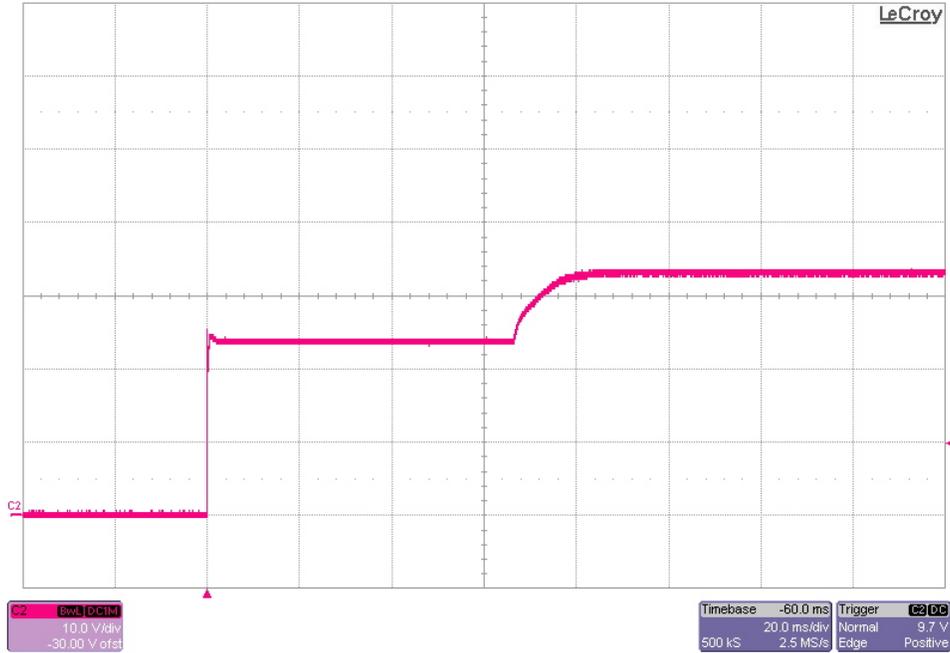


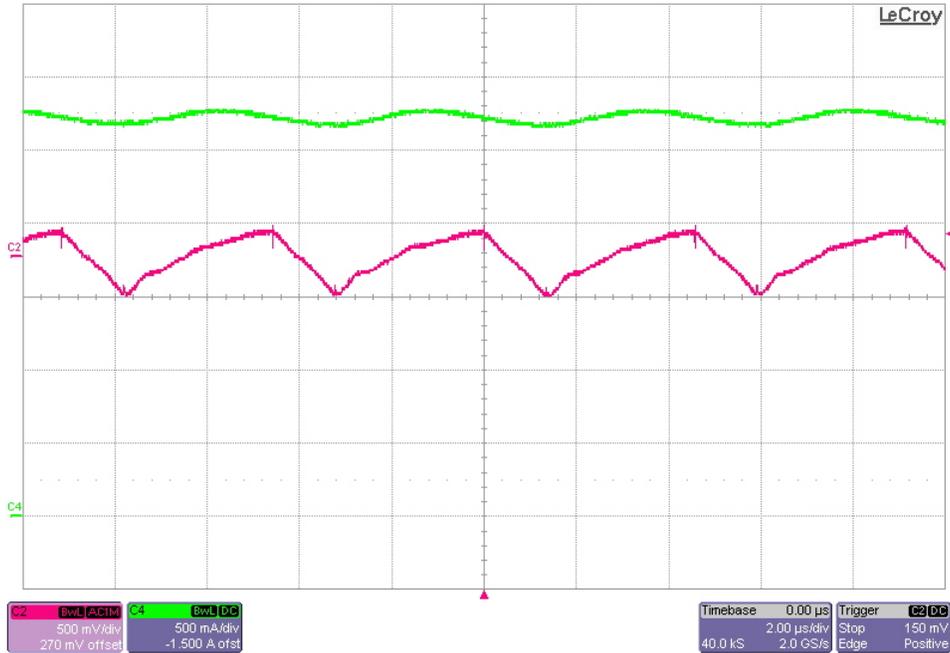
1 Startup

The photo below shows the output voltage startup waveforms after the application of 24Vdc in. (10V/DIV, 20mS/DIV)

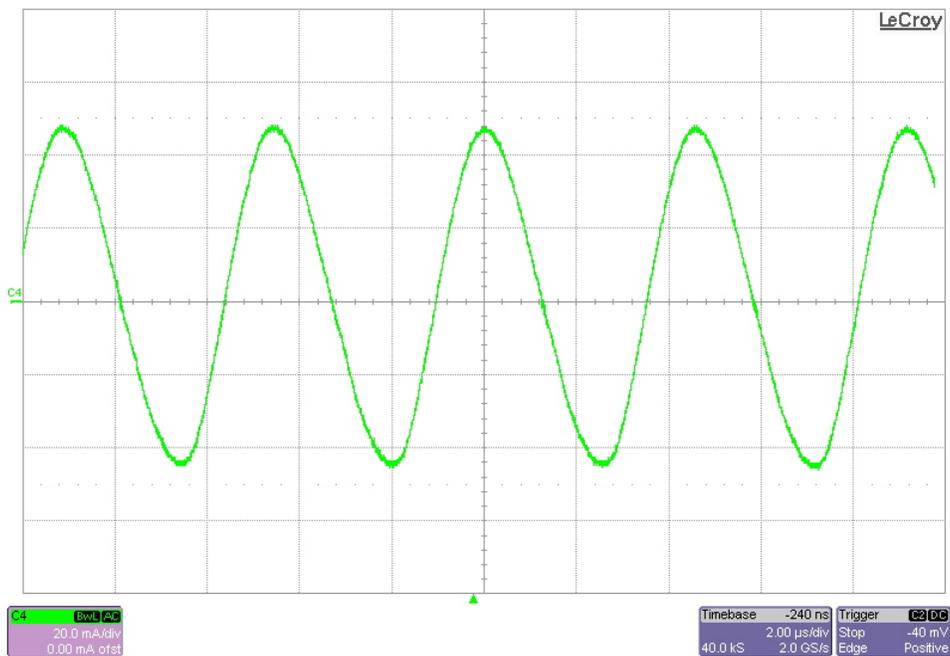


2 Output Ripple Voltage and Current

The LED ripple voltage (AC coupled) and ripple current are shown in the figure below. The input voltage was set to 24V_{in}. The load was 2 Ohms in series with a Constant Voltage active load set to 27V (V_{out} = 33V). (500mV/DIV, 500mA/DIV, 2uS/DIV)

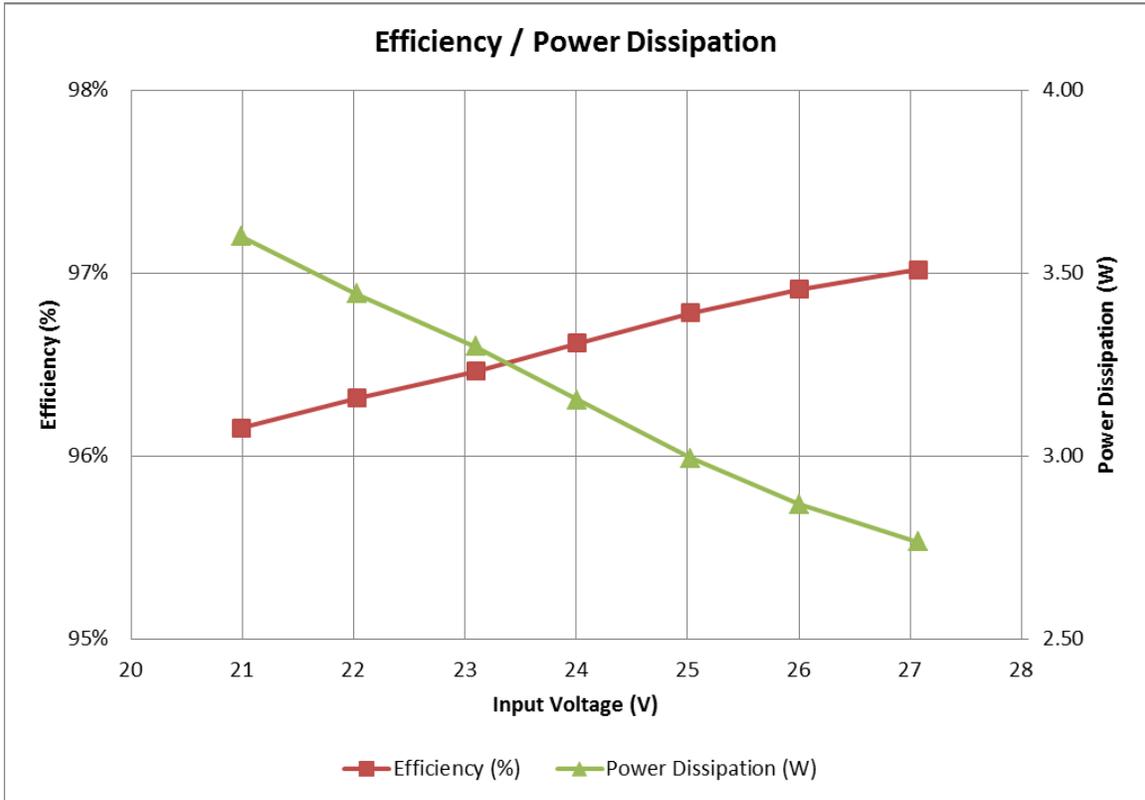


The LED ripple current (AC coupled) is shown in the figure below. The input voltage was set to 24V_{in}. The load was 2 Ohms in series with a Constant Voltage active load set to 27V (V_{out} = 33V). (20A/DIV, 2uS/DIV)



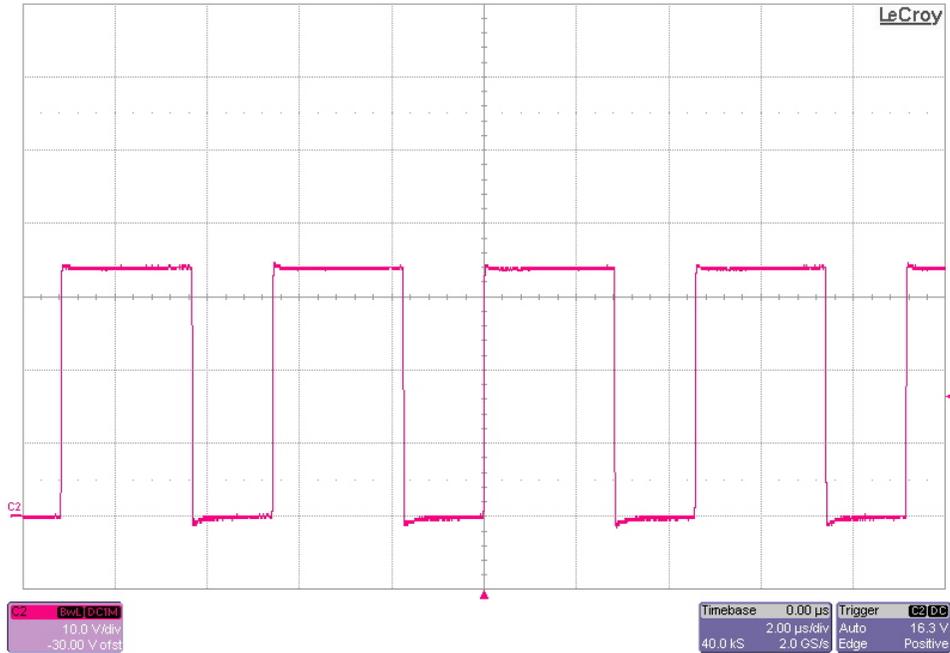
3 Efficiency

The converter efficiency is shown in the figure below. Iout was a constant 2.7A.

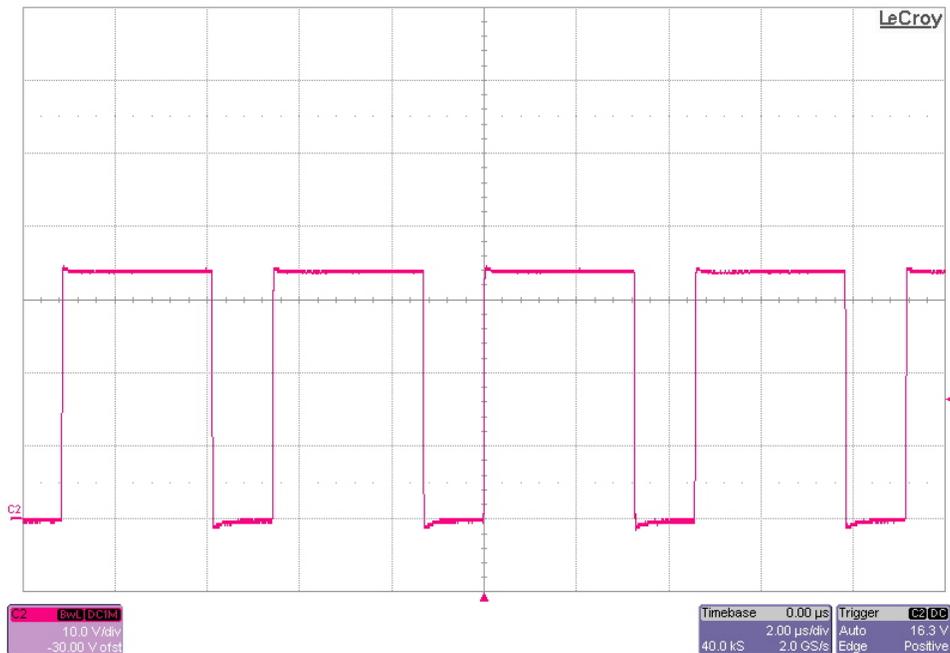


4 Switching Waveforms

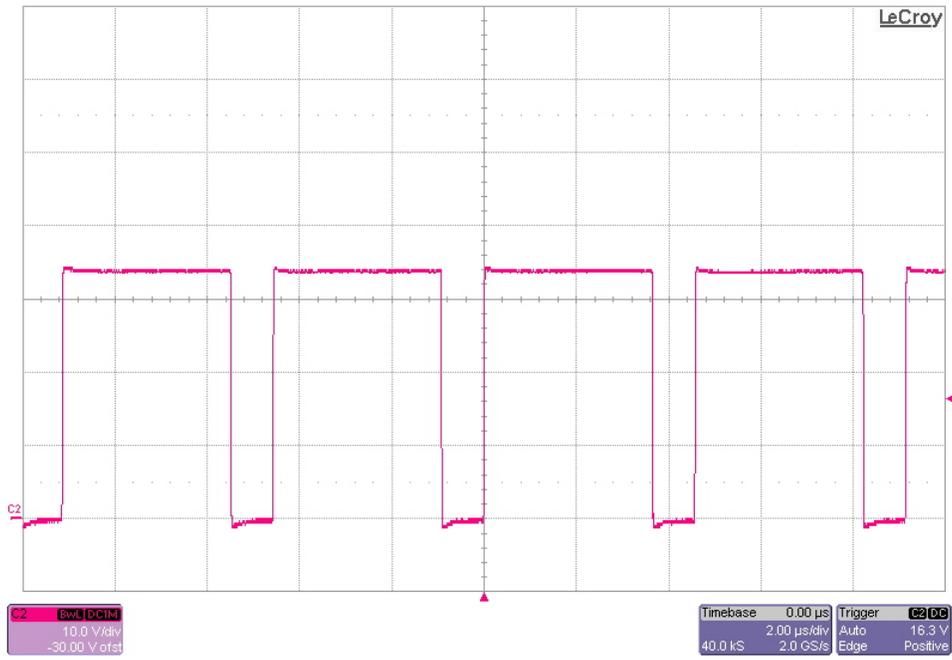
The photo below shows the N-ch FET drain waveform (Q1/TP5). The input voltage is set to 21Vin. (10V/DIV, 2uS/DIV)



The photo below shows the N-ch FET drain waveform (Q1/TP5). The input voltage is set to 24Vin. (10V/DIV, 2uS/DIV)



The photo below shows the N-ch FET drain waveform (Q1/TP5). The input voltage is set to 27Vin. (10V/DIV, 2uS/DIV)



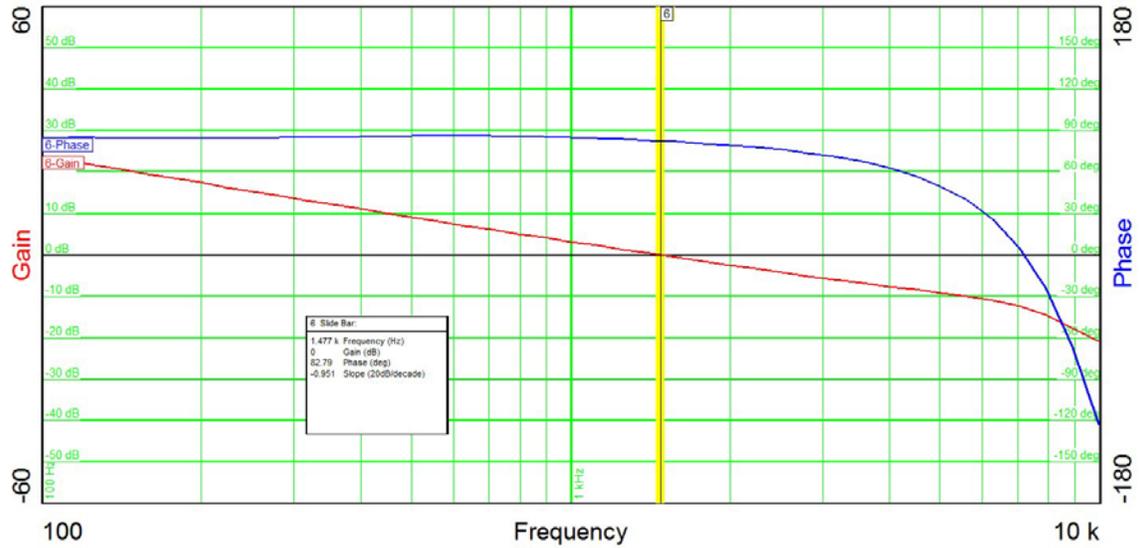
5 Loop Gain

The plot below shows the loop gain when regulating the LED current at 24Vin. The load was 2 Ohms in series with a Constant Voltage active load set to 27V (Vout = 33V).

Loop Gain

BW: 1.48KHz

PM: 83 degrees



6 Photo

The photo below shows the PMP10291 REVA assembly built on the PMP9079 REVA PWB.



IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale (<https://www.ti.com/legal/termsofsale.html>) or other applicable terms available either on [ti.com](https://www.ti.com) or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2021, Texas Instruments Incorporated