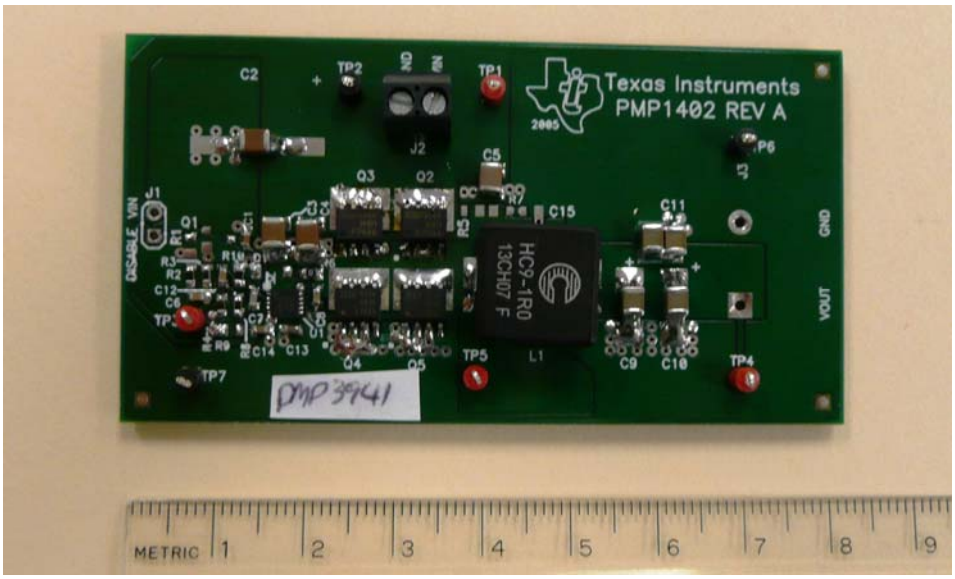
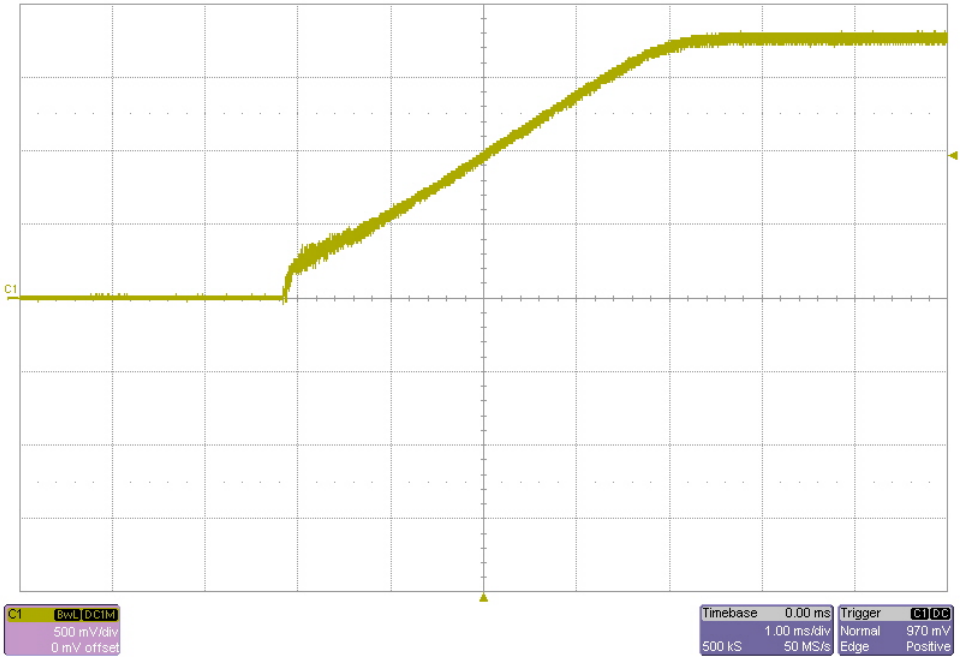
1 Photo

The photograph below shows the top view of the PMP3941 Rev B demo board. The circuit is built on a PMP1402 Rev A PWB.



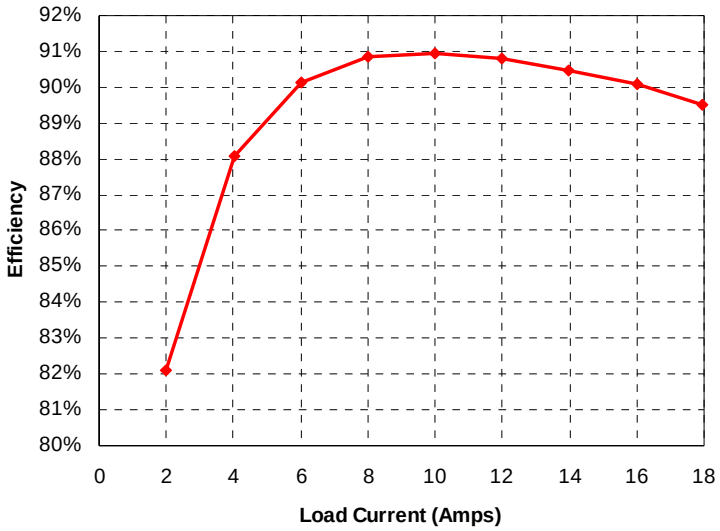
2 Startup

The output voltage at startup is shown in the image below.



3 Efficiency

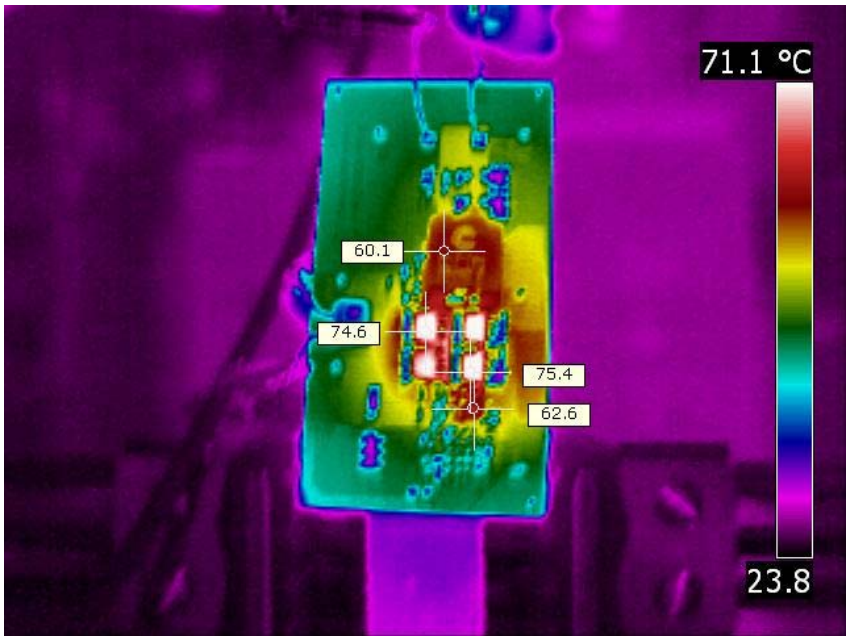
The efficiency data is shown in the tables and graph below.



Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	1.808	12.0	0.053	0.00	0.636	0.0%
2.007	1.807	12.0	0.368	3.63	0.789	82.1%
4.006	1.807	12.0	0.685	7.24	0.981	88.1%
6.00	1.806	12.0	1.002	10.84	1.188	90.1%
7.99	1.805	12.0	1.323	14.42	1.454	90.8%
10.00	1.804	12.0	1.653	18.04	1.796	90.9%
12.00	1.803	12.0	1.986	21.64	2.196	90.8%
13.99	1.803	12.0	2.323	25.22	2.652	90.5%
16.01	1.802	12.0	2.669	28.85	3.178	90.1%
17.97	1.802	12.0	3.014	32.38	3.786	89.5%

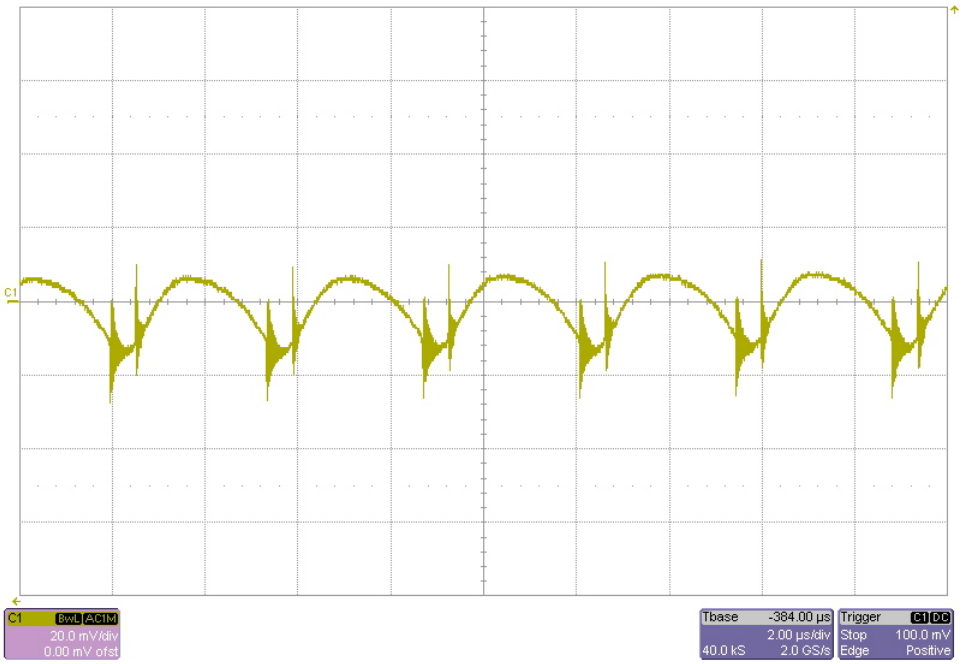
4 Thermal Image

A thermal image of the top side of the board is shown with an 18A load. The ambient temperature was 27ºC, with no forced air flow. The bottom MOSFET (Q4) was the hottest component on the board and measured 75.4ºC.



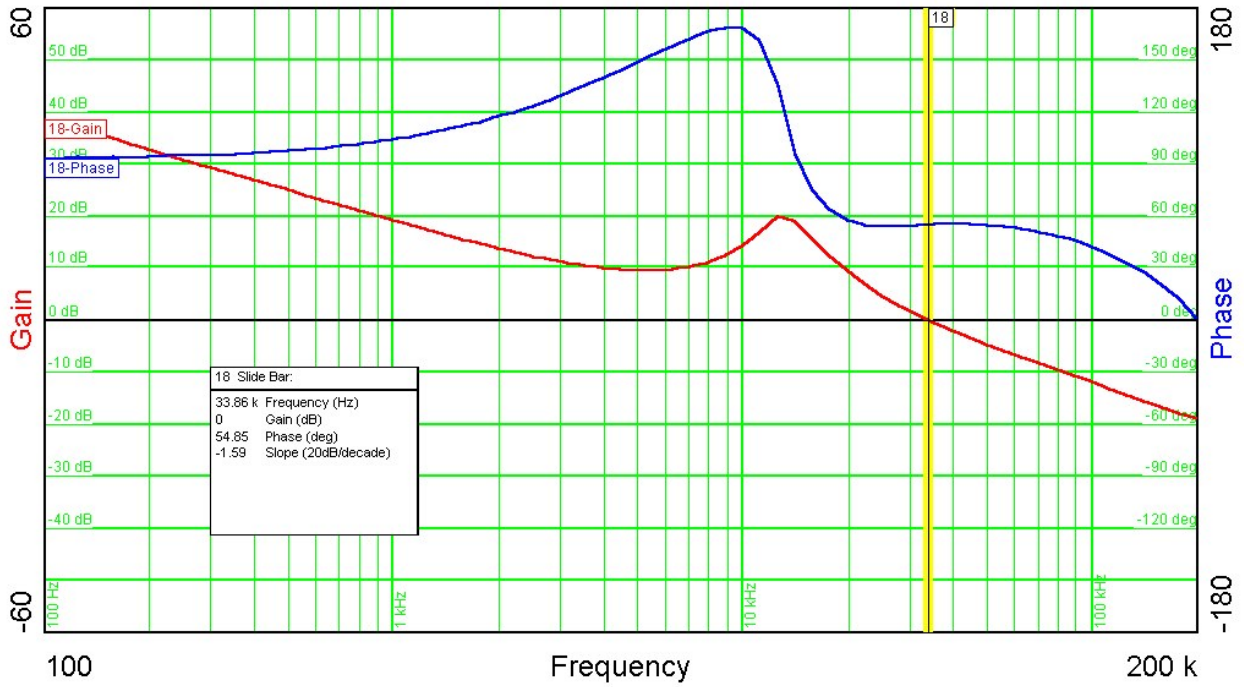
5 Output Ripple Voltage

The output ripple voltage is shown in the plot below. The input was set to 12Vand the load was set to 18A.



6 Frequency Response

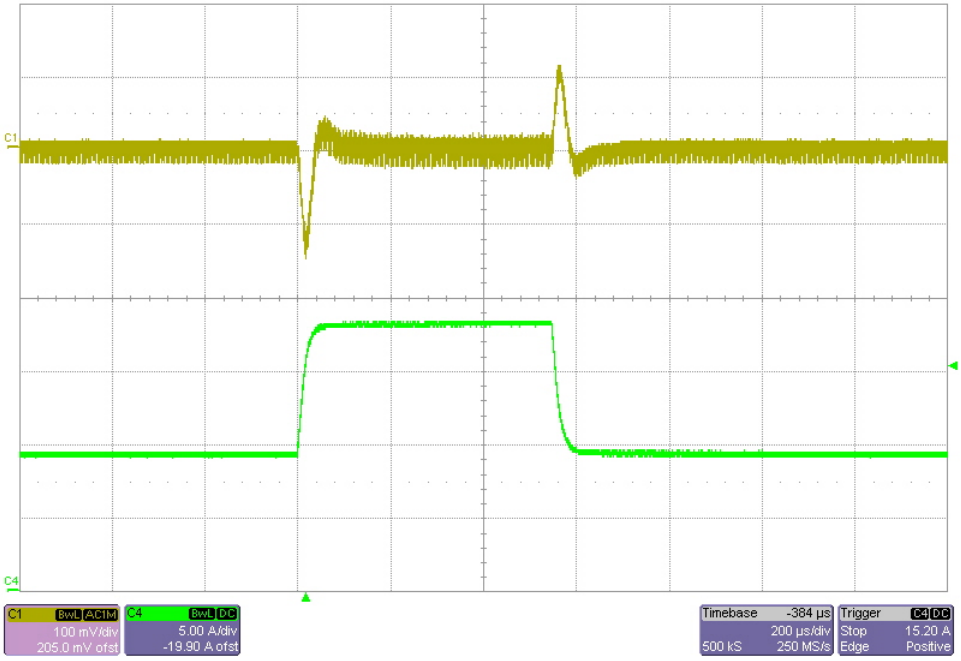
The frequency response of the feedback loop is shown below. The input was set to 12Vand the load was set to 18A.



7 Load Transients

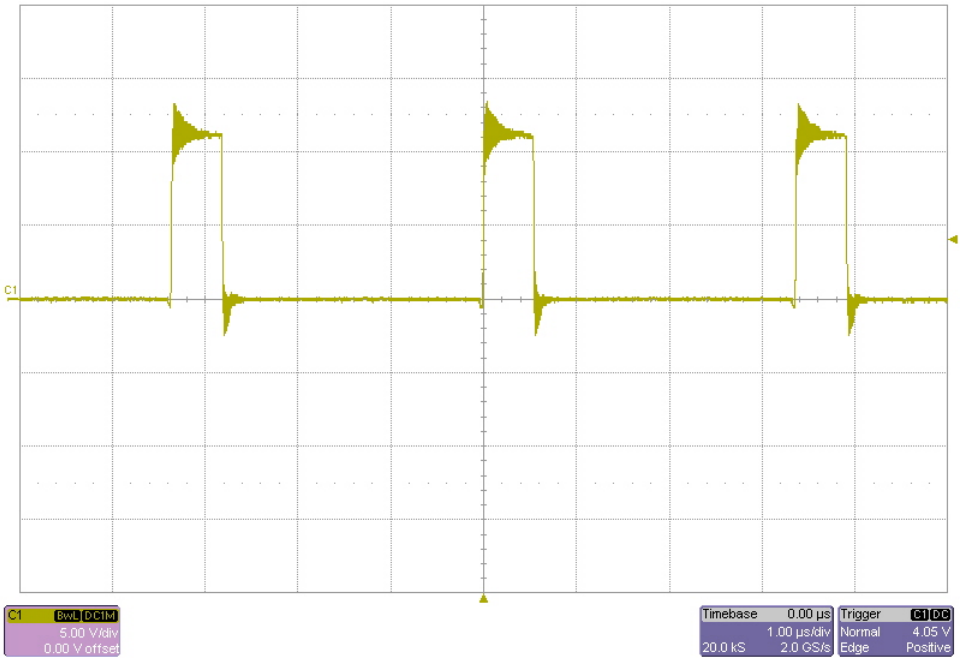
The image below shows the response to a 9A to 18A load transient with the input was set to 12V.

Channel 1: Output Voltage (ac coupled) 100mV/div Channel 4: Output Current 5A/div



8 Switching Waveform

The image below shows the voltage on TP5 with an 18A load.



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