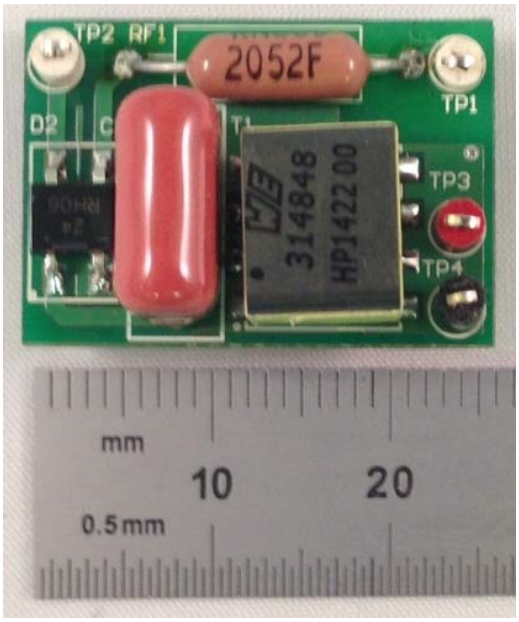
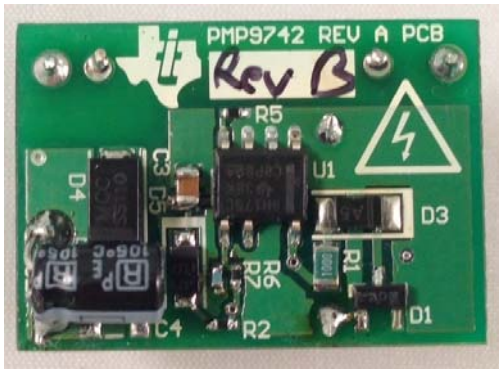
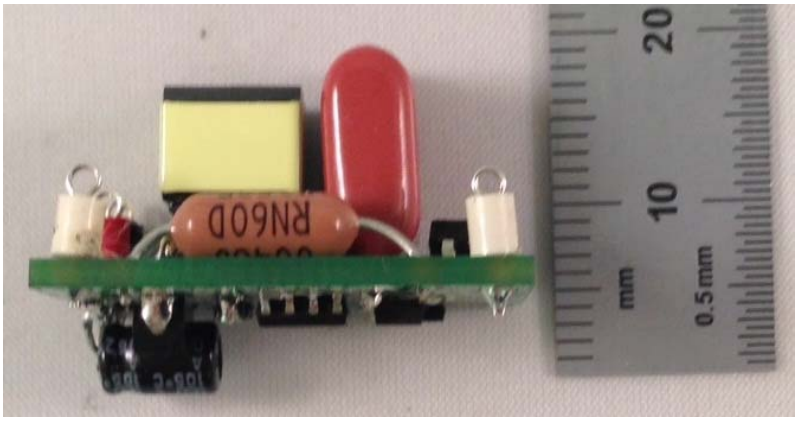
# 1 Photos

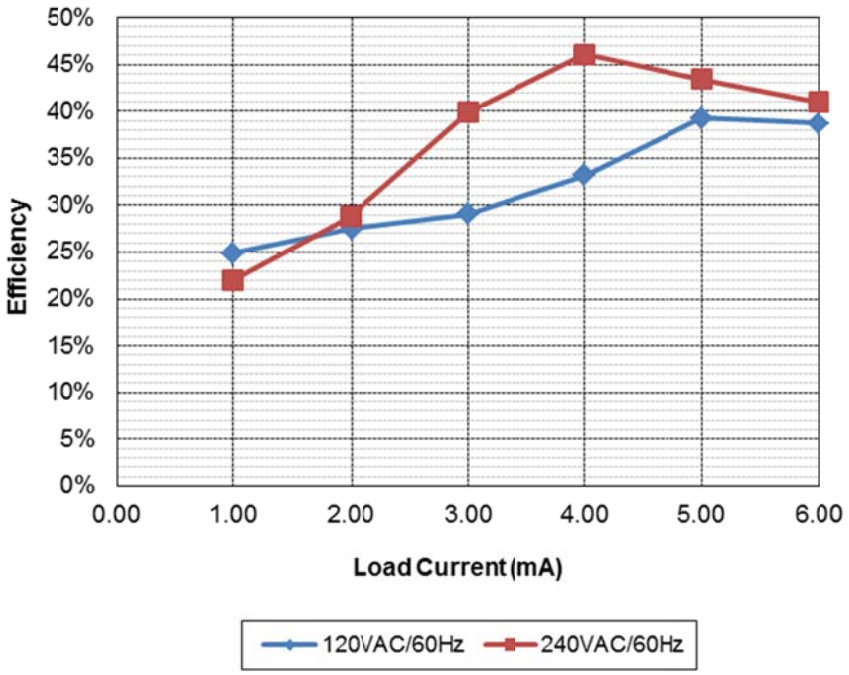
The photograph below shows the PMP9742 Rev B prototype assembly. This circuit was built on a PMP9742 Rev A PCB.



## 2 Efficiency



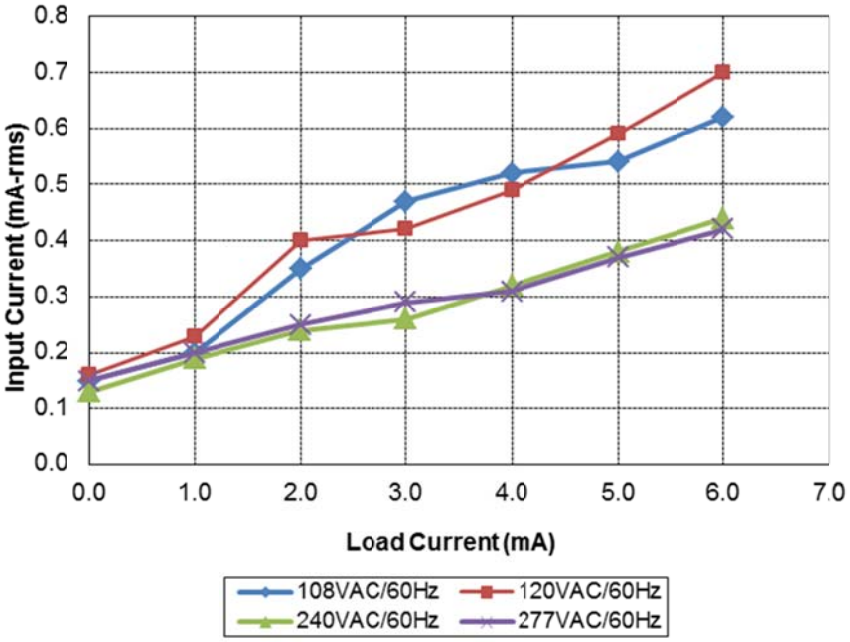

**120VAC/60Hz**

| Iout (mA) | Vout | Vin | Iin (mArms) | Pin (mW) | PF | Pout (mW) | Losses (mW) | Efficiency |
|---|---|---|---|---|---|---|---|---|
| 0.000 | 4.53 | 119.9 | 0.15 | 9 | | 0.00 | 9 | 0.0% |
| 1.00 | 3.73 | 119.9 | 0.20 | 15 | 0.56 | 3.73 | 11 | 24.9% |
| 2.00 | 3.71 | 119.9 | 0.35 | 27 | 0.62 | 7.42 | 20 | 27.5% |
| 3.00 | 3.68 | 119.9 | 0.47 | 38 | 0.68 | 11.04 | 27 | 29.1% |
| 4.00 | 3.65 | 119.9 | 0.52 | 44 | 0.71 | 14.60 | 29 | 33.2% |
| 5.00 | 3.61 | 119.9 | 0.54 | 46 | 0.73 | 18.05 | 28 | 39.2% |
| 6.00 | 3.61 | 119.9 | 0.62 | 56 | 0.72 | 21.66 | 34 | 38.7% |

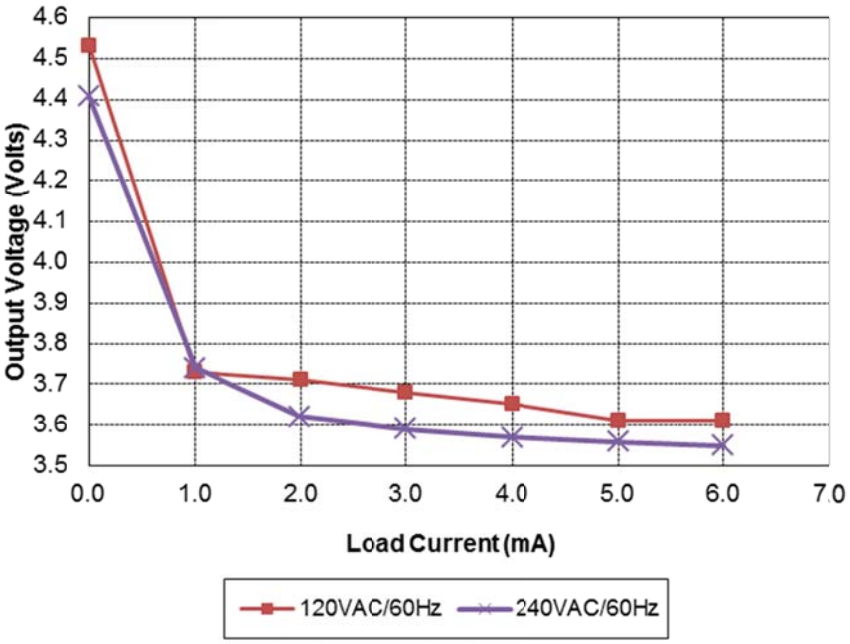
**240VAC/60Hz**

| Iout (mA) | Vout | Vin | Iin (mArms) | Pin (mW) | PF | Pout (mW) | Losses (mW) | Efficiency |
|---|---|---|---|---|---|---|---|---|
| 0.000 | 4.41 | 239.7 | 0.13 | 4 | | 0.00 | 4 | 0.0% |
| 1.00 | 3.74 | 239.7 | 0.19 | 17 | 0.34 | 3.74 | 13 | 22.0% |
| 1.99 | 3.62 | 239.7 | 0.24 | 25 | 0.46 | 7.20 | 18 | 28.8% |
| 3.00 | 3.59 | 239.7 | 0.26 | 27 | 0.43 | 10.77 | 16 | 39.9% |
| 4.00 | 3.57 | 239.7 | 0.32 | 31 | 0.40 | 14.28 | 17 | 46.1% |
| 5.00 | 3.56 | 239.7 | 0.38 | 41 | 0.46 | 17.80 | 23 | 43.4% |
| 6.00 | 3.55 | 239.7 | 0.44 | 52 | 0.51 | 21.30 | 31 | 41.0% |

## 3 Input Current



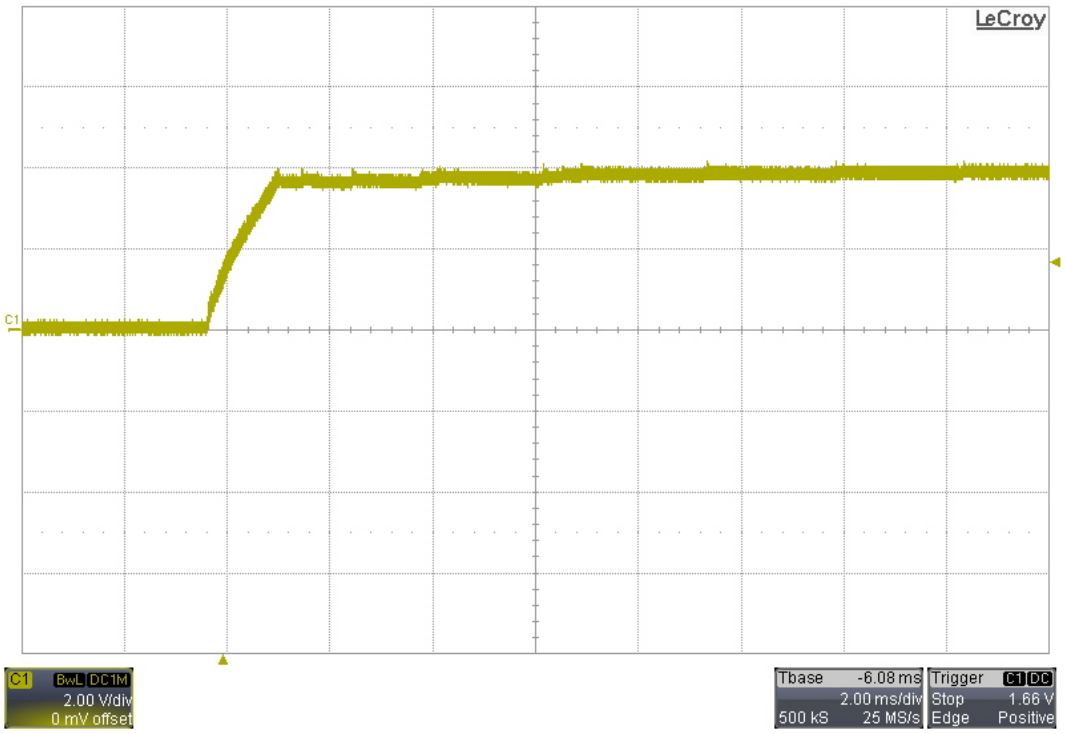

## 4 Load Regulation



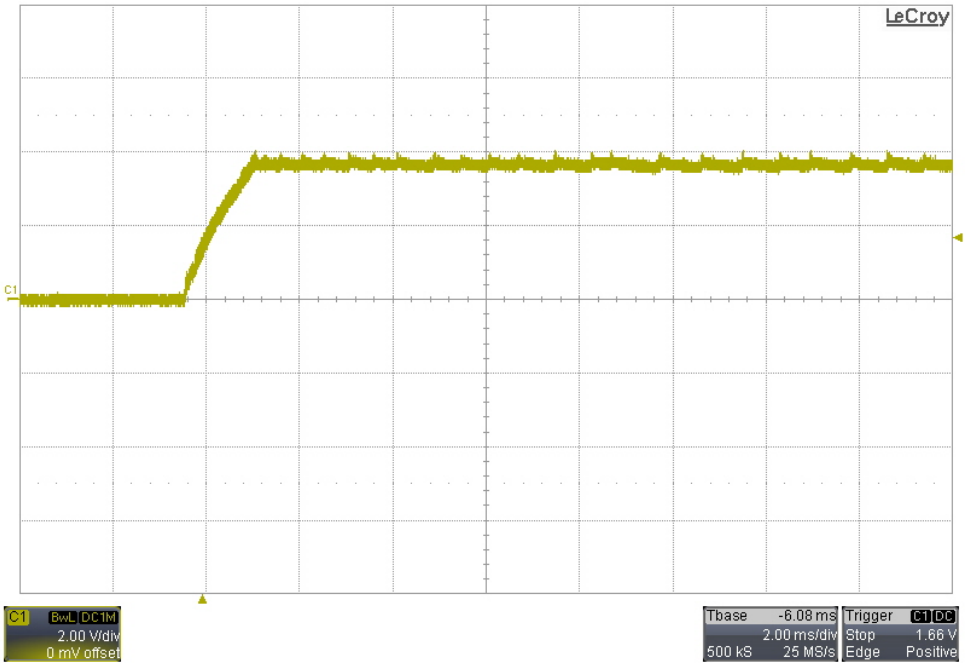
# 5 Startup

Channel 1 shows the AC input voltage. Channel 2 shows the output voltage.

## 5.1 120VAC/60Hz Startup – 0A Load



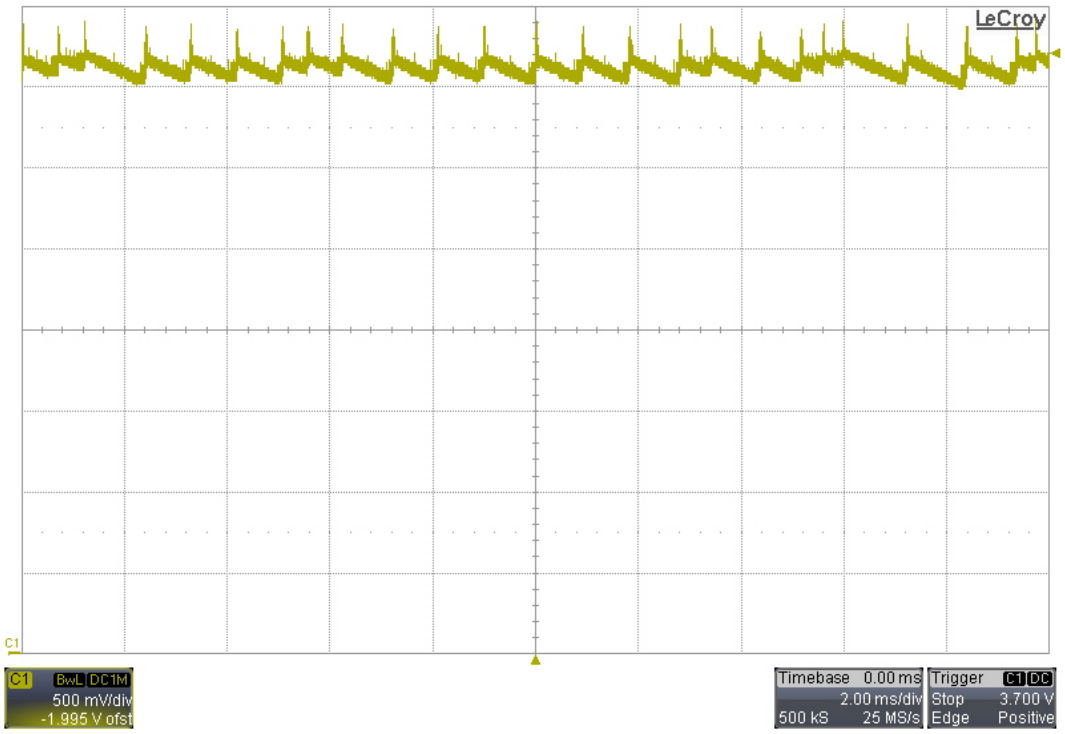

## 5.2 240VAC/60Hz Startup – 600Ω Load



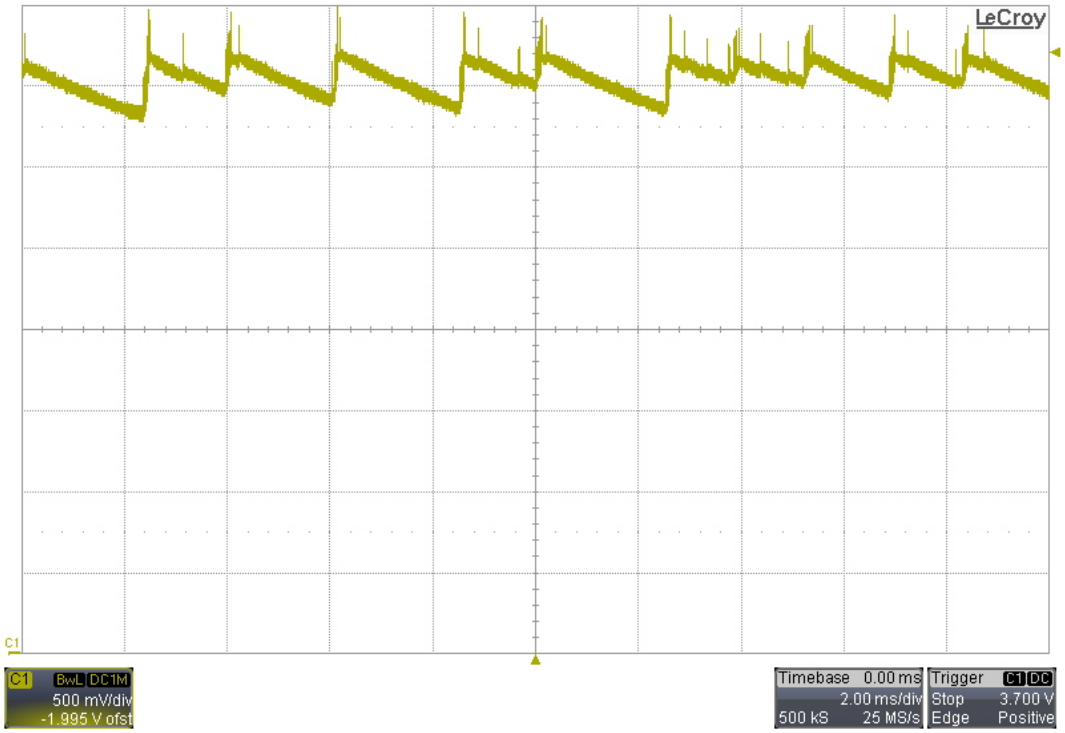
# 6 Output Ripple Voltage

The output was loaded with 5mA.

## 6.1 108VAC/60Hz Output Ripple Voltage




## 6.2 277VAC/60Hz Output Ripple Voltage

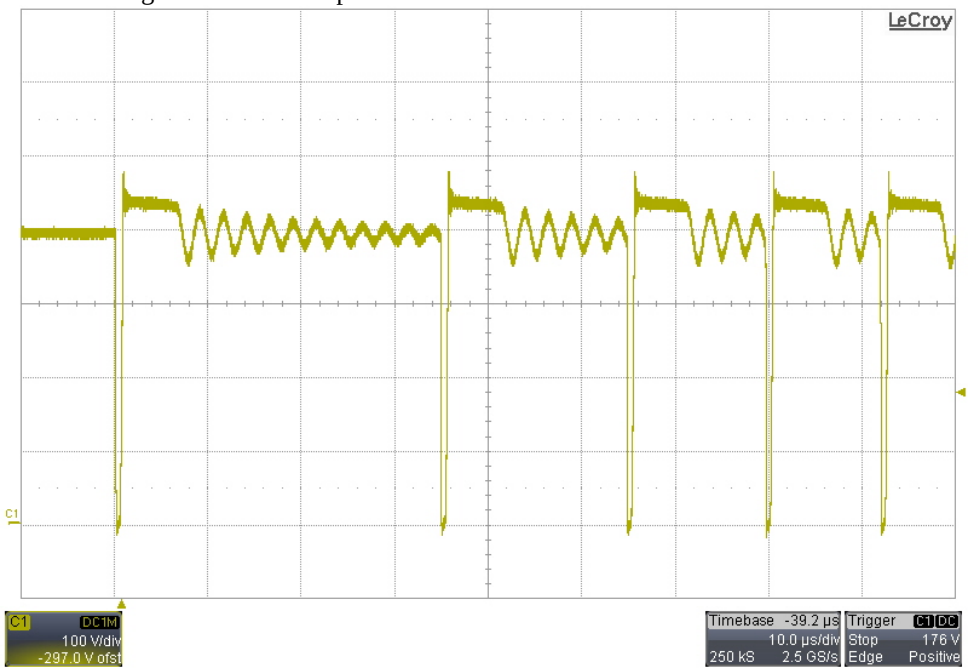


# 7 Switching Waveforms

The images below show the voltage waveforms on the switching devices within the supply. The input was 277VAC/60Hz. The output was loaded 5mA.

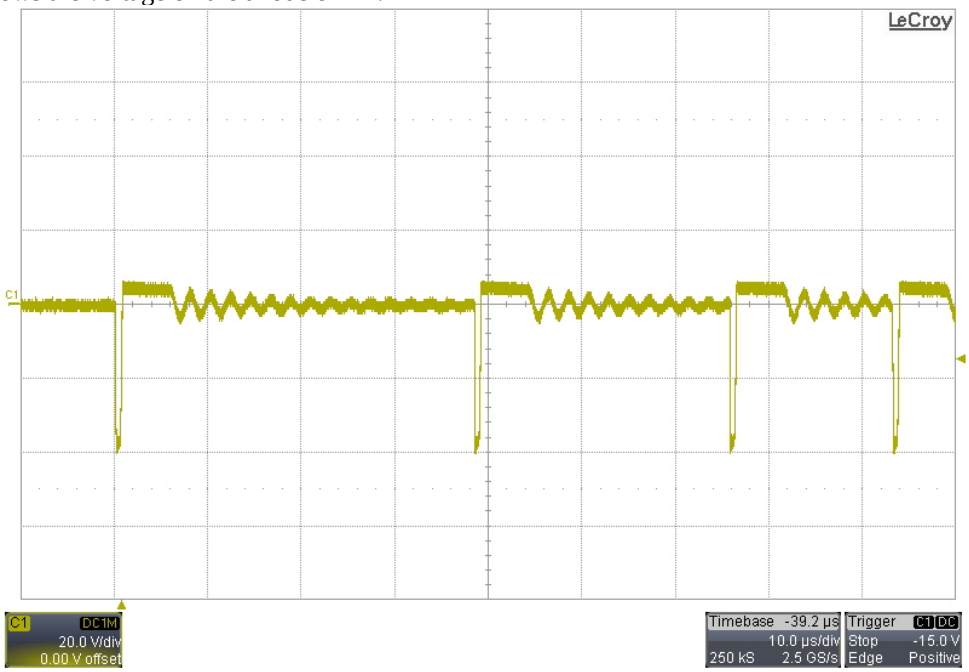
## 7.1 Primary Waveforms

The image below shows the voltage on the DRAIN pin of U1.




## 7.2 Secondary Waveforms

The image below shows the voltage on the anode of D4.



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