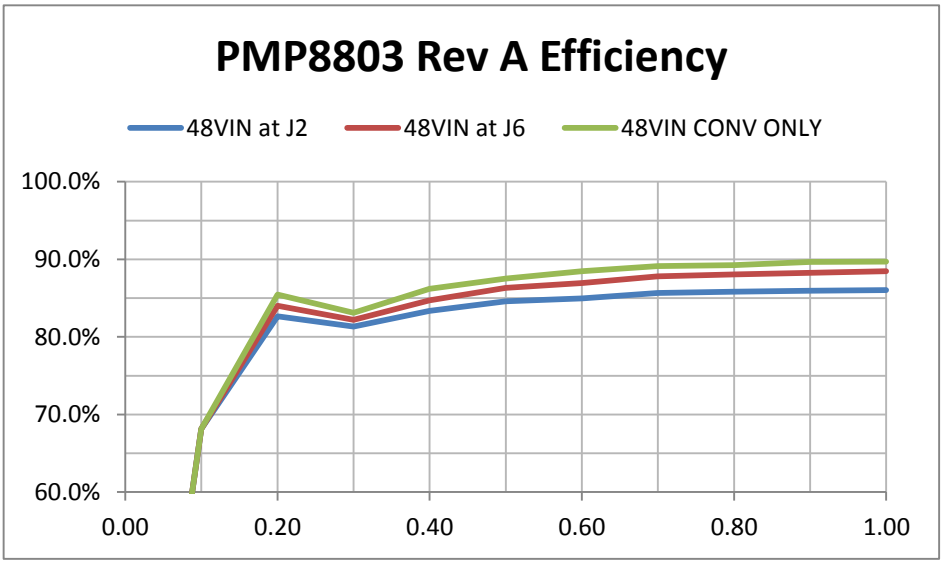
Efficiency

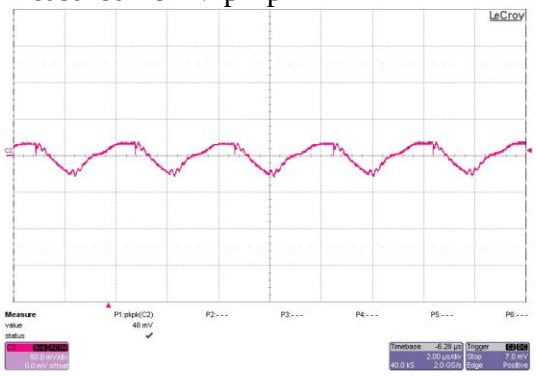
The efficiency of the converter is shown below:



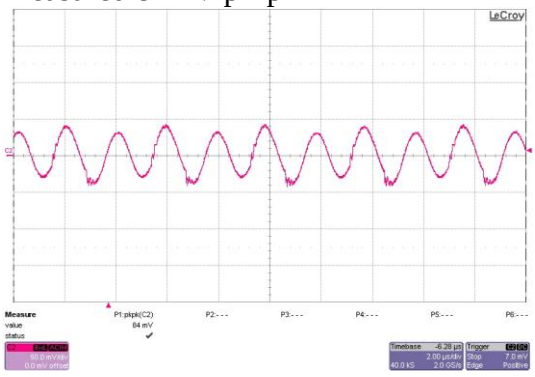
Ripple and Noise

Ripple measurements taken with 48VIN at J2, 1A load, and 20MHz BWL.

Output Ripple (J3), 50mV/div, 2us/div:
Measured 48mV pk-pk

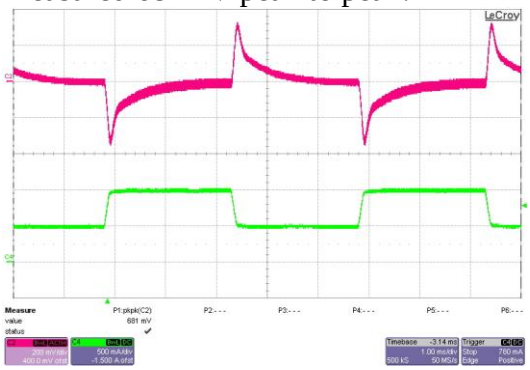


Input Ripple (C24), 20mV/div, 2us/div:
Measured 84mV pk-pk



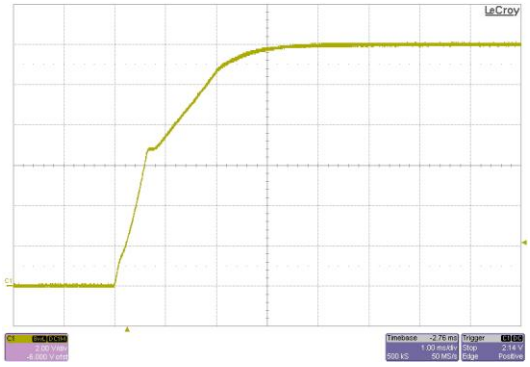
Dynamic Loading

Load Step, 48VIN at J2 200mV/div, 1msec/div; 0.5A to 1A Load Step, 5mA/usec
Measured 681mV peak to peak:



Turn On Response

48VIN, 1A Load, 1msec/div:



48VIN, 0A Load, 1msec.div:

Stability (Loop Gain)

The figure below is the loop gain of the converter with a 48V input and 1A load. The Bandwidth is 4.5 KHz, the Phase Margin is 62 degrees, and the Gain Margin is 19 dB.

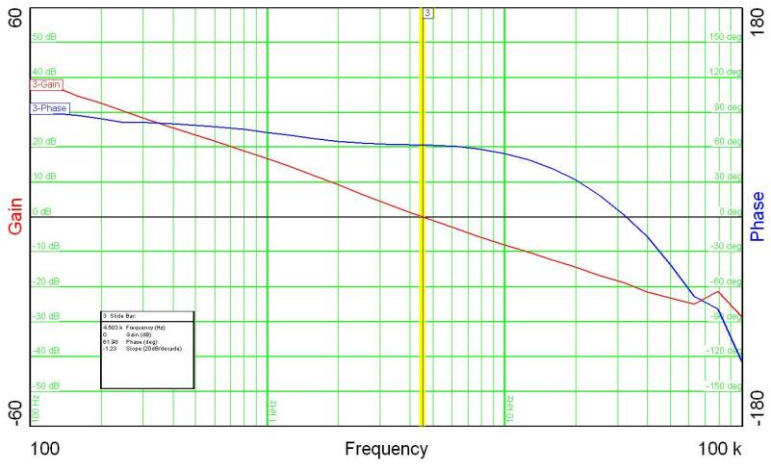
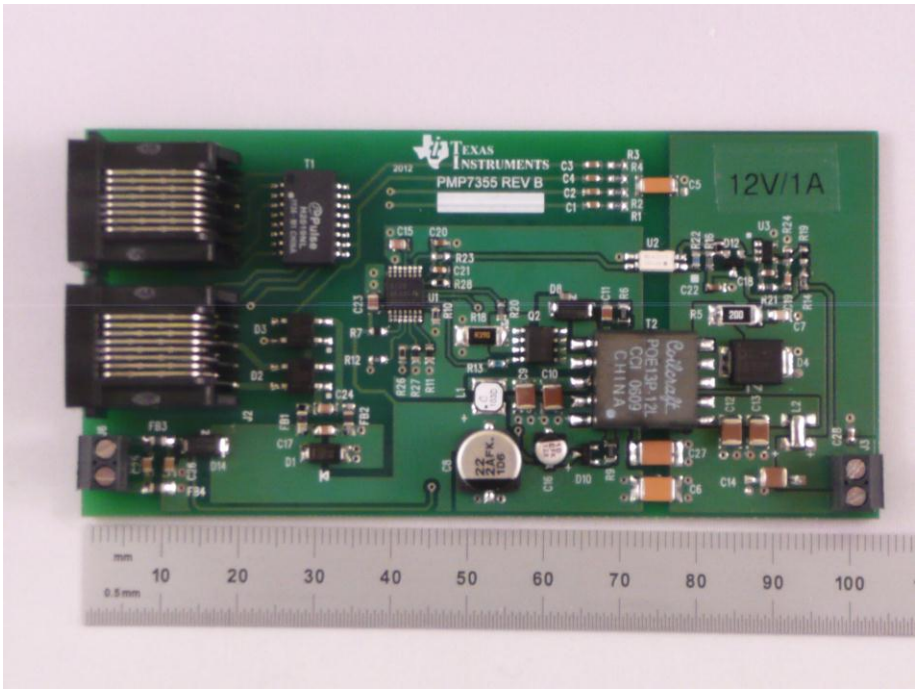


Photo:



Note: PMP8803 is built on PMP7355 RevB PCB.

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