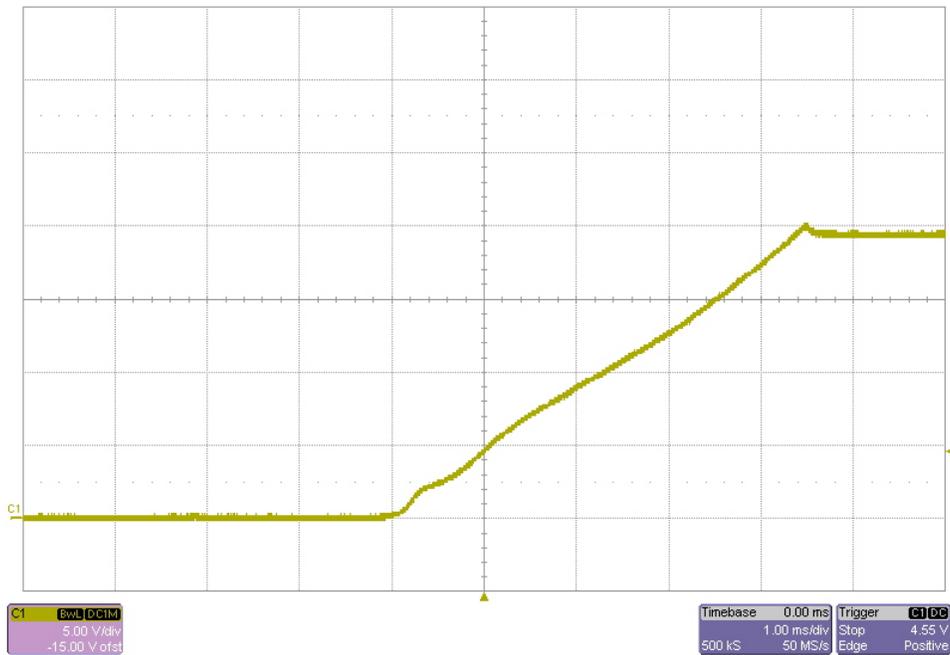
## 1 Photos

The photographs below show the PMP3799 Rev E demo board. Top view is shown on the left, and bottom view is shown on the right. The circuit is built on a PMP3799 Rev D PWB.



## 2 Startup

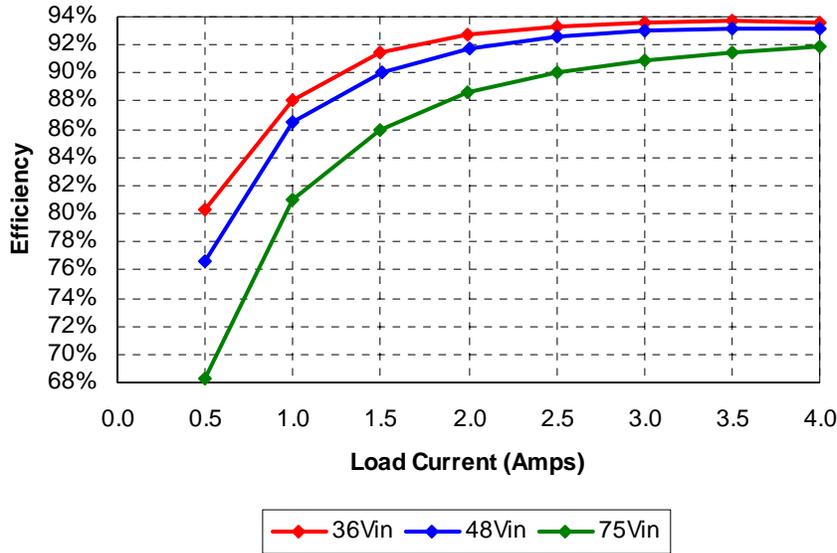
The output voltage at startup is shown in the image below. The input voltage was 48V, and the output was unloaded.



### 3 Efficiency

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

20V Output Voltage



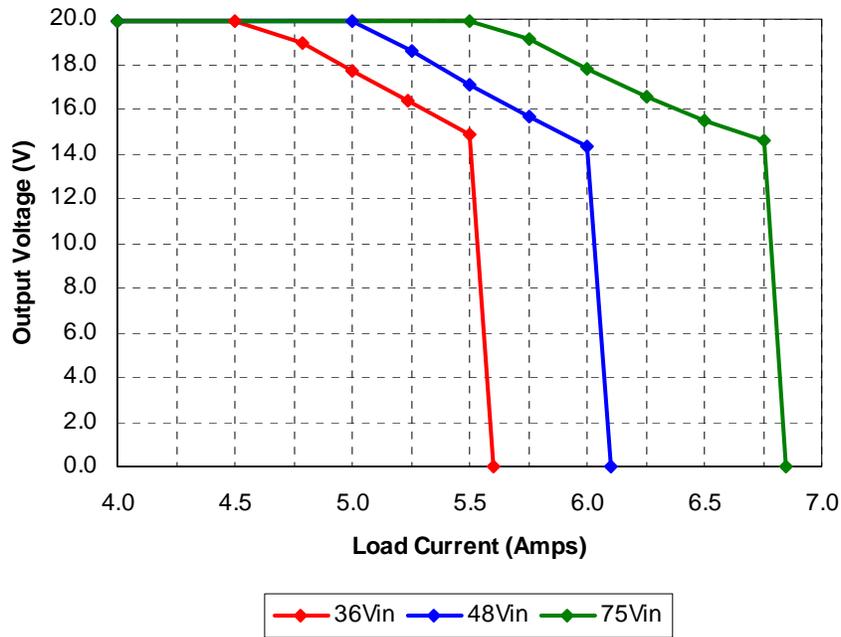
Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	19.87	36.0	0.069	0.00	2.484	0.0%
0.503	19.87	36.0	0.346	9.99	2.461	80.2%
1.000	19.87	36.0	0.627	19.87	2.702	88.0%
1.496	19.87	36.0	0.903	29.73	2.782	91.4%
1.999	19.87	36.0	1.189	39.72	3.084	92.8%
2.506	19.87	36.0	1.482	49.79	3.558	93.3%
3.001	19.87	36.0	1.769	59.63	4.054	93.6%
3.499	19.87	36.0	2.060	69.53	4.635	93.8%
4.003	19.87	36.0	2.361	79.54	5.456	93.6%

Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	19.87	48.0	0.064	0.00	3.072	0.0%
0.500	19.87	48.0	0.270	9.94	3.025	76.7%
1.001	19.87	48.0	0.479	19.89	3.102	86.5%
1.504	19.87	48.0	0.691	29.88	3.284	90.1%
2.003	19.87	48.0	0.904	39.80	3.592	91.7%
2.501	19.87	48.0	1.118	49.69	3.969	92.6%
3.006	19.87	48.0	1.337	59.73	4.447	93.1%
3.500	19.87	48.0	1.555	69.55	5.095	93.2%
4.003	19.87	48.0	1.778	79.54	5.804	93.2%

Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	19.87	75.0	0.063	0.00	4.725	0.0%
0.500	19.87	75.0	0.194	9.94	4.615	68.3%
1.002	19.87	75.0	0.328	19.91	4.690	80.9%
1.498	19.87	75.0	0.462	29.77	4.885	85.9%
1.993	19.87	75.0	0.596	39.60	5.099	88.6%
2.505	19.87	75.0	0.737	49.77	5.501	90.0%
3.004	19.87	75.0	0.875	59.69	5.936	91.0%
3.504	19.87	75.0	1.015	69.62	6.501	91.5%
4.001	19.87	75.0	1.154	79.50	7.050	91.9%

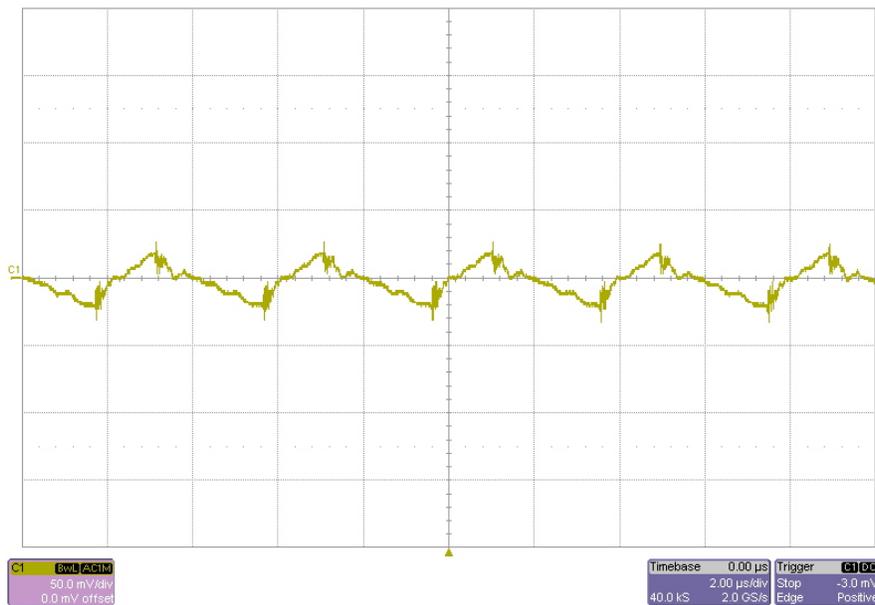
## 4 Over-Current Protection

The graph below shows the output voltage versus current for an over load condition.



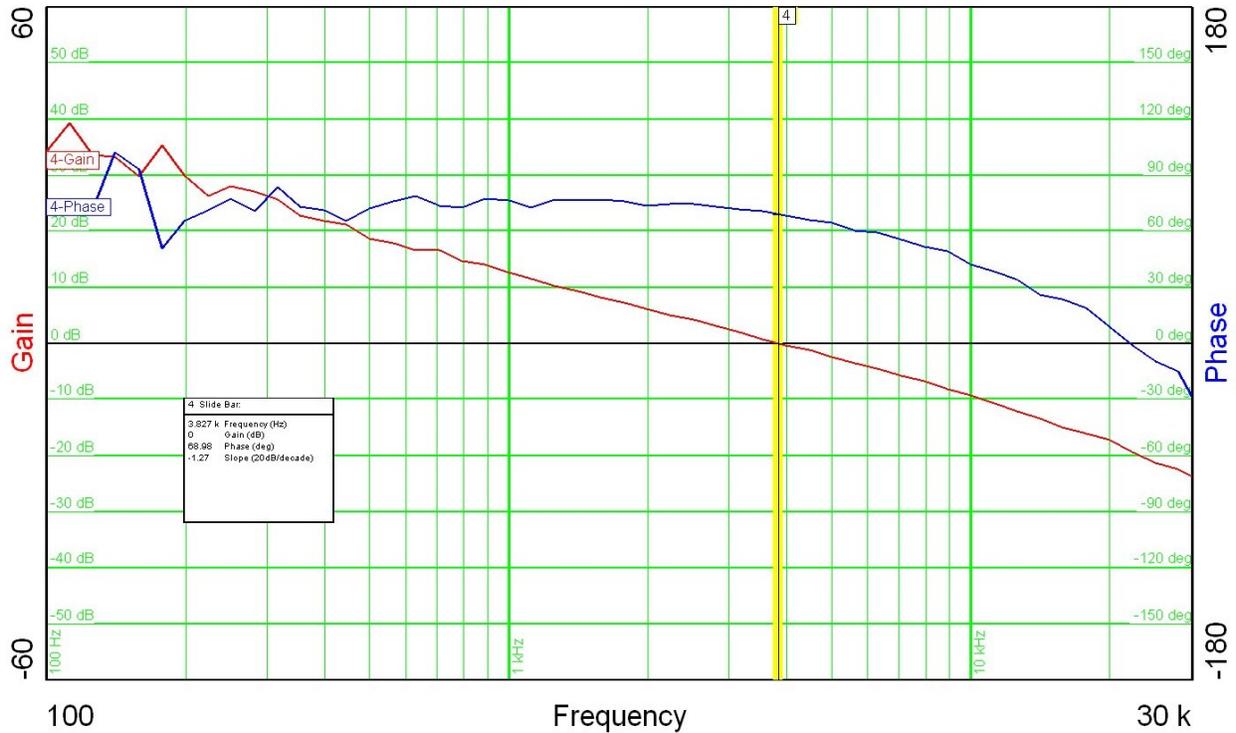
## 5 Output Ripple Voltage

The output ripple voltage is shown in the plot below. The input was set to 48V and the load was set to 4A.



## 6 Frequency Response

The frequency response of the feedback loop is shown in the image below. The input was set to 48V, and the output was loaded with 4A.

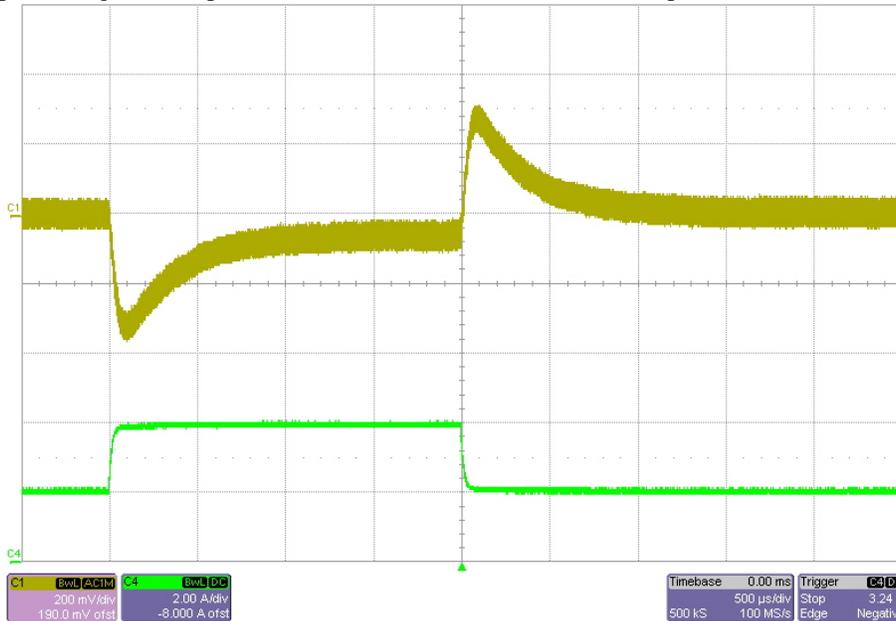


## 7 Load Transients

The image below show the response to a 2A to 4A load transient. The input voltage was set to 48V.

Channel 1: Output Voltage (ac coupled) 200mV/div

Channel 4: Output Current 2A/div



## 8 Switching Waveforms

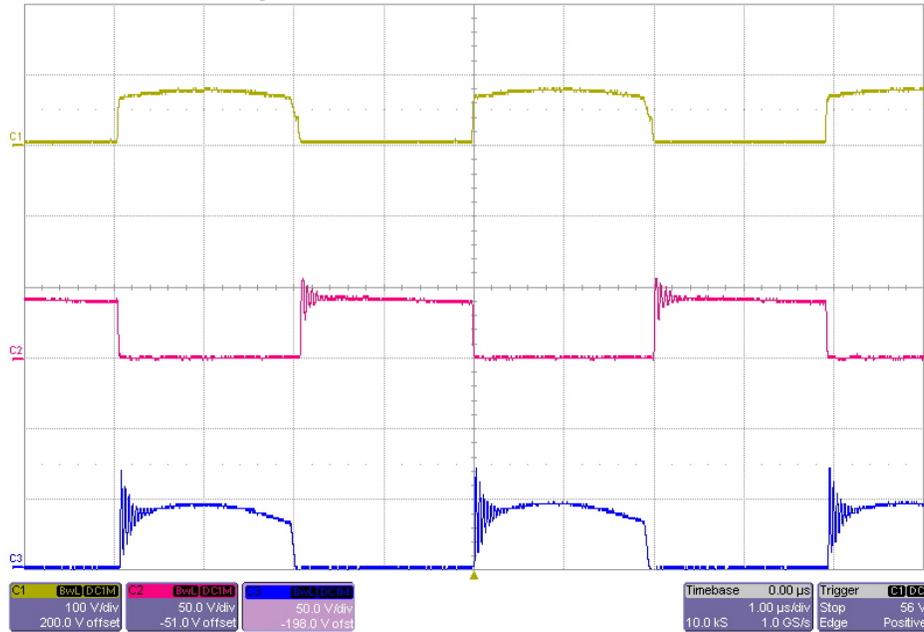
The images below show the drain-to-source waveforms of the main power carrying MOSFETs.

### 8.1 36V Input

The input voltage was set to 36V, and the output was loaded with 4A.

Ch 1: Q4 & Q5 Drain-Source Voltage 100V/div  
Ch 3: Q2 Drain-Source Voltage 50V/div

Ch 2: Q1 Drain-Source Voltage 50V/div

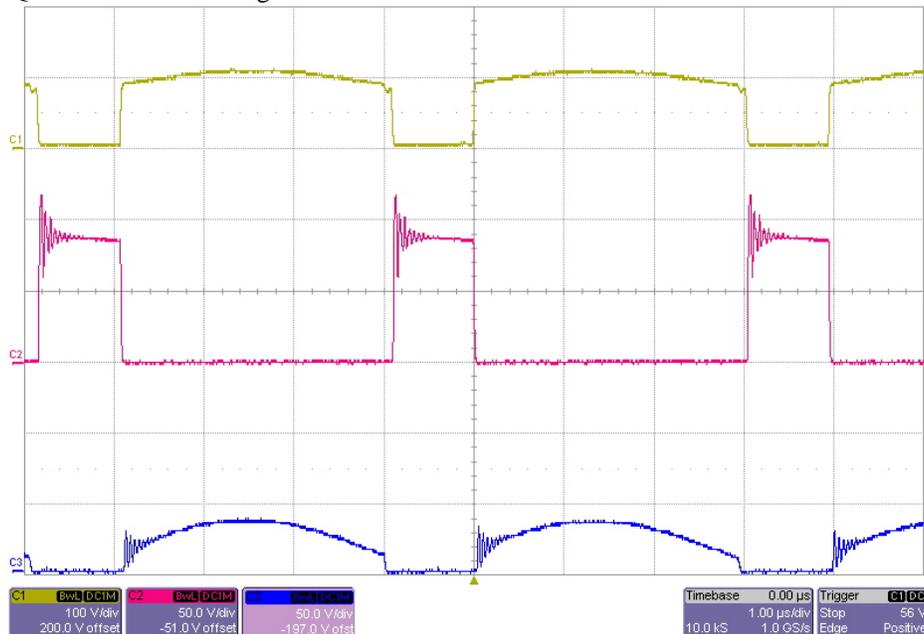


### 8.2 75V Input

The input voltage was set to 75V, and the output was loaded with 4A.

Ch 1: Q4 & Q5 Drain-Source Voltage 100V/div  
Ch 3: Q2 Drain-Source Voltage 50V/div

Ch 2: Q1 Drain-Source Voltage 50V/div



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