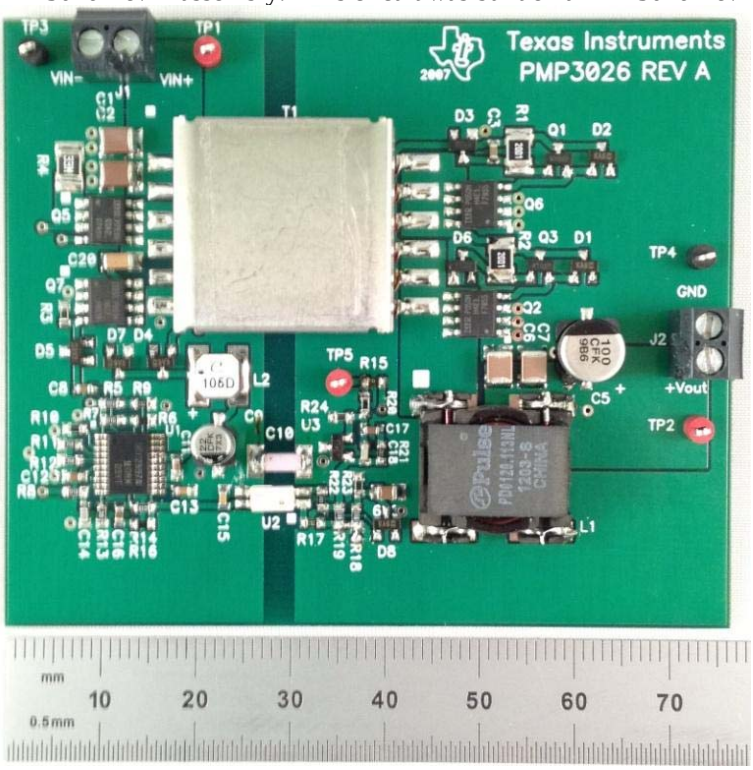
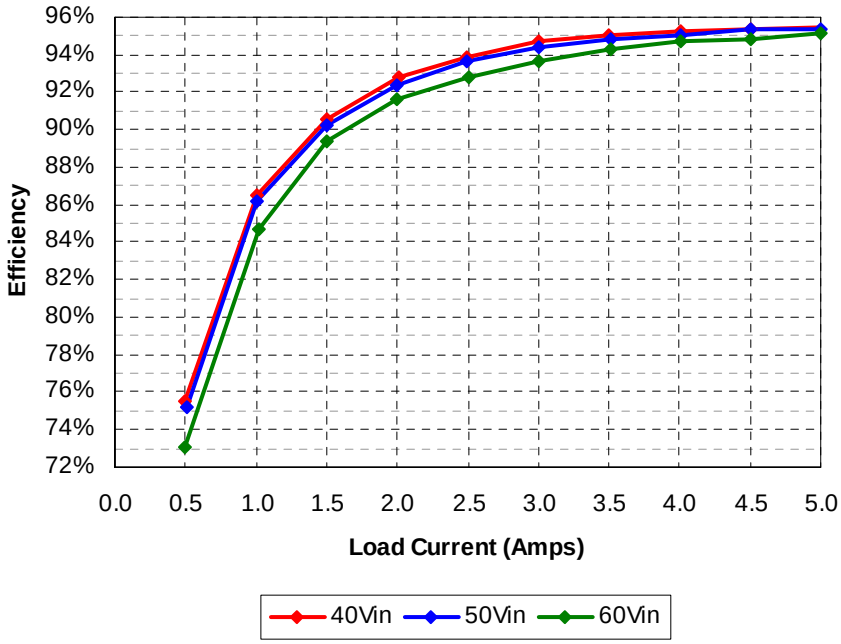
1 Photo

The photo below shows the PMP3026 Rev B assembly. This circuit was built on a PMP3026 Rev A PCB.



2 Efficiency



PMP3026 Rev B Test Results

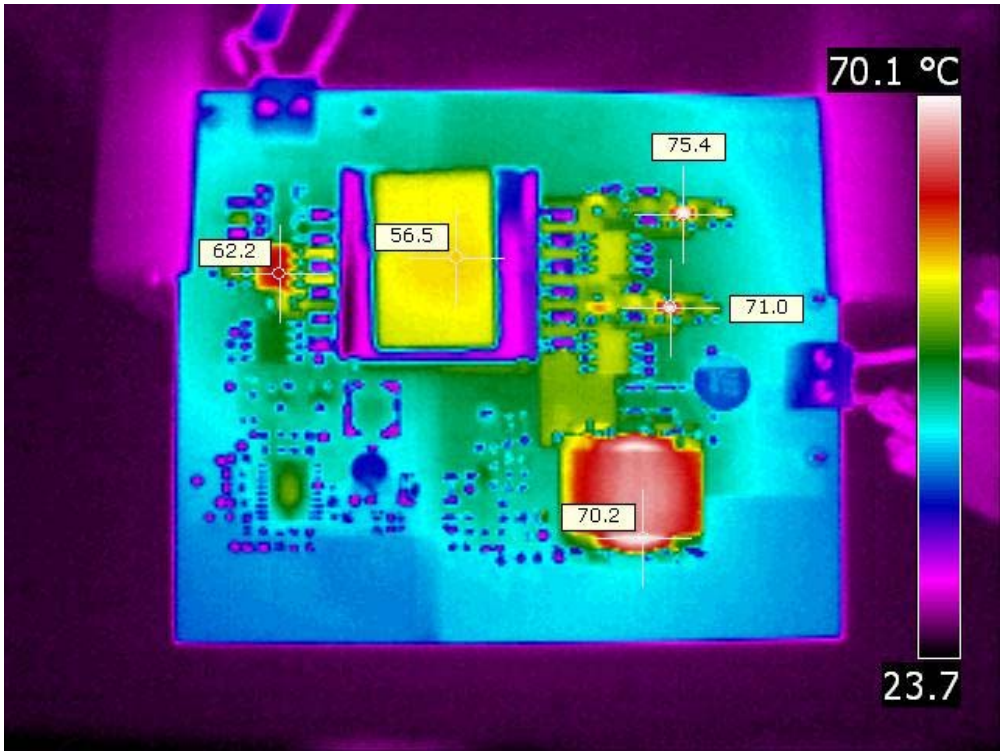
Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	12.03	40.0	0.051	0.00	2.040	0.0%
0.500	12.03	40.0	0.199	6.02	1.945	75.6%
1.009	12.03	40.0	0.351	12.14	1.902	86.5%
1.500	12.03	40.0	0.498	18.05	1.875	90.6%
2.016	12.03	40.0	0.653	24.25	1.868	92.9%
2.498	12.03	40.0	0.800	30.05	1.949	93.9%
3.005	12.03	40.0	0.954	36.15	2.010	94.7%
3.504	12.02	40.0	1.108	42.12	2.202	95.0%
4.012	12.02	40.0	1.265	48.22	2.376	95.3%
4.50	12.02	40.0	1.418	54.09	2.630	95.4%
5.01	12.01	40.0	1.576	60.17	2.870	95.4%

Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	12.03	50.0	0.042	0.00	2.100	0.0%
0.503	12.03	50.0	0.161	6.05	1.999	75.2%
1.007	12.03	50.0	0.281	12.11	1.936	86.2%
1.500	12.03	50.0	0.400	18.05	1.955	90.2%
2.004	12.03	50.0	0.522	24.11	1.992	92.4%
2.498	12.03	50.0	0.642	30.05	2.049	93.6%
3.005	12.03	50.0	0.766	36.15	2.150	94.4%
3.516	12.03	50.0	0.892	42.30	2.303	94.8%
4.006	12.02	50.0	1.013	48.15	2.498	95.1%
4.50	12.02	50.0	1.134	54.09	2.610	95.4%
5.00	12.02	50.0	1.260	60.10	2.900	95.4%

Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	12.03	60.0	0.038	0.00	2.280	0.0%
0.499	12.03	60.0	0.137	6.00	2.217	73.0%
1.014	12.03	60.0	0.240	12.20	2.202	84.7%
1.502	12.03	60.0	0.337	18.07	2.151	89.4%
2.001	12.03	60.0	0.438	24.07	2.208	91.6%
2.500	12.03	60.0	0.540	30.08	2.325	92.8%
3.003	12.03	60.0	0.643	36.13	2.454	93.6%
3.513	12.03	60.0	0.747	42.26	2.559	94.3%
4.004	12.03	60.0	0.848	48.17	2.712	94.7%
4.50	12.02	60.0	0.951	54.09	2.970	94.8%
5.00	12.02	60.0	1.053	60.10	3.080	95.1%

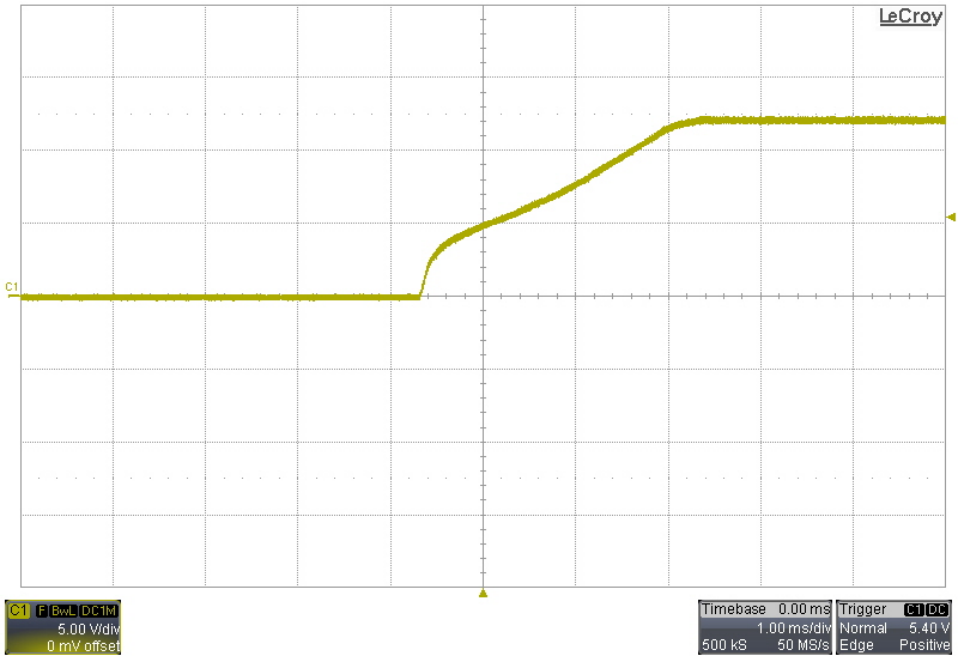
3 Thermal

The thermal image below show the circuit board with a 48V input and 5A load. The ambient temperature was 25C and there was no forced air flow.

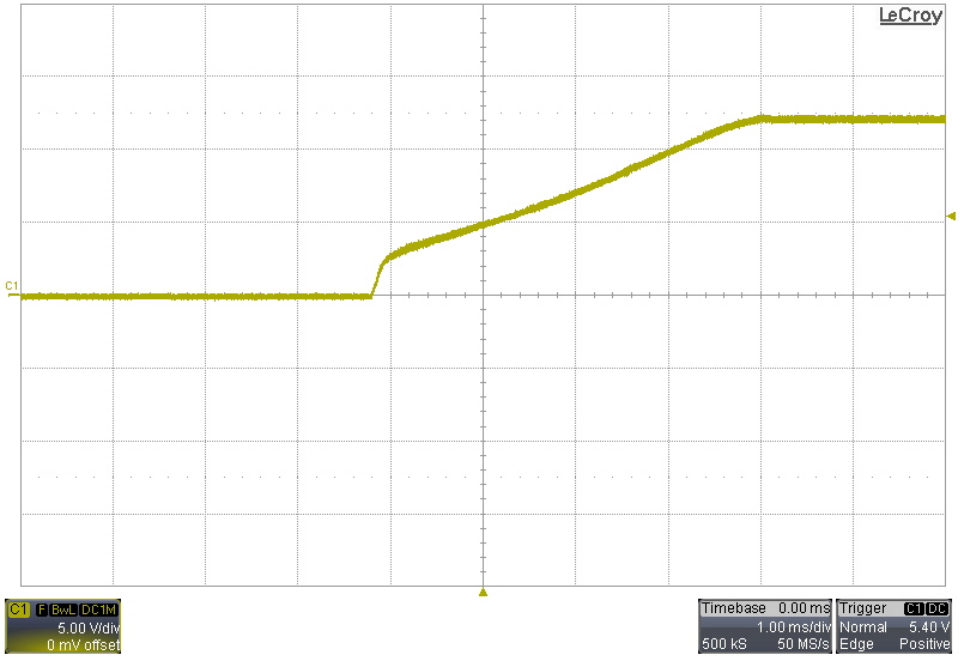


4 Startup

4.1 No Load

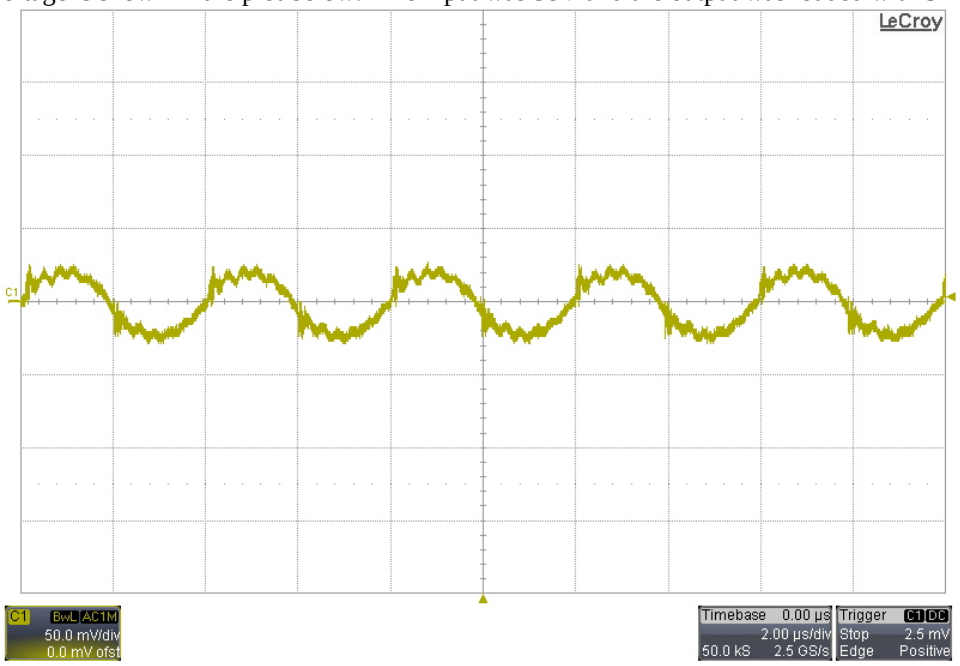


4.2 3Ω Load



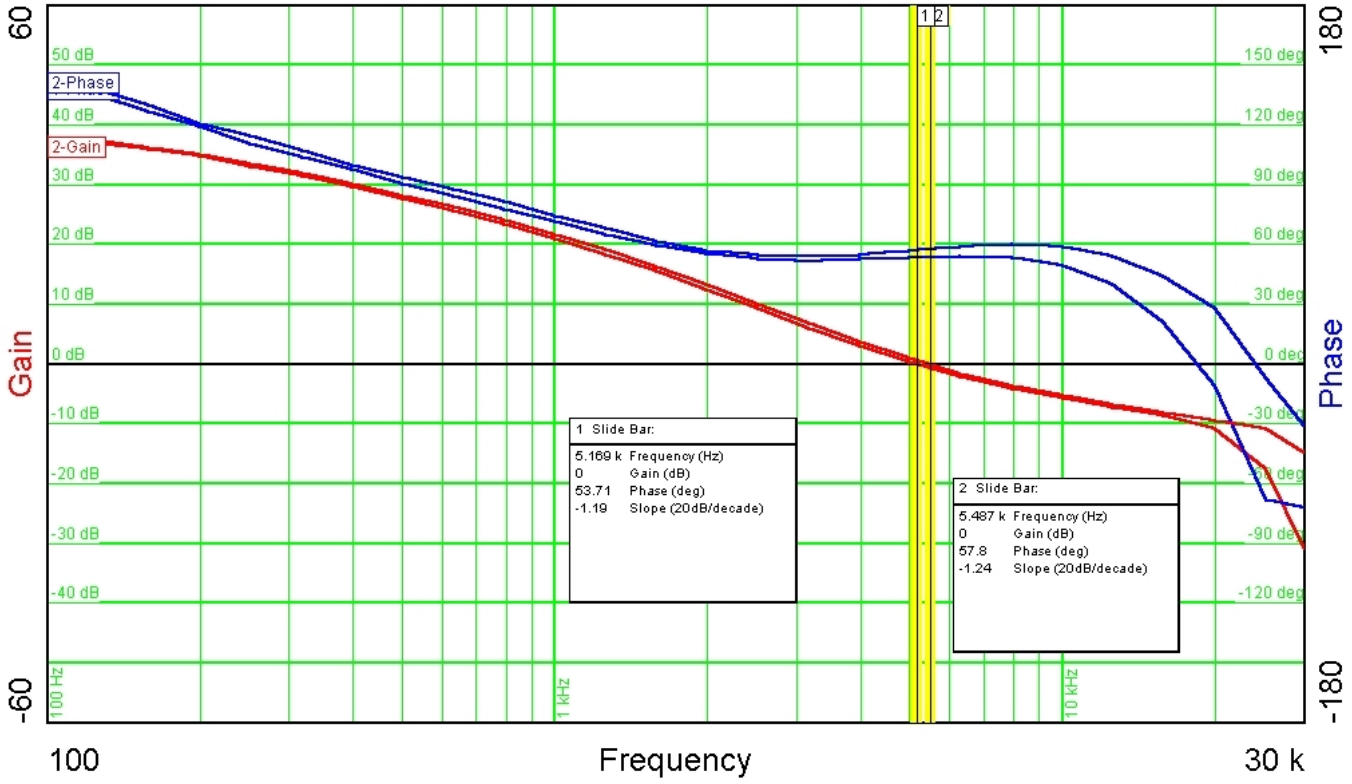
5 Output Ripple Voltage

The output ripple voltage is shown in the plot below. The input was 58V and the output was loaded with 5A.



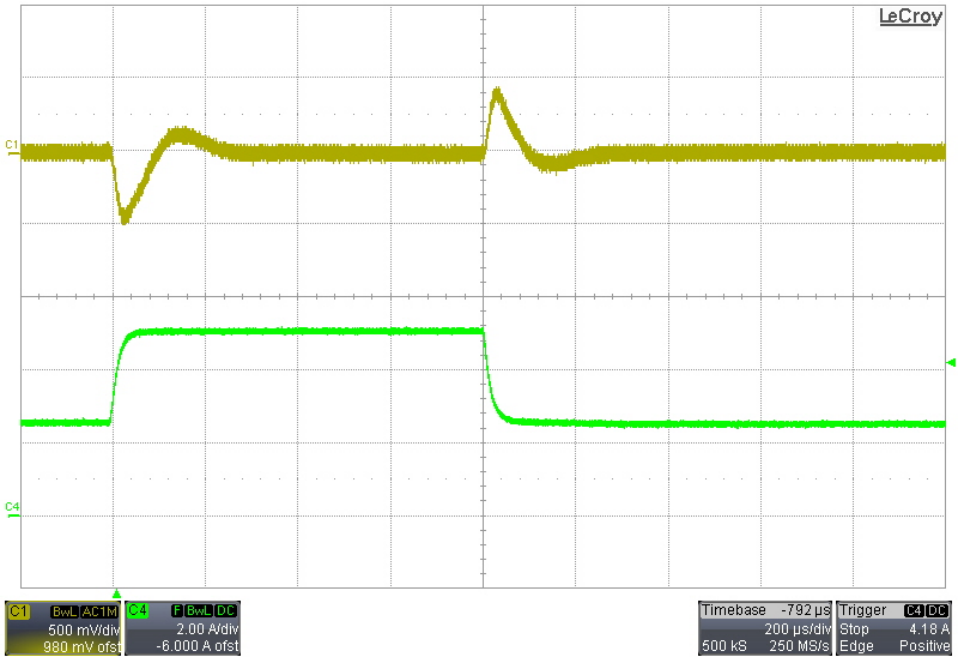
6 Frequency Response

The frequency response of the feedback loop is shown below. The input was set to 48V, and the output was loaded with 5A.



7 Load Transients

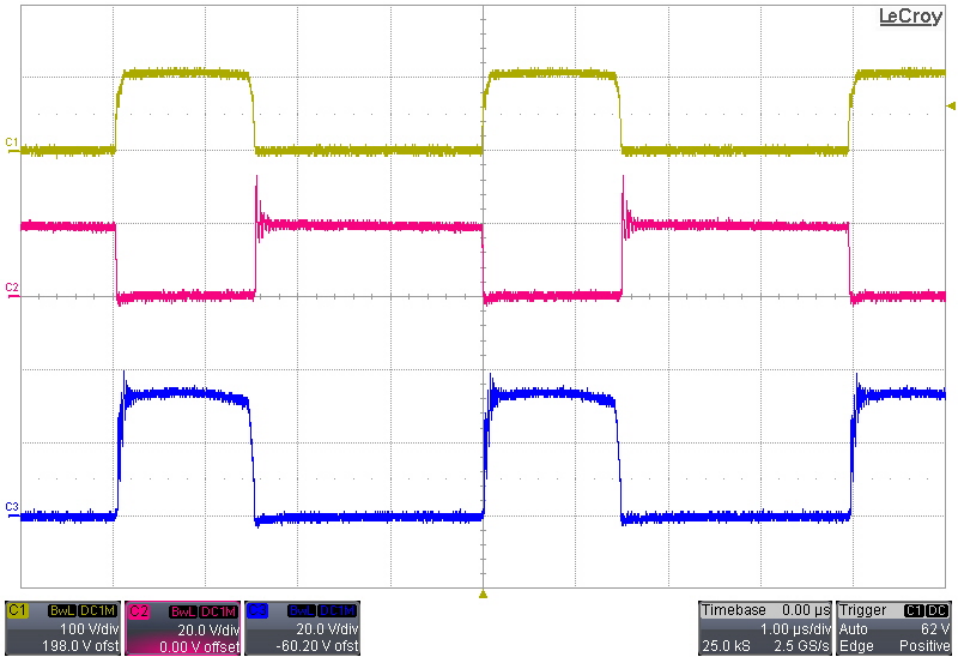
The response to a 2.5A to 5A load step is shown in the image below. Channel 1: Vout (ac coupled); Channel 4: Iout.



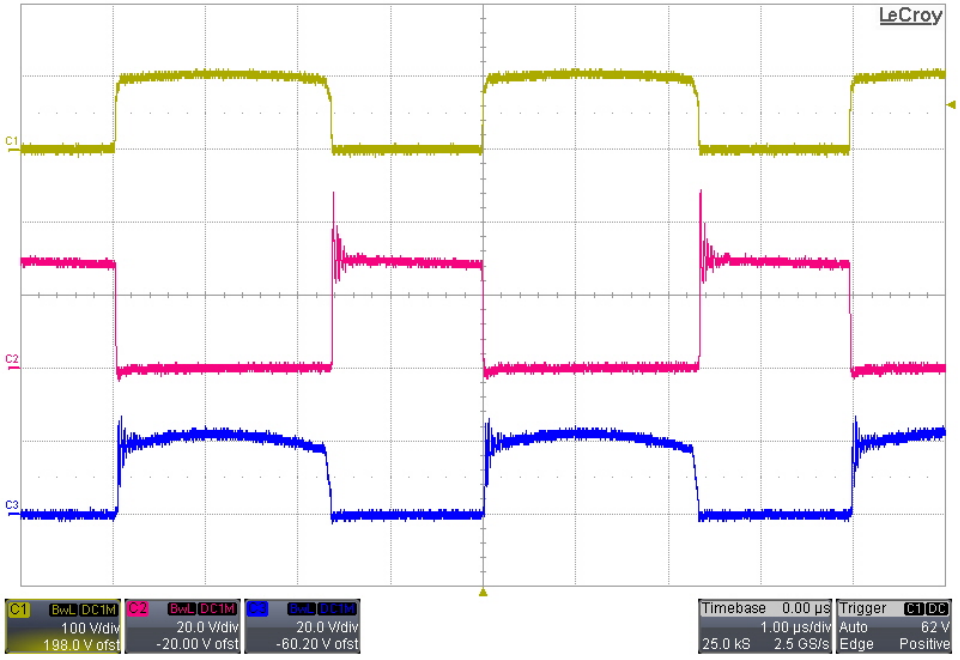
8 Switching Waveforms

The drain-to-source voltage waveforms of the power MOSFETs are shown in the image belows. These images were taken with a 48V input, and a 5A load. Channel 1: Q5 Vds; Channel 2: Q2 Vds; Channel 3: Q6 Vds.

8.1 40V Input



8.2 60V Input



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