PMP8866 Rev B Test Results

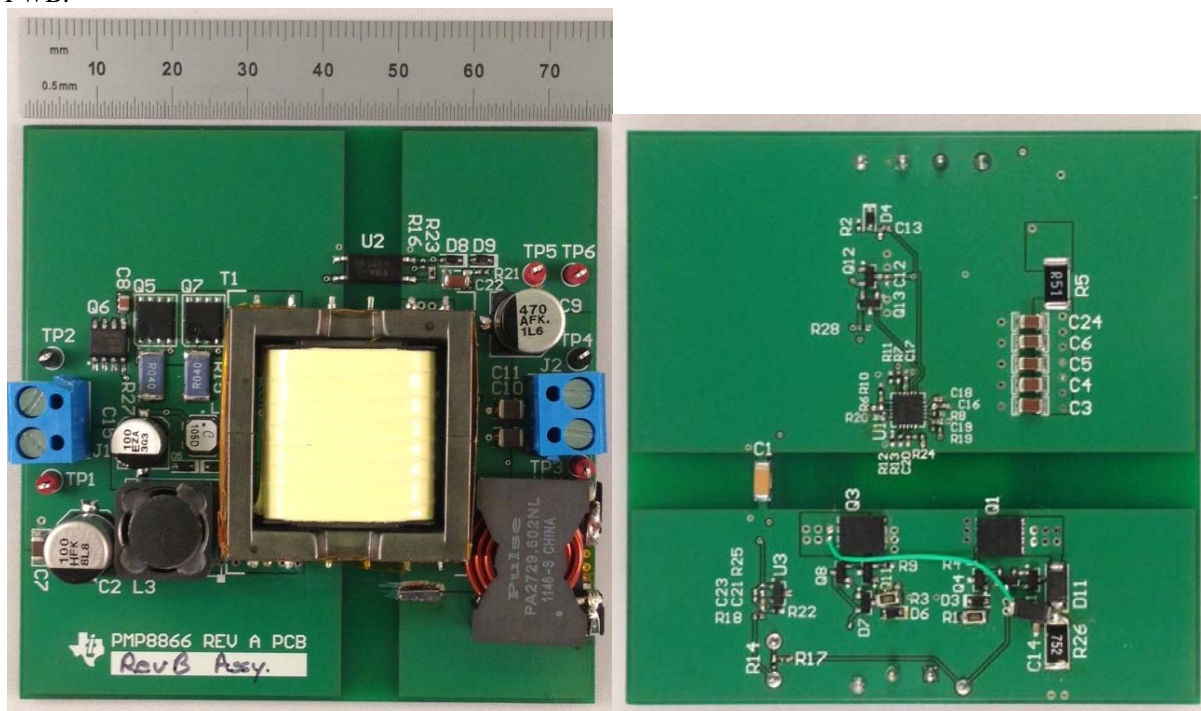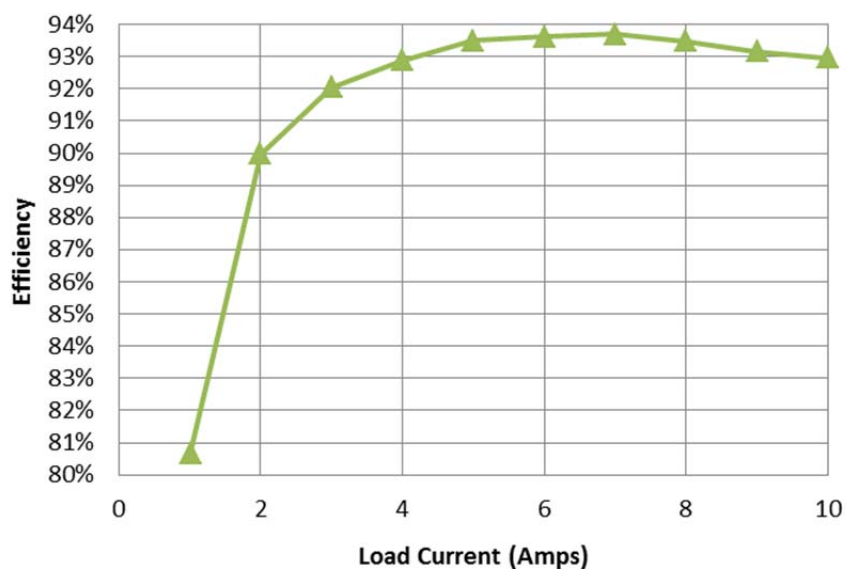![Texas Instruments logo]

1   Photo

The photographs below show the top and bottom views of the PMP8866 Rev B demo board. The circuit is built on a PMP8866 Rev A PWB.

2   Efficiency

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Iout	Vout	Vin	Iin	Pout	Losses	Efficiency
0.000	11.99	24.0	0.126	0.00	3.024	0.0%
1.011	11.99	24.0	0.626	12.12	2.902	80.7%
2.003	11.99	24.0	1.112	24.02	2.677	90.0%
3.003	11.99	24.0	1.630	36.01	3.114	92.0%
3.993	11.98	24.0	2.146	47.84	3.668	92.9%
5.003	11.98	24.0	2.671	59.94	4.168	93.5%
6.007	11.98	24.0	3.203	71.96	4.908	93.6%
7.00	11.98	24.0	3.729	83.86	5.636	93.7%
8.00	11.98	24.0	4.272	95.84	6.688	93.5%
9.00	11.98	24.0	4.822	107.82	7.908	93.2%
10.00	11.98	24.0	5.37	119.80	9.080	93.0%

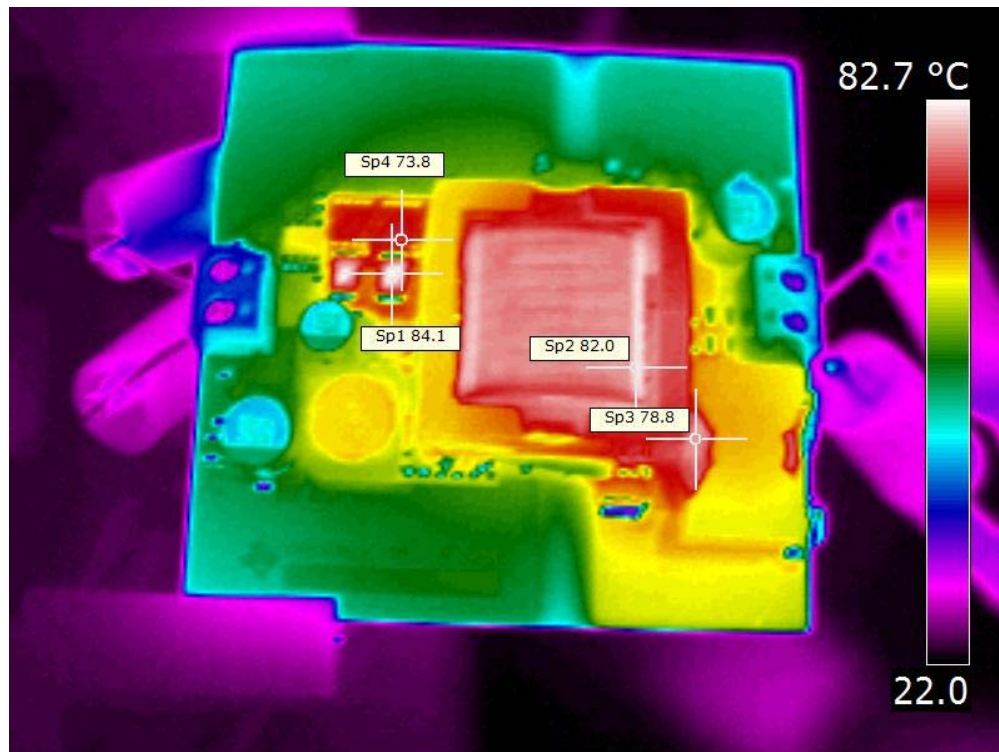## 3   Input Under-Voltage Lock-Out

The turn-on and turn-off input voltages were measured and recorded below.

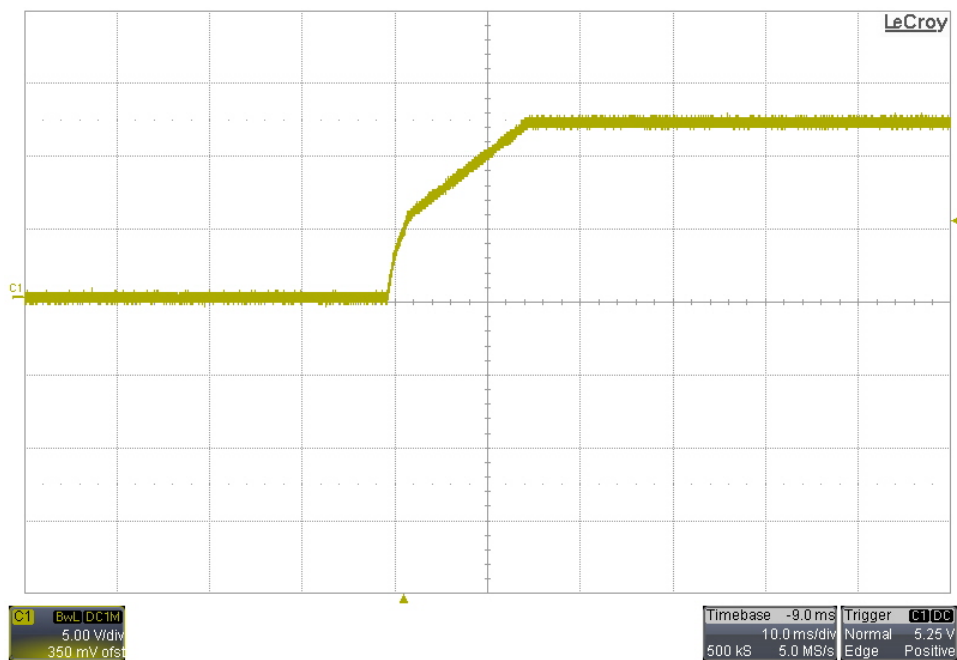| Turn-On	18.2 V
Turn-Off	17.8 V

4   Thermal Images

The ambient temperature was 25C with no forced air flow. The output was loaded with 10A. The input was 24V.
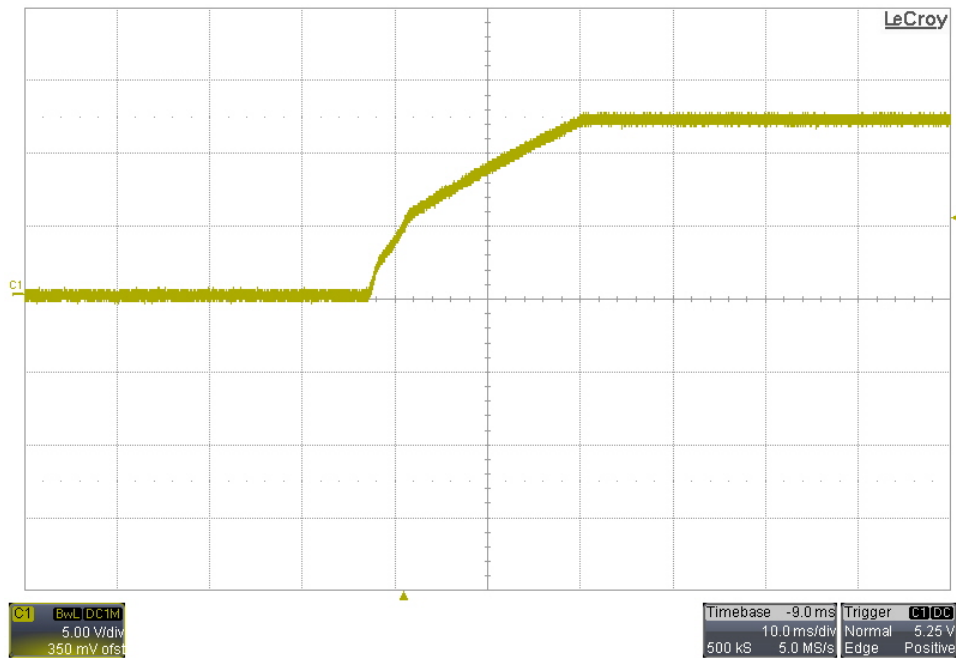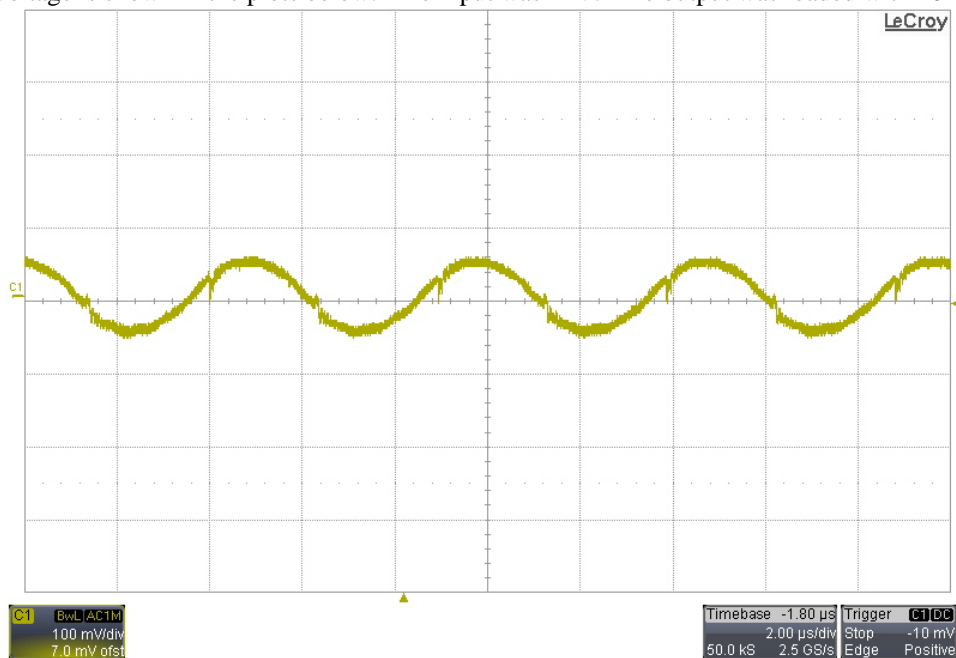
5   Startup – 24V Input, No Load

6 Startup – 24V Input, 1Ω Load
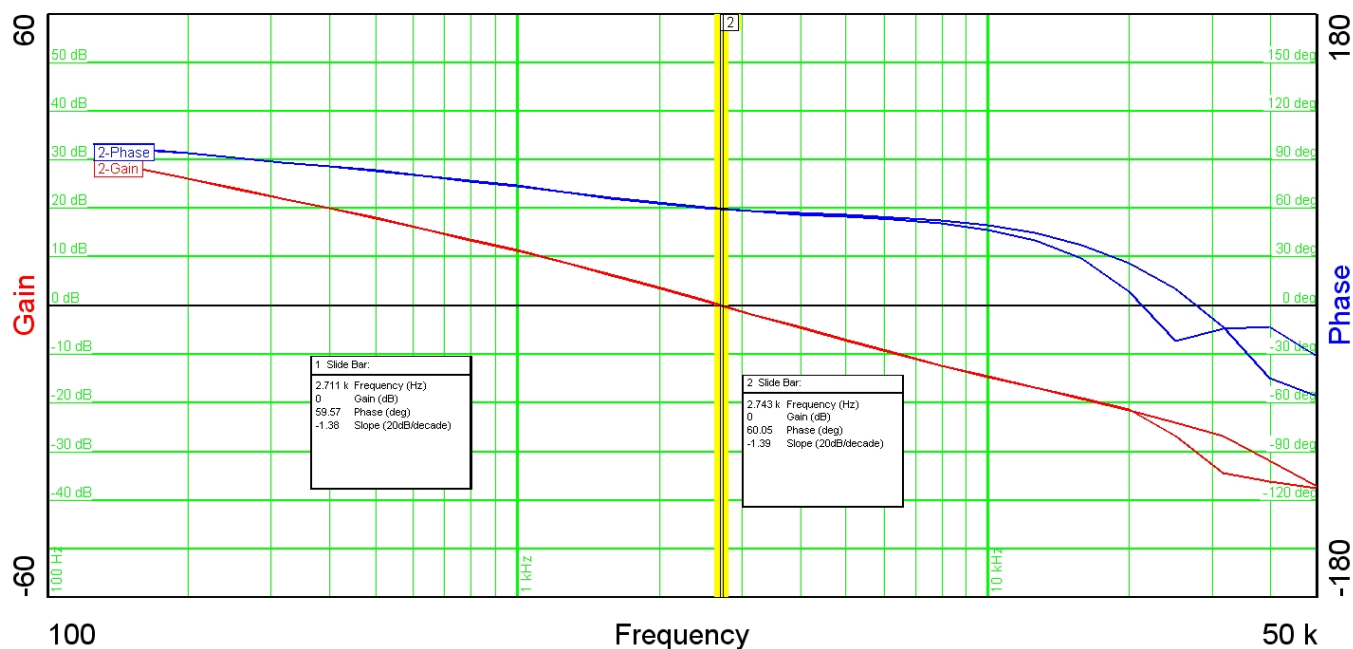

7 Output Ripple Voltage

The output ripple voltage is shown in the plots below. The input was 24V. The output was loaded with 10A.
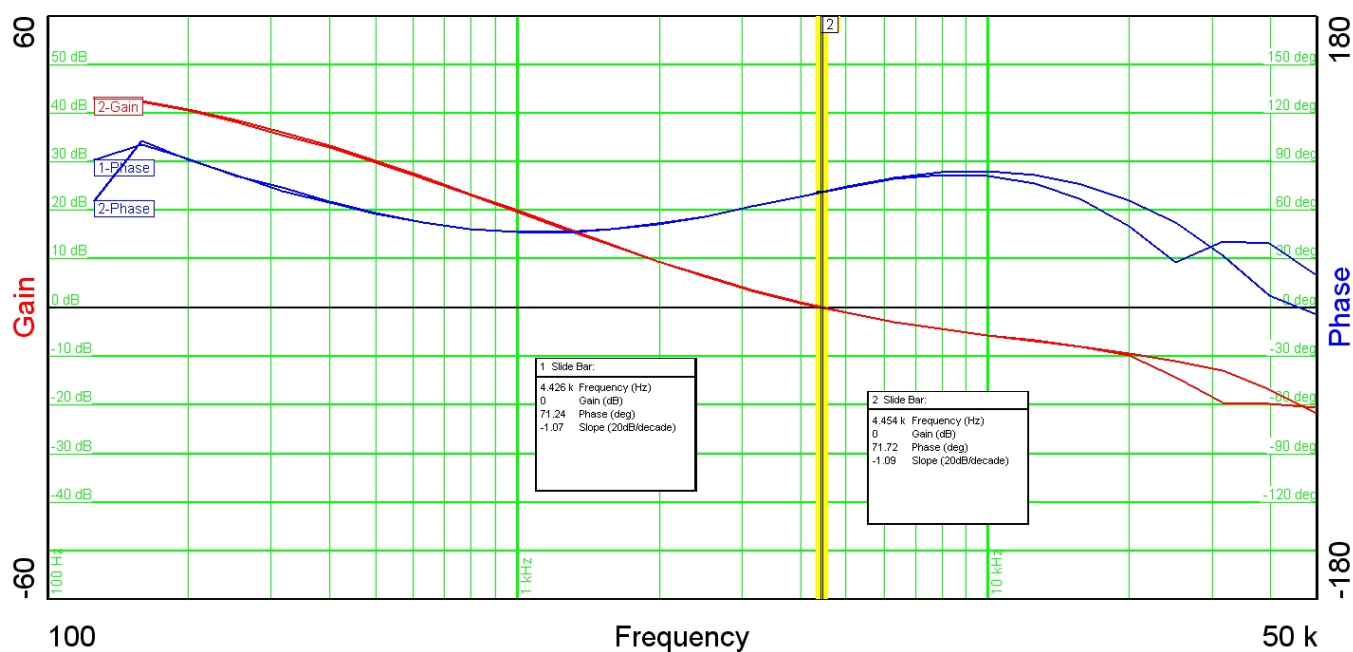
8 Frequency Response

The frequency response of the feedback loop is shown below. For the gain/phase plot #1, the input was set to 19V. For the gain/phase plot #2, the input was set to 30V. The output was loaded with 10A.
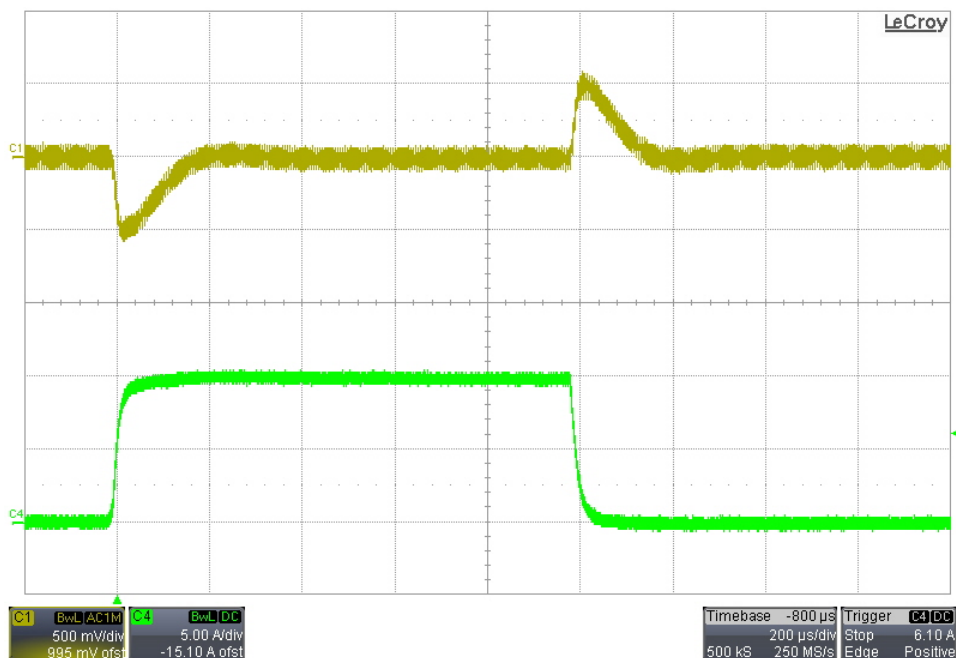
8.1 Measured Across R14

8.2 Measured Across R17
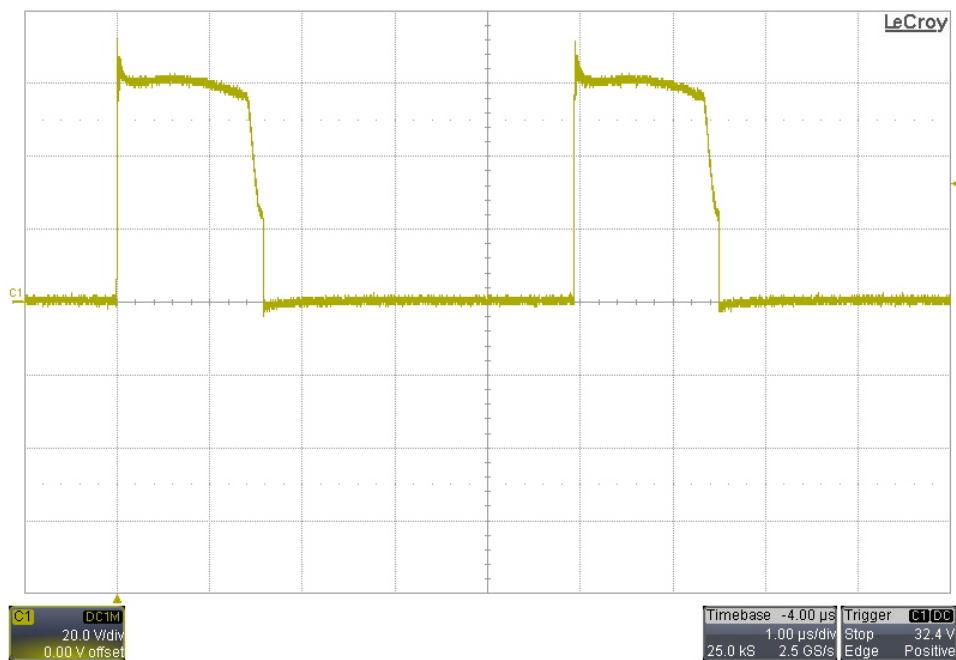
9 Load Transients

The response to a load step from 0A to 10A is shown in the images below. The input was 24V. Channel 1: Vout (ac coupled); Channel 4: Iout
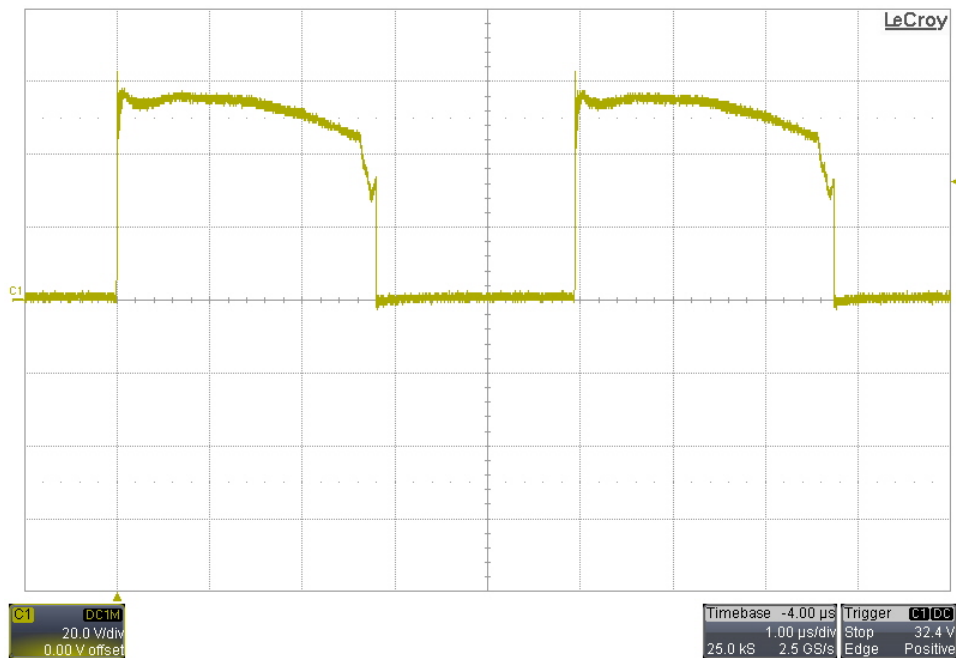

10 Switching Waveforms

For the images below show the output was loaded with 10A.

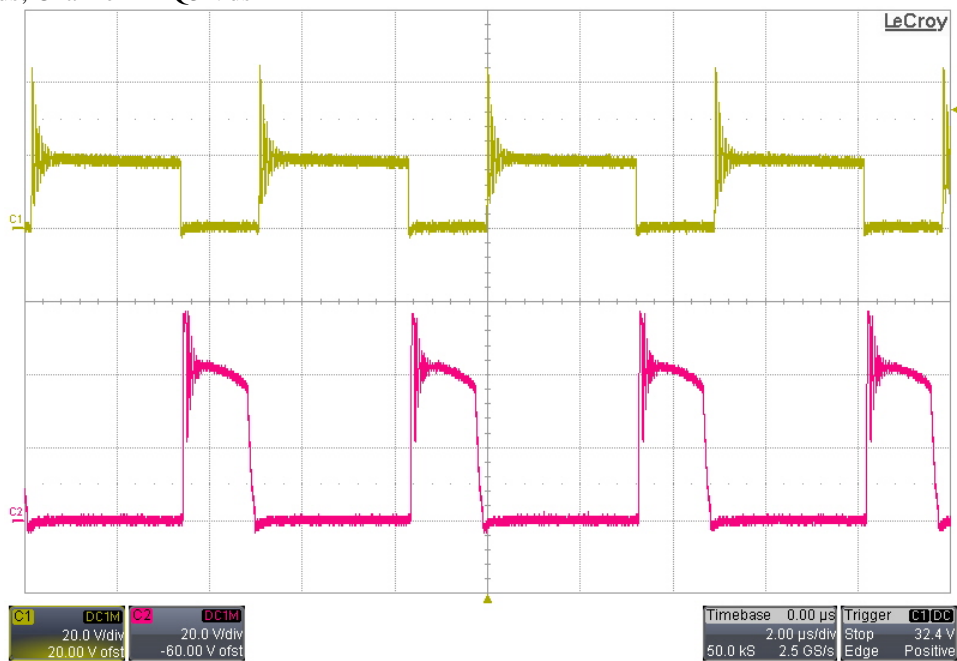### 10.1 Primary FETs (Q5 & Q7) Vds – 19V Input

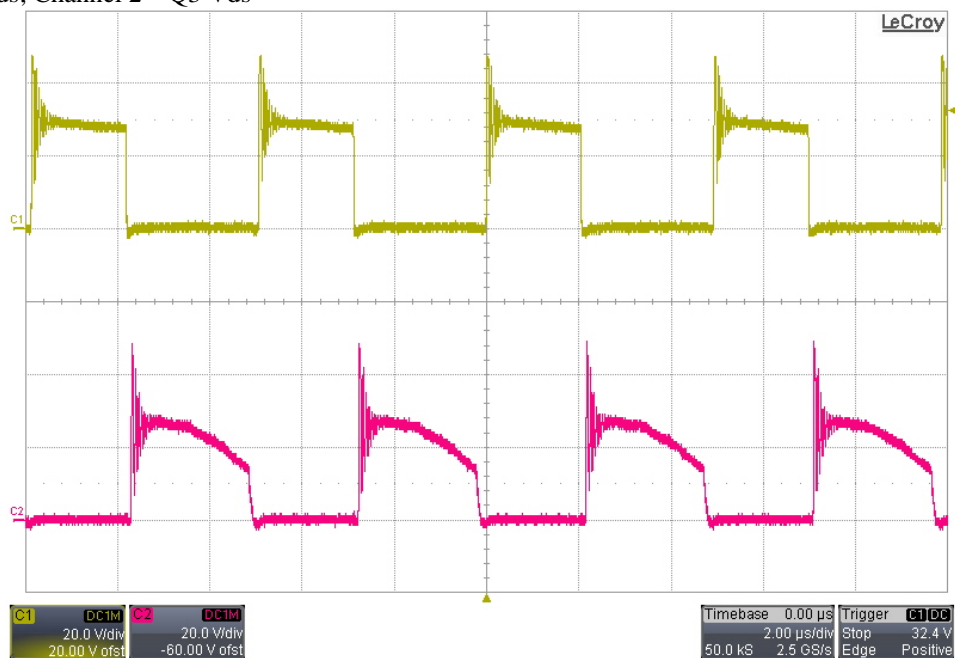## 10.2 Primary FETs (Q5 & Q7) Vds – 30V Input

10.3 Q1 & Q3 Synchronous FETs – 19V Input

Channel 1 – Q1 Vds; Channel 2 – Q3 Vds

10.4 Q1 & Q3 Synchronous FETs – 30V Input

Channel 1 – Q1 Vds; Channel 2 – Q3 Vds

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