# PMP10847 REV A Test Results

![Texas Instruments]

## 1 Photos

Below is a photo of the PMP10847 Rev A demo board.
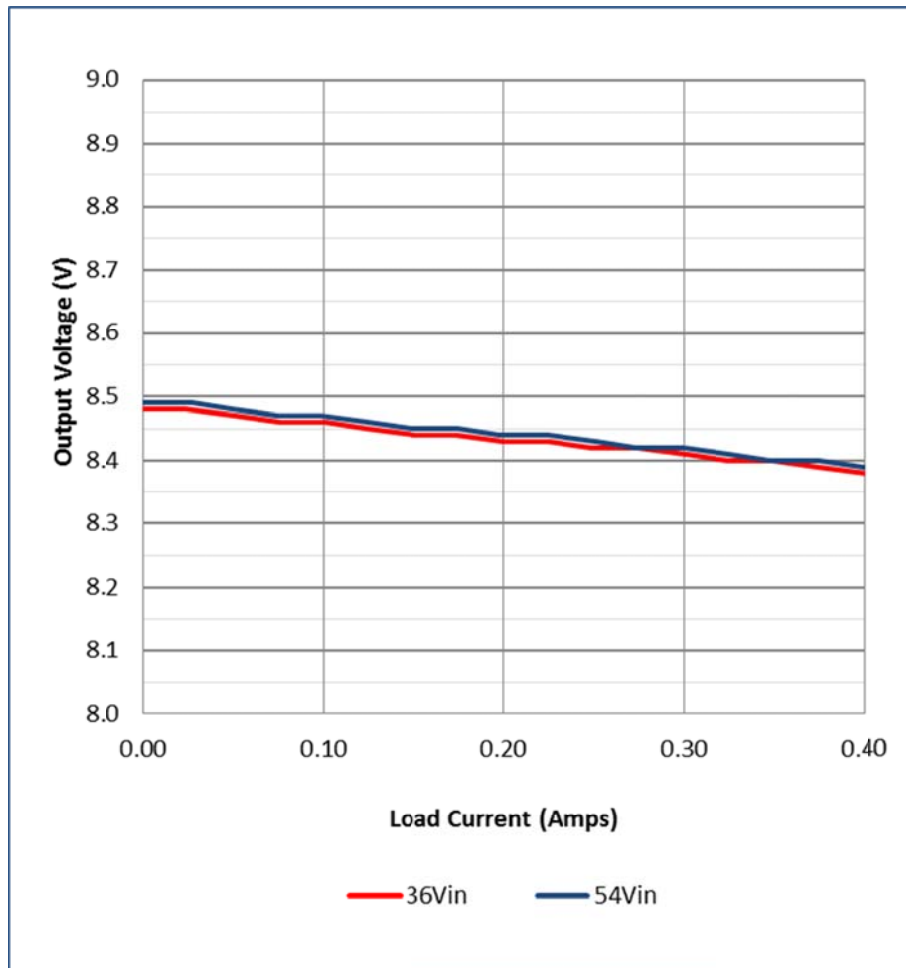


## 2 Efficiency



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# PMP10847 REV A Test Results

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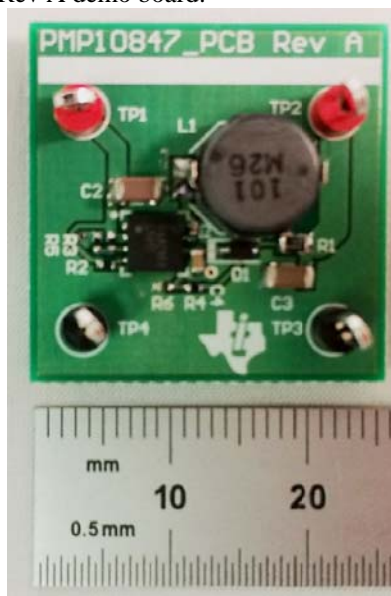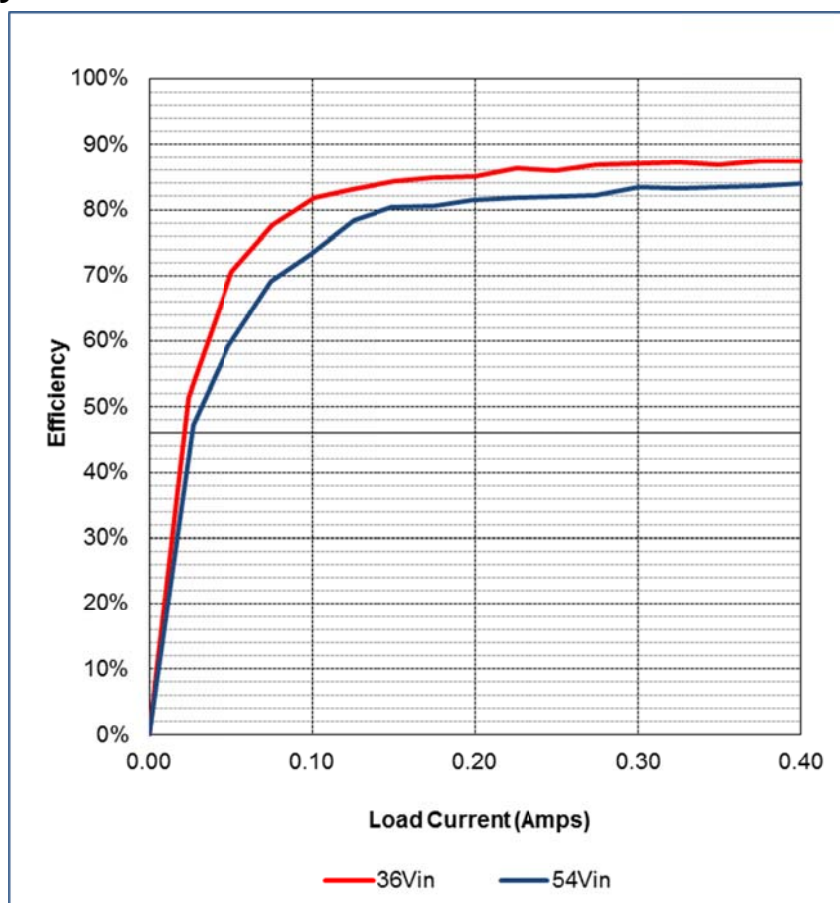
| Vin | Iin | Iout | Vout | Pout | Losses | Efficiency |
|------|-------|-------|-------|------|--------|------------|
| 36.00 | 0.005 | 0.000 | 8.480 | 0.00 | 0.180 | 0.0% |
| 36.00 | 0.011 | 0.024 | 8.480 | 0.20 | 0.192 | 51.4% |
| 36.00 | 0.017 | 0.051 | 8.470 | 0.43 | 0.180 | 70.6% |
| 36.02 | 0.023 | 0.076 | 8.460 | 0.64 | 0.186 | 77.6% |
| 36.02 | 0.029 | 0.101 | 8.460 | 0.85 | 0.190 | 81.8% |
| 36.02 | 0.035 | 0.124 | 8.450 | 1.05 | 0.213 | 83.1% |
| 36.01 | 0.042 | 0.151 | 8.440 | 1.27 | 0.238 | 84.3% |
| 36.01 | 0.048 | 0.174 | 8.440 | 1.47 | 0.260 | 85.0% |
| 36.01 | 0.055 | 0.200 | 8.430 | 1.69 | 0.295 | 85.1% |
| 36.01 | 0.061 | 0.225 | 8.430 | 1.90 | 0.300 | 86.3% |
| 36.01 | 0.068 | 0.250 | 8.420 | 2.11 | 0.344 | 86.0% |
| 36.01 | 0.074 | 0.275 | 8.420 | 2.32 | 0.349 | 86.9% |
| 36.00 | 0.081 | 0.302 | 8.410 | 2.54 | 0.376 | 87.1% |
| 36.00 | 0.087 | 0.325 | 8.400 | 2.73 | 0.402 | 87.2% |
| 36.00 | 0.094 | 0.350 | 8.400 | 2.94 | 0.444 | 86.9% |
| 36.00 | 0.100 | 0.375 | 8.390 | 3.15 | 0.454 | 87.4% |
| 36.00 | 0.107 | 0.402 | 8.380 | 3.37 | 0.483 | 87.5% |

| Vin | Iin | Iout | Vout | Pout | Losses | Efficiency |
|------|-------|-------|-------|------|--------|------------|
| 54.00 | 0.005 | 0.000 | 8.490 | 0.00 | 0.270 | 0.0% |
| 54.00 | 0.009 | 0.027 | 8.490 | 0.23 | 0.257 | 47.2% |
| 54.00 | 0.013 | 0.049 | 8.480 | 0.42 | 0.286 | 59.2% |
| 54.00 | 0.017 | 0.075 | 8.470 | 0.64 | 0.283 | 69.2% |
| 54.00 | 0.021 | 0.098 | 8.470 | 0.83 | 0.304 | 73.2% |
| 54.00 | 0.025 | 0.125 | 8.460 | 1.06 | 0.293 | 78.3% |
| 54.00 | 0.029 | 0.149 | 8.450 | 1.26 | 0.307 | 80.4% |
| 54.00 | 0.034 | 0.175 | 8.450 | 1.48 | 0.357 | 80.5% |
| 54.00 | 0.038 | 0.198 | 8.440 | 1.67 | 0.381 | 81.4% |
| 54.00 | 0.043 | 0.225 | 8.440 | 1.90 | 0.423 | 81.8% |
| 54.00 | 0.048 | 0.252 | 8.430 | 2.12 | 0.468 | 82.0% |
| 54.00 | 0.052 | 0.274 | 8.420 | 2.31 | 0.501 | 82.2% |
| 54.00 | 0.056 | 0.300 | 8.420 | 2.53 | 0.498 | 83.5% |
| 54.00 | 0.061 | 0.326 | 8.410 | 2.74 | 0.552 | 83.2% |
| 54.00 | 0.065 | 0.349 | 8.400 | 2.93 | 0.578 | 83.5% |
| 54.00 | 0.070 | 0.376 | 8.400 | 3.16 | 0.622 | 83.6% |
| 54.00 | 0.074 | 0.400 | 8.390 | 3.36 | 0.640 | 84.0% |

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## 3   Regulation

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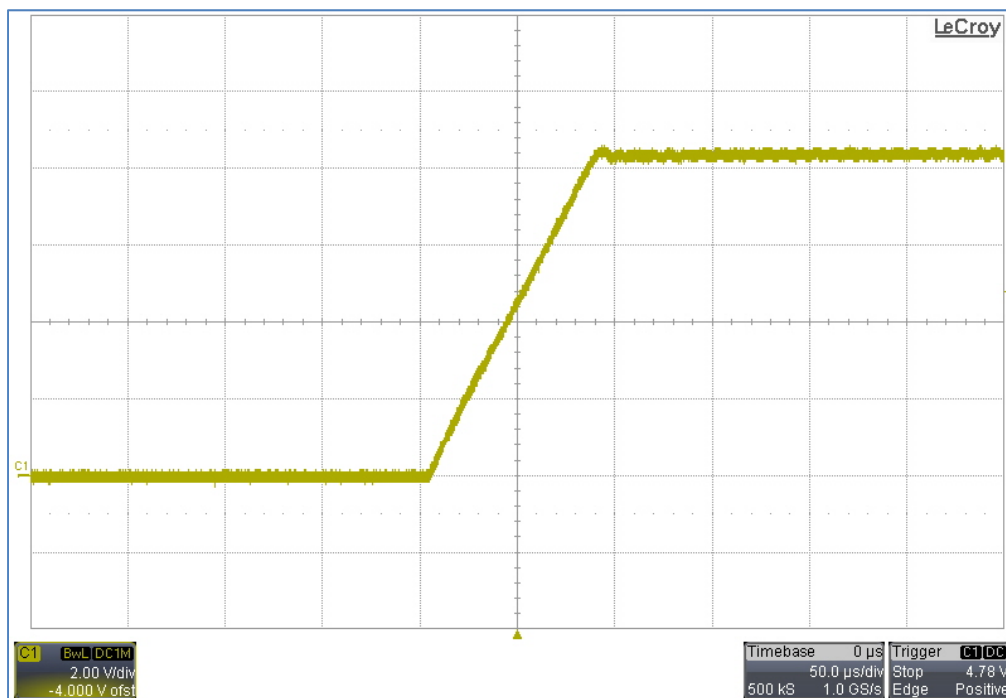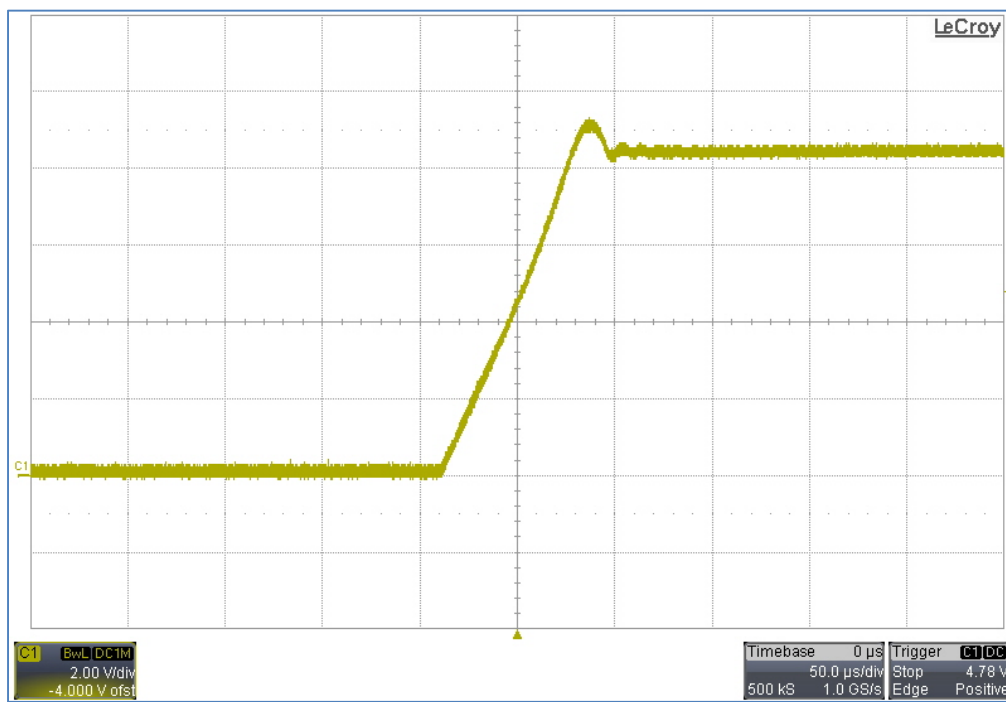## 4 Thermal Image

The thermal image below shows the top of the board with Vin = 54V, Iout = 400mA, and no forced airflow. Note that the ambient temperature was 25°C.

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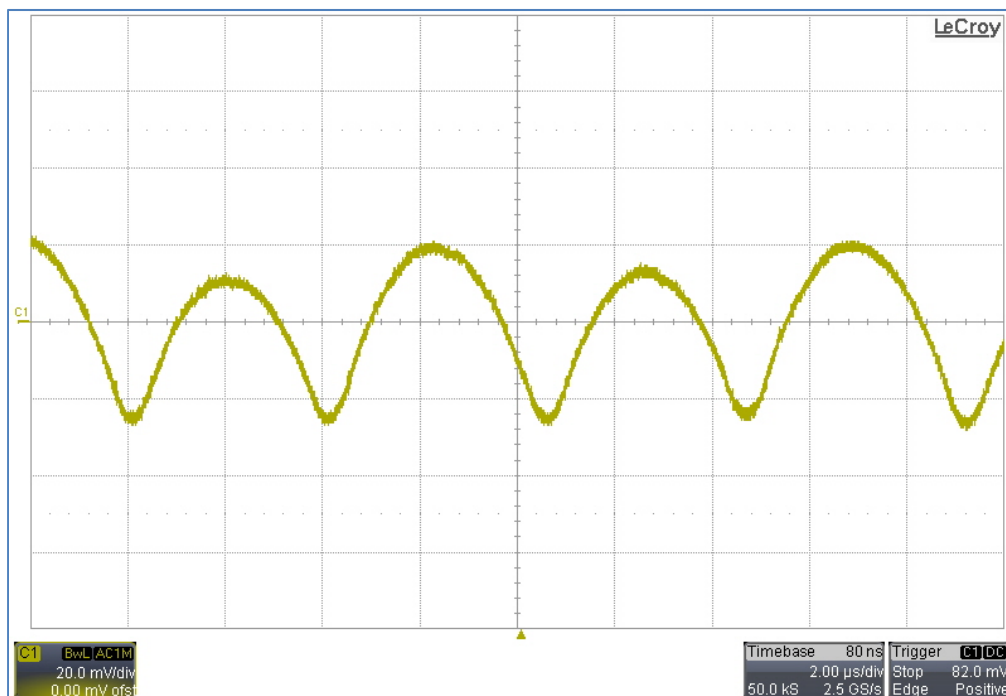INSTRUMENTS
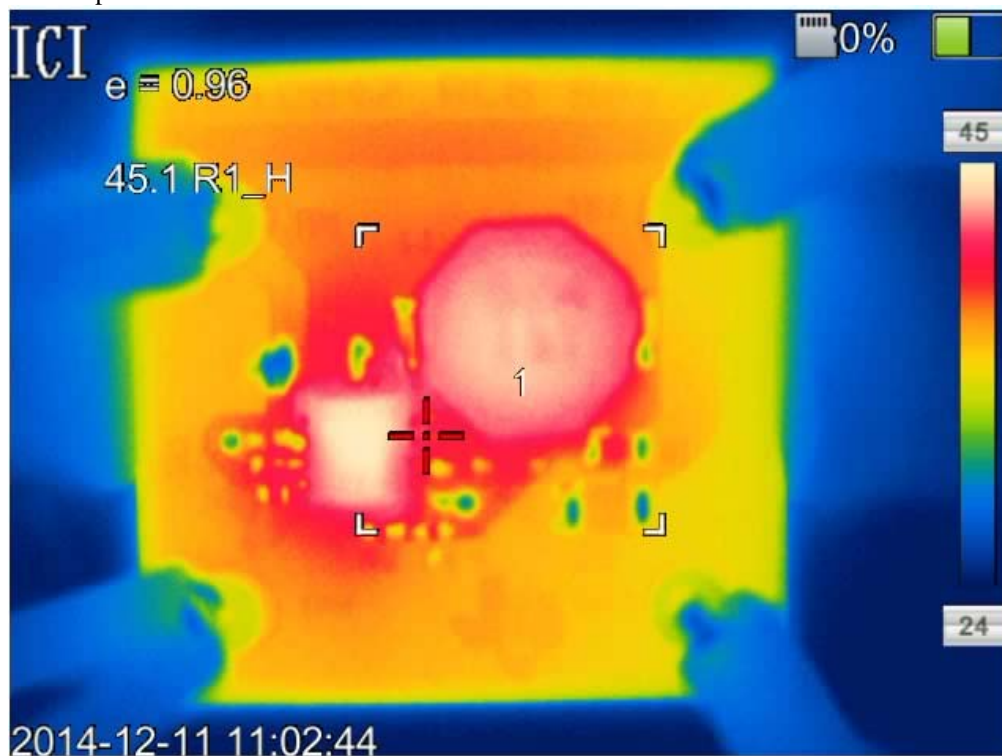
## 5   Startup

The output voltage at startup is shown in the images below.  (Top image = 0A load, bottom image = 400mA load)

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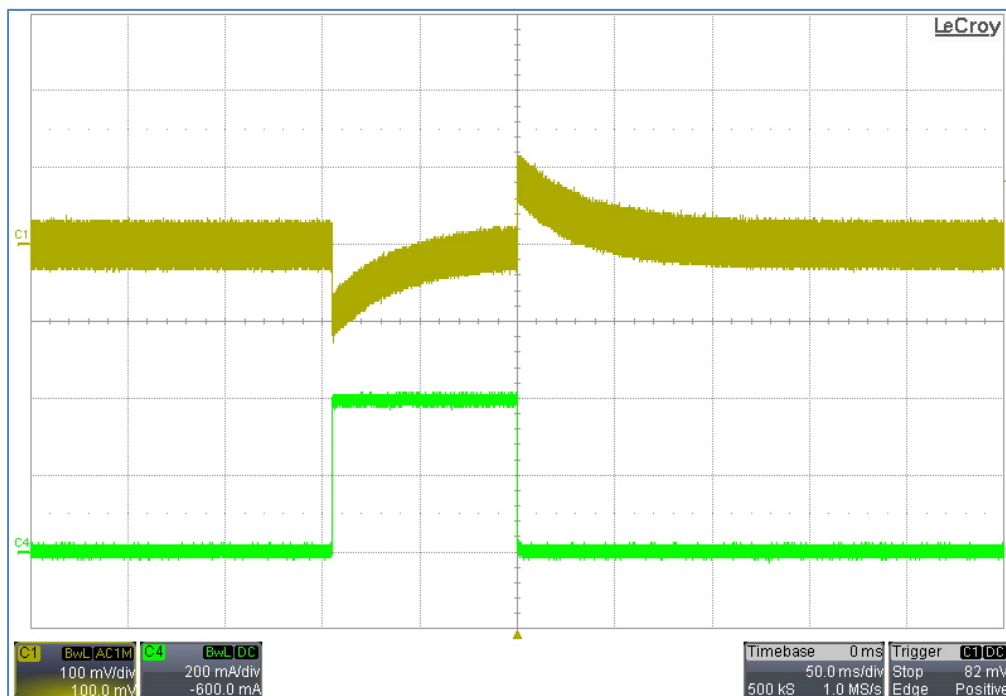
## 6 Output Ripple Voltage

The output ripple voltage during full load operation (400mA load) is shown in the image below, Vin = 54V.



## 7 Load Transients

The image below shows the response to a 0A to 400mA load transient. (Channel 1 = Vout, Channel 4 = Iout)

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## 8  Switching Waveforms

The image below shows the voltage waveform on the SW pin (pin 8) of the controller (U1).
The output was loaded with 400mA and the input voltage was 54V.
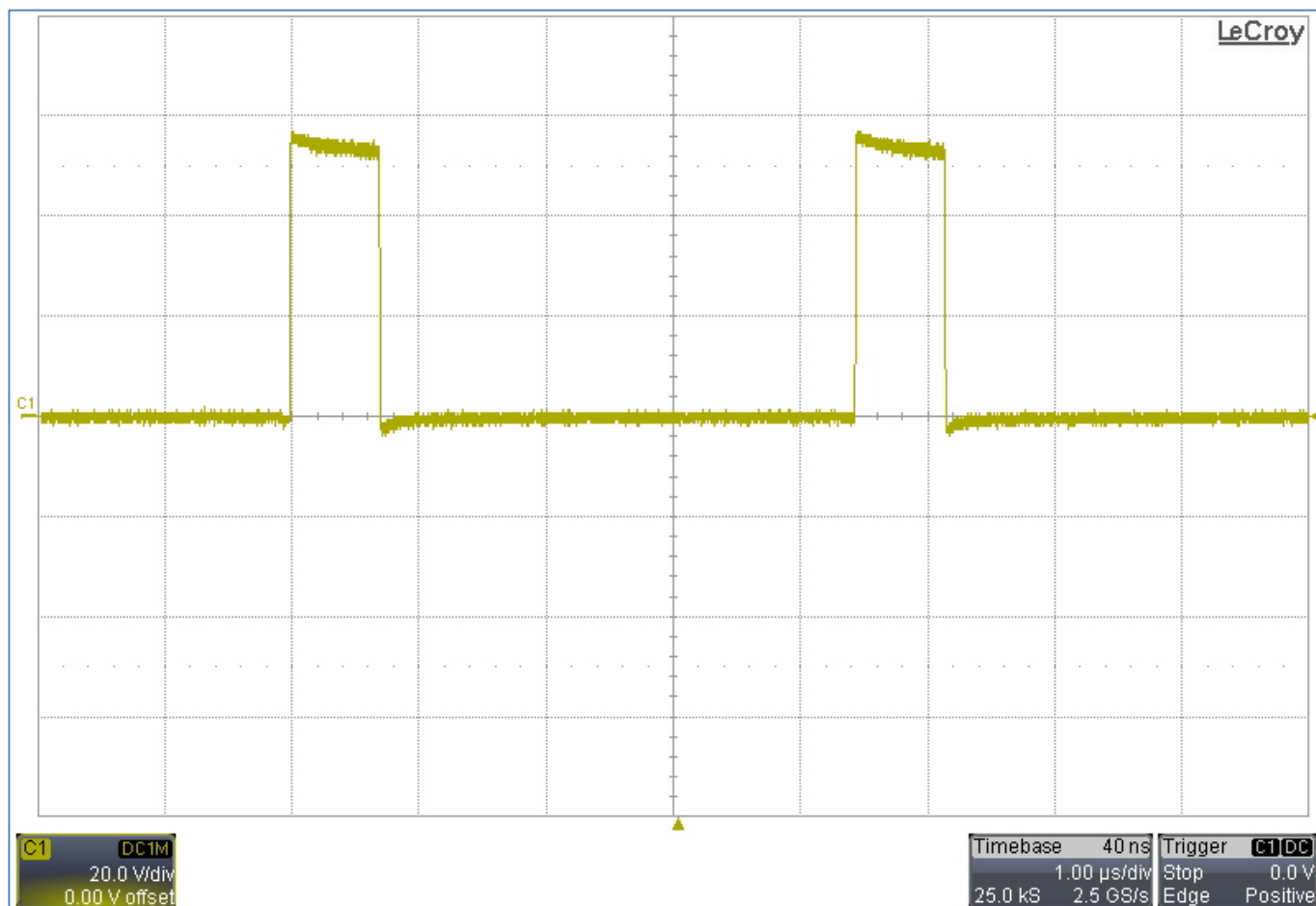
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