PMP3061
12/29/07

The following test report includes measurements for the following output voltage rails:

A. 1.2V @ 40A Using the TPS40140 Device
1. Start Up (No Load)
2. Shut Down
3. Output Voltage Ripple (Measured Full Load)
4. Load Transient (10% to 100% Load Step, 2.5A/usec)
5. Load Regulation
6. Efficiency
7. Switch Node
8. Loop Response

B. 3.3V @ 6A Using the TPS40190 Device
9. Start Up (No Load)
10. Shut Down
11. Output Voltage Ripple (Measured Full Load)
12. Load Transient (10% to 100% Load Step, 2.5A/usec)
13. Load Regulation
14. Efficiency
15. Switch Node
16. Loop Response

C. -5V @ 200mA Using the TPS54350 Device
17. Start Up (No Load)
18. Shut Down
19. Output Voltage Ripple (Measured Full Load)
20. Load Transient (10% to 100% Load Step, 2.5A/usec)
21. Load Regulation
22. Efficiency
23. Switch Node
24. Loop Response

D. 25V @ 1A Using the TPS40210 Device
25. Start Up (No Load)
26. Shut Down
27. Output Voltage Ripple (Measured Full Load)/ Switch Node
28. Load Transient (10% to 100% Load Step, 2.5A/usec)
29. Load Regulation
30. Efficiency
31. Loop Response

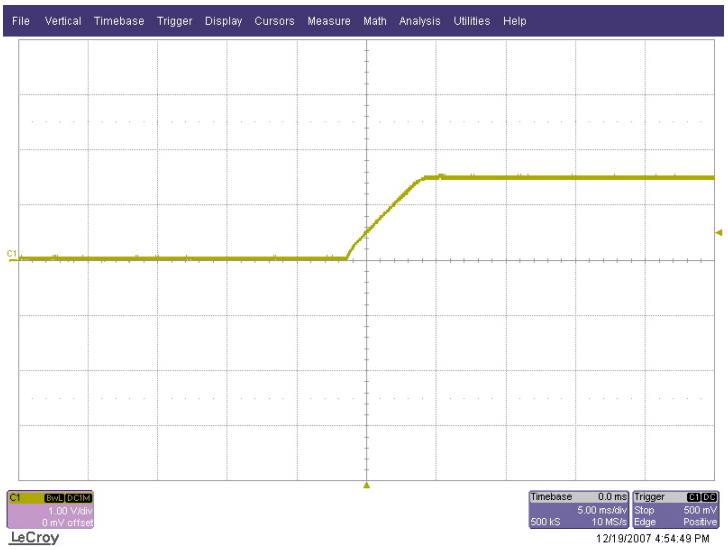
E. -12V @ 200mA Using the TPS5430 Device
32. Start Up (No Load)
33. Shut Down
34. Output Voltage Ripple (Measured Full Load)
35. Load Regulation
36. Efficiency
37. Switch Node
38. Loop Response

A TPS40140 – 1.2V @ 40A

1 Startup

The photo below shows the startup waveform. The input voltage is 12V and the output is not loaded. The time-base is set to 5ms/Division.

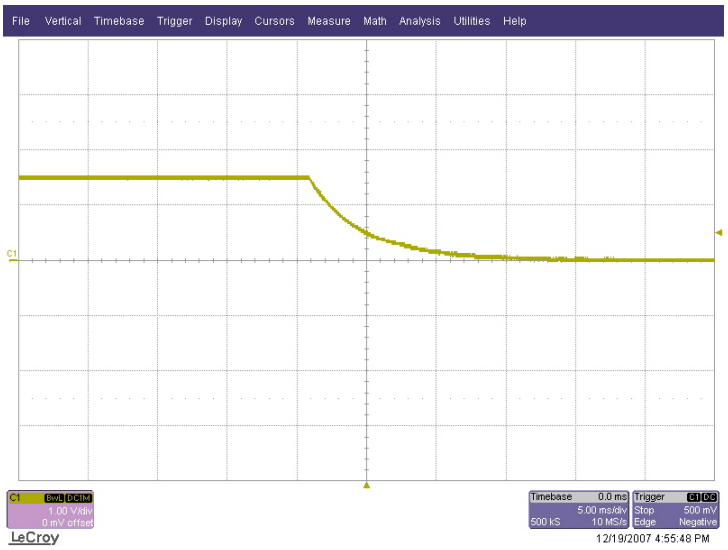
Channel 1: 1.2V Output - Yellow (1V/Division)



2 Shutdown

The photo below shows the shutdown waveform. The input voltage is 12V and the output is loaded with 1A. The time-base is set to 5ms/Division

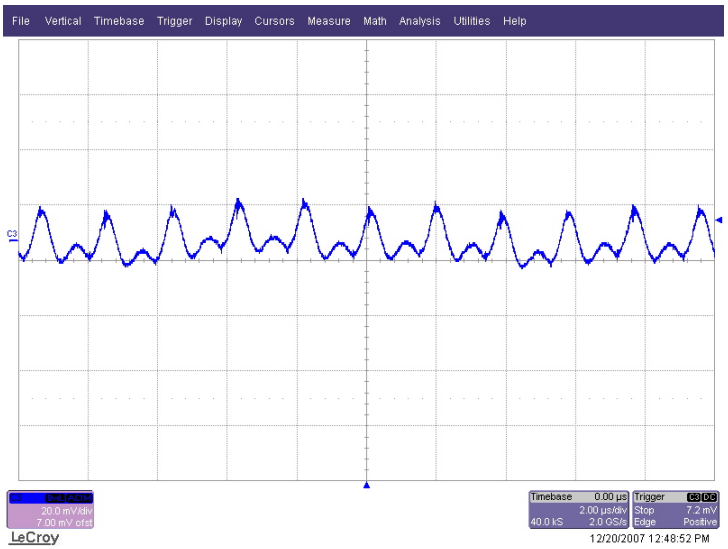
Channel 1: 1.2V Output - Yellow (1V/Division)



3 Output Ripple Voltage

The photo below shows the output voltage ripple. The input voltage is 12V.

Channel 3: 1.2V Output - Blue (20mV/Division; AC Coupled)

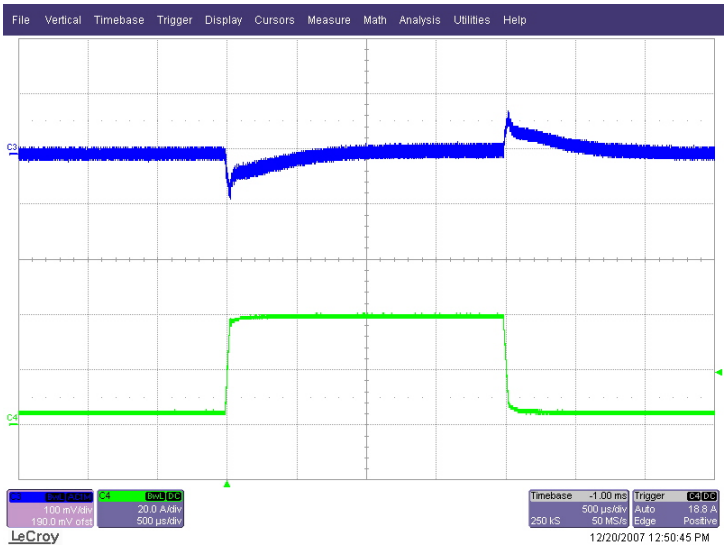


40A External Load; 2us/Division

4 Load Transients

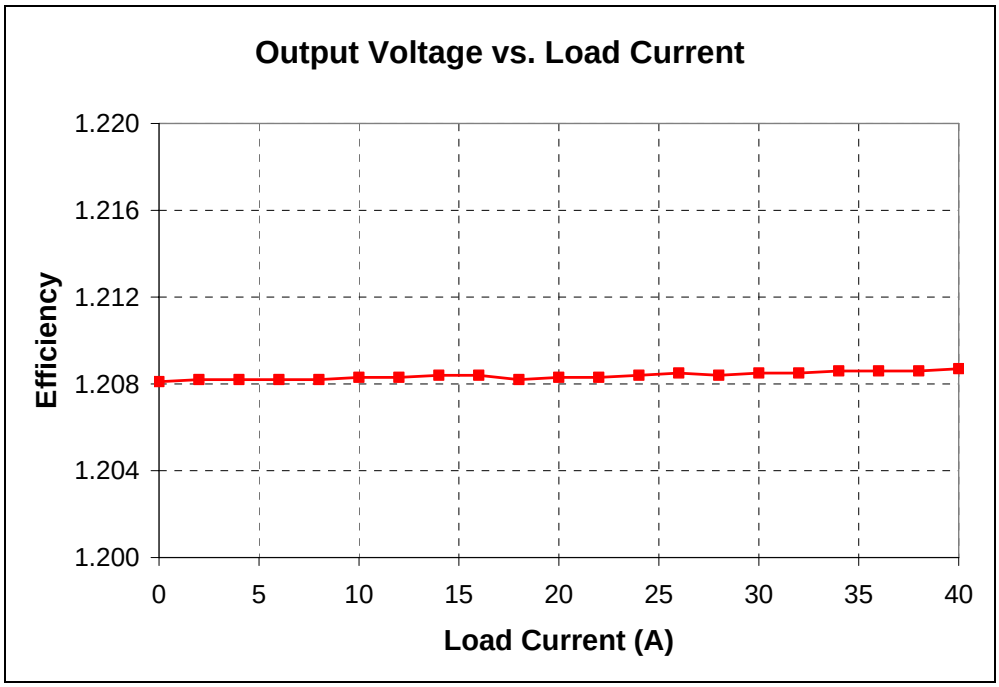
The photo below shows the transient response. The current is pulsed from 10% to 100% (4A to 40A). The input voltage is 12V. The time-base is set to 500us/Division.

Channel 3: 1.2V Output - Blue (100mV/Division; AC Coupled)
Channel 4: Output Current - Green (20A/Division)



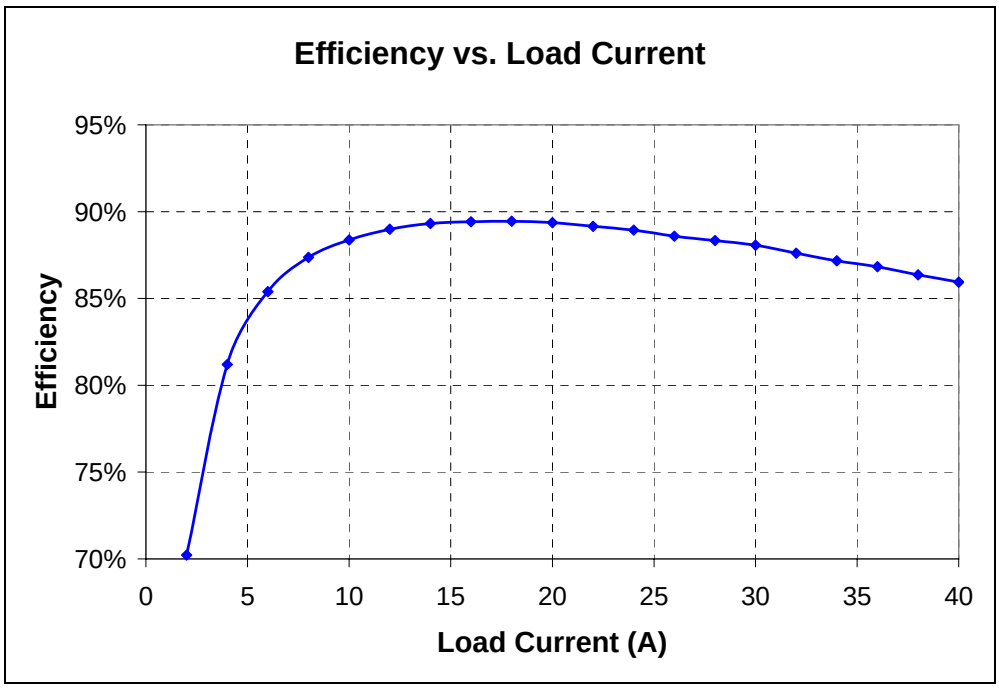
5 Load Regulation

The load regulation is shown in the figure below. The input voltage is 12V.



6 Efficiency

The efficiency is shown in the figure below. The input voltage is 12V.



7 Switch Node Waveforms

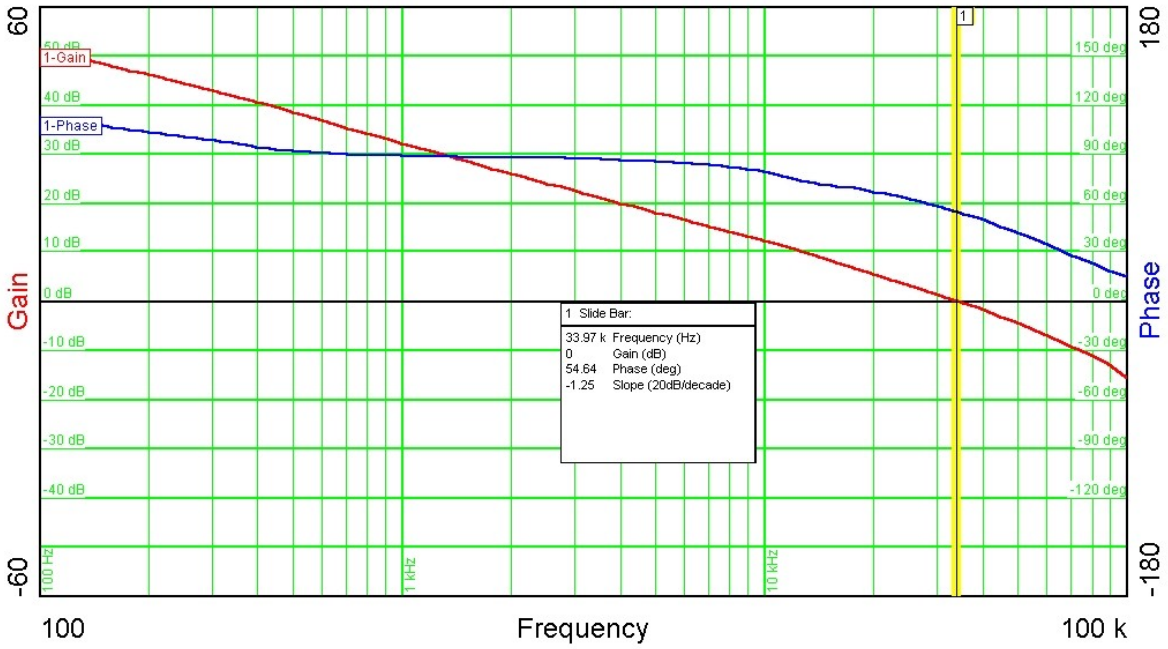
The plot below shows the switching waveforms for the converter. The input is 12V.

Channel 1: Switch Node #1 - Yellow (5V/Division)
Channel 2: Switch Node #2 - Pink (5V/Division)

40A External Load, 20MHz Band Limited

8 Loop Response

The loop response of the converter is shown in the picture below. The input is 12V. The output is fully loaded.

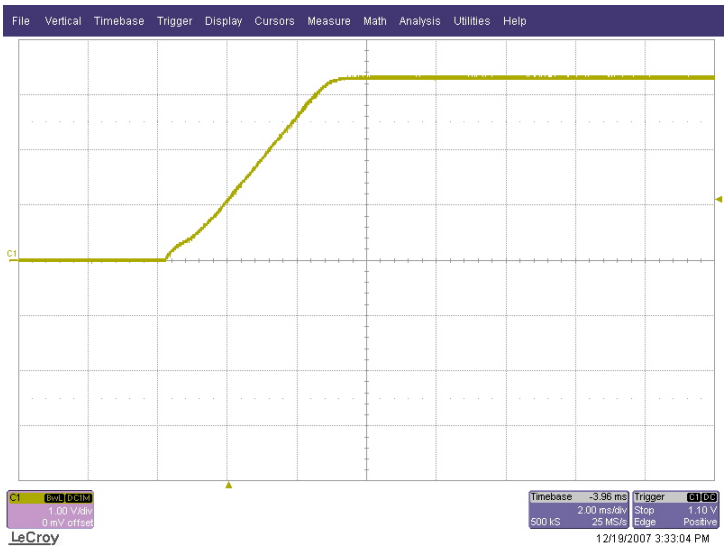


B TPS40190 – 3.3V @ 6A

9 Startup

The photo below shows the startup waveform. The input voltage is 12V and the output is not loaded. The time-base is set to 2ms/Division.

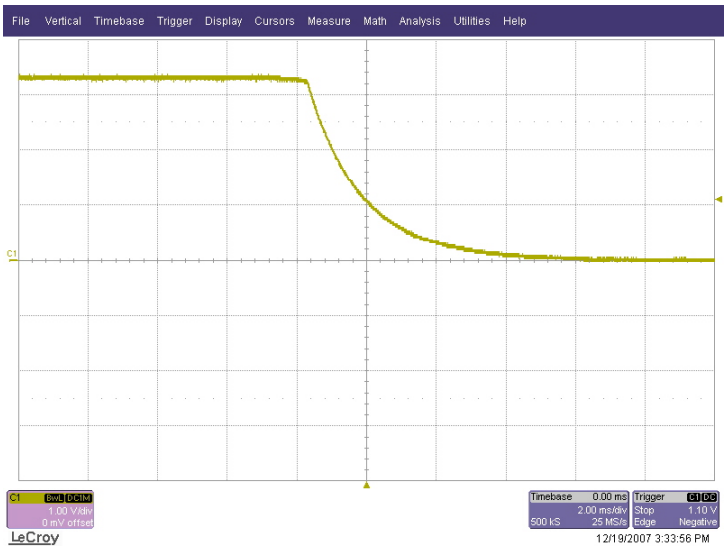
Channel 1: 3.3V Output - Yellow (1V/Division)



10 Shutdown

The photo below shows the shutdown waveform. The input voltage is 12V and the output is loaded with 1A. The time-base is set to 2ms/Division

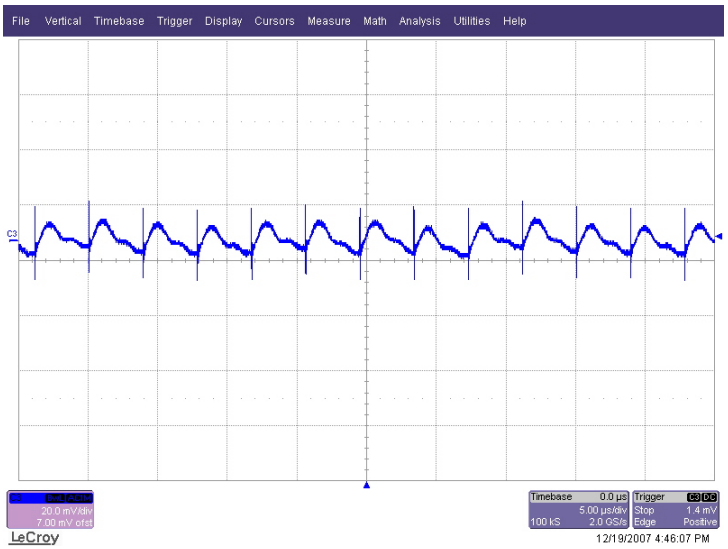
Channel 1: 3.3V Output - Yellow (1V/Division)



11 Output Ripple Voltage

The photo below shows the output voltage ripple. The input voltage is 12V.

Channel 3: 3.3V Output - Blue (20mV/Division; AC Coupled)

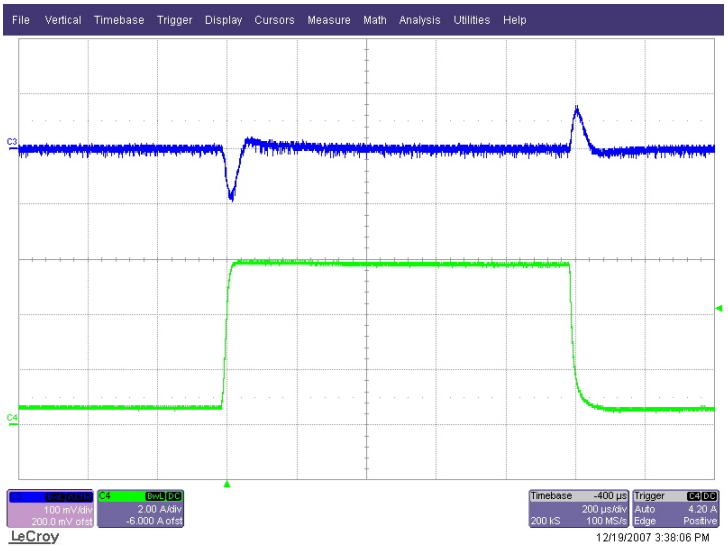


6A External Load; 5us/Division

12 Load Transients

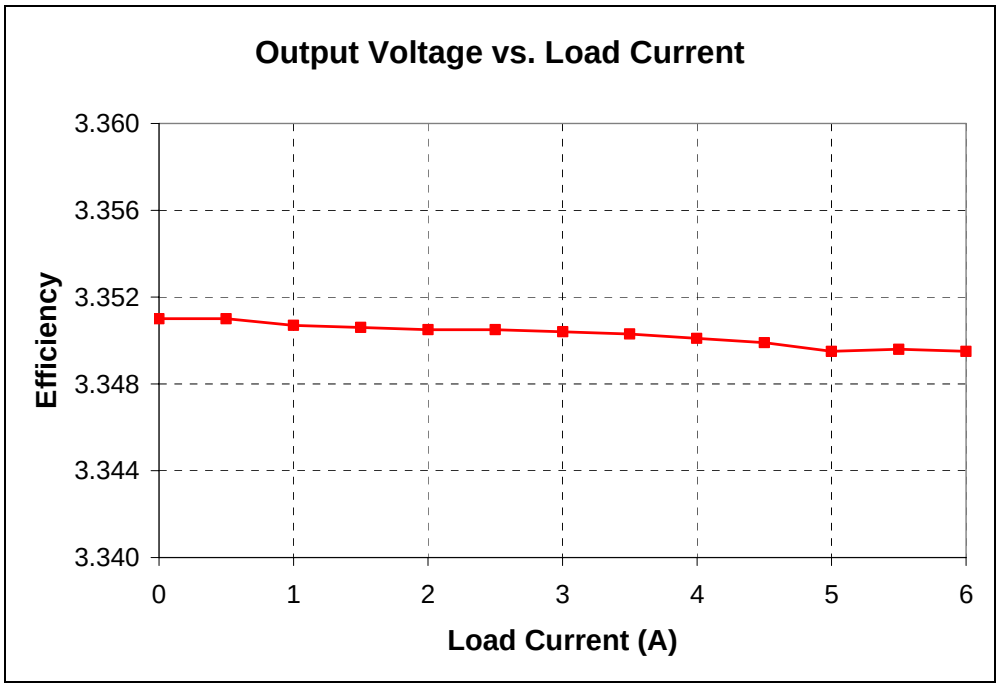
The photo below shows the transient response. The current is pulsed from 10% to 100% (0.6A to 6A). The input voltage is 12V. The time-base is set to 200us/Division.

Channel 3: 3.3V Output - Blue (100mV/Division; AC Coupled)
Channel 4: Output Current - Green (2A/Division)



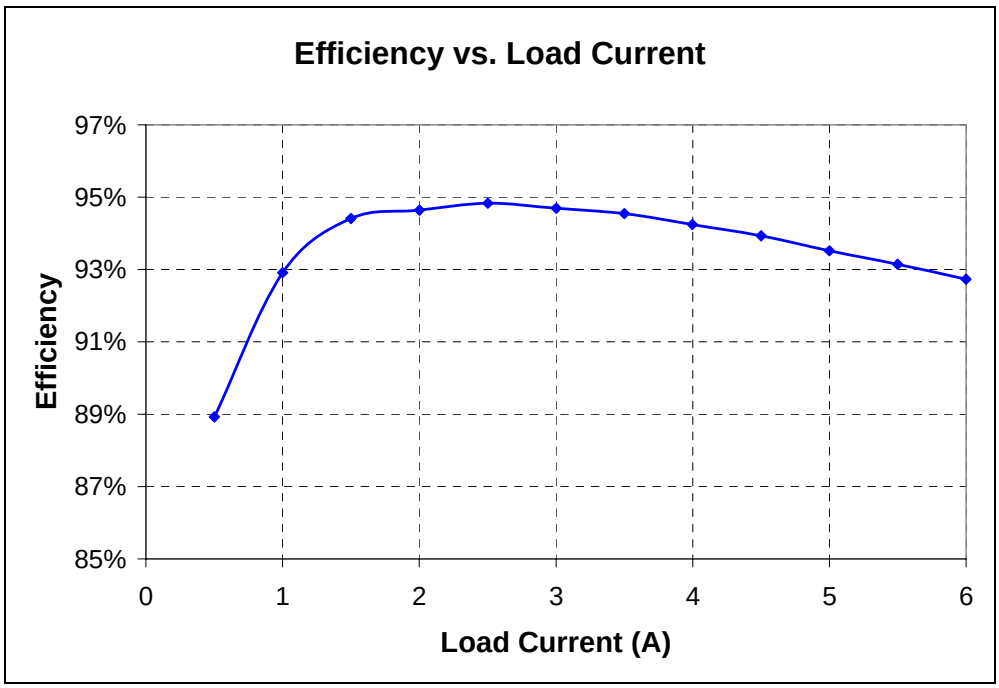
13 Load Regulation

The load regulation is shown in the figure below. The input voltage is 12V.



14 Efficiency

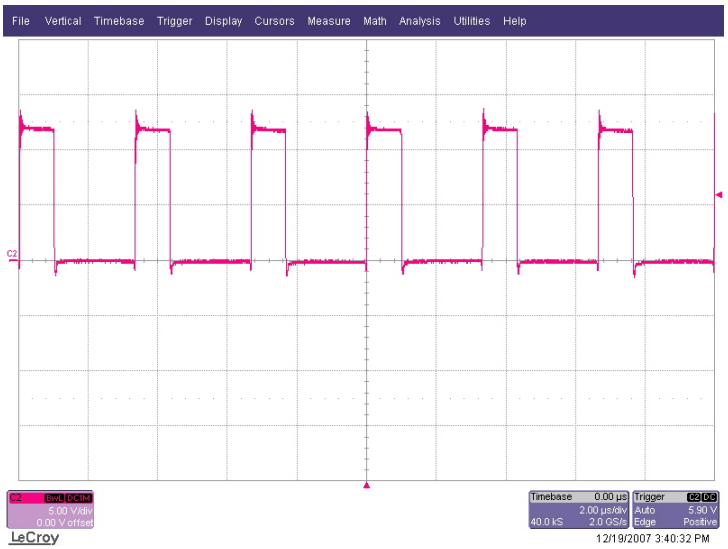
The efficiency is shown in the figure below. The input voltage is 12V.



15 Switch Node Waveforms

The plot below shows the switching waveforms for the converter. The input is 12V.

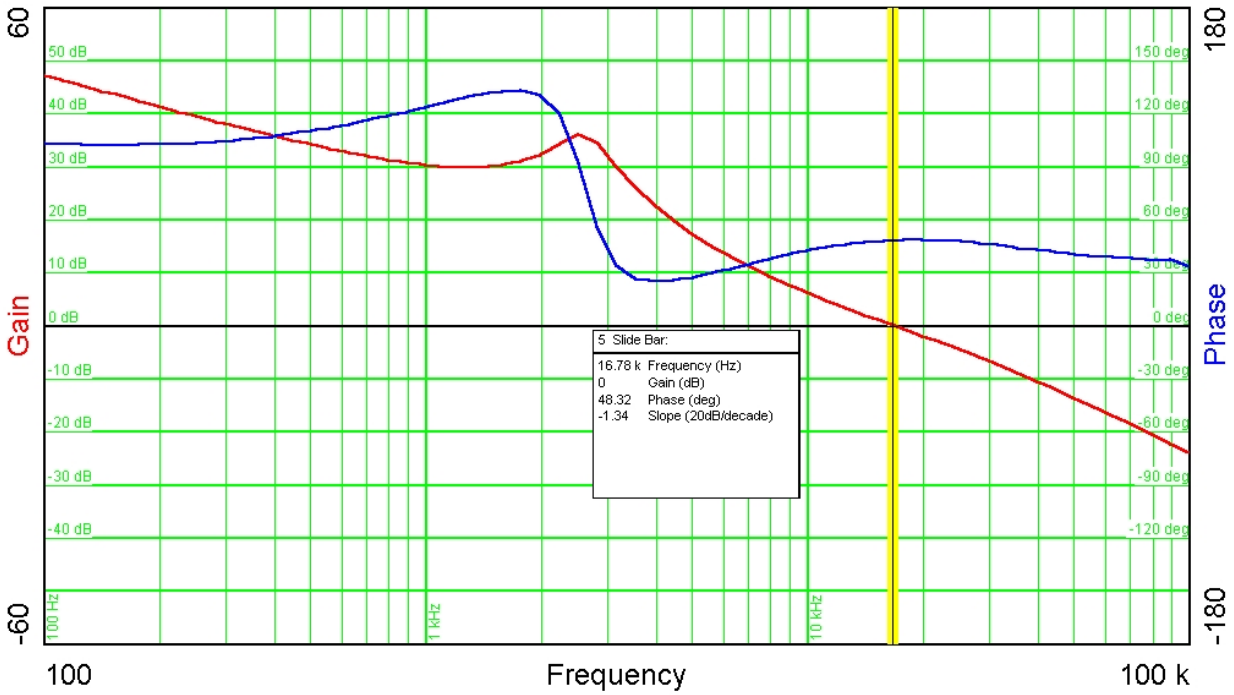
Channel 2: Switch Node - Pink (5V/Division)



6A External Load, 20MHz Band Limited

16 Loop Response

The loop response of the converter is shown in the picture below. The input is 12V. The output is fully loaded.

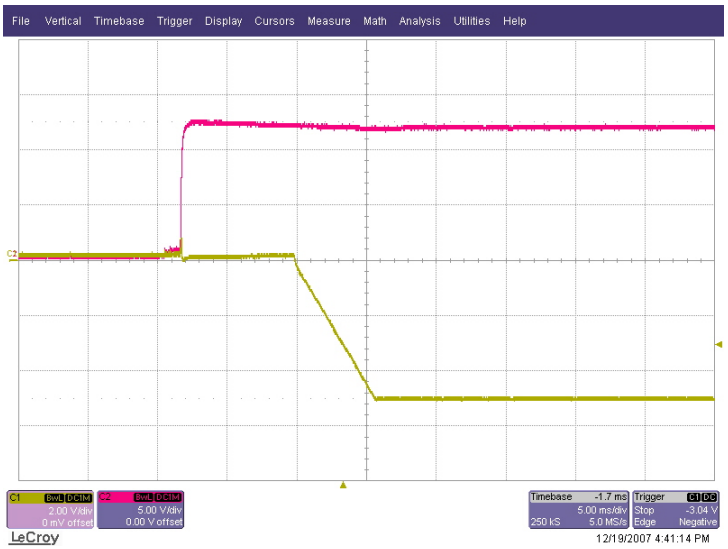


C TPS54350 – -5V @ 200mA

17 Startup

The photo below shows the startup waveform. The input voltage is 12V and the output is not loaded. The time-base is set to 5ms/Division.

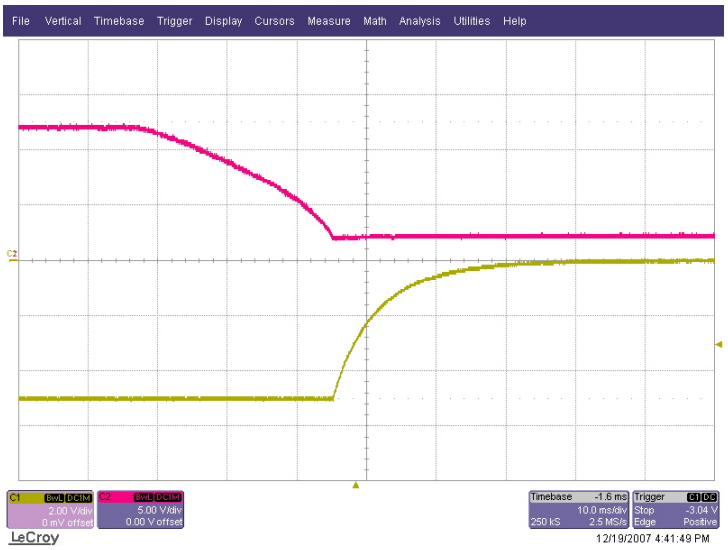
Channel 1: -5V Output - Yellow (2V/Division)
Channel 2: 12V Input - Pink (5V/Division)



18 Shutdown

The photo below shows the shutdown waveform. The input voltage is 12V and the output is loaded with 100mA. The time-base is set to 10ms/Division

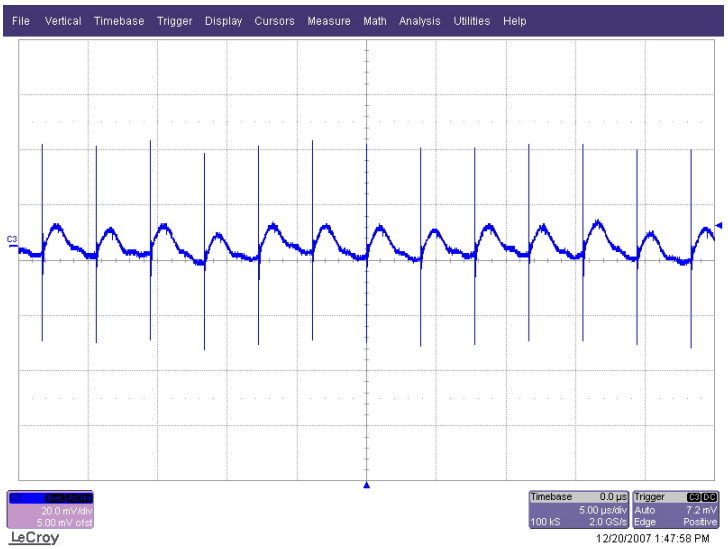
Channel 1: -5V Output - Yellow (2V/Division)
Channel 2: 12V Input - Pink (5V/Division)



19 Output Ripple Voltage

The photo below shows the output voltage ripple. The input voltage is 12V.

Channel 3: -5V Output - Blue (20mV/Division; AC Coupled)

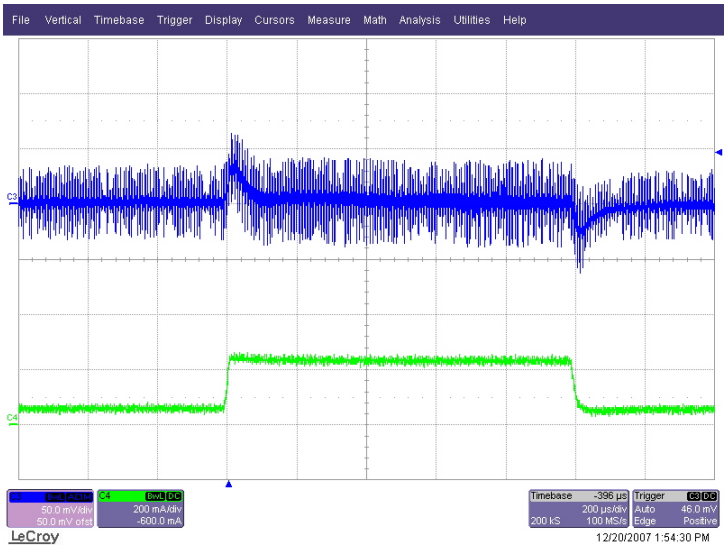


200mA External Load; 5us/Division

20 Load Transients

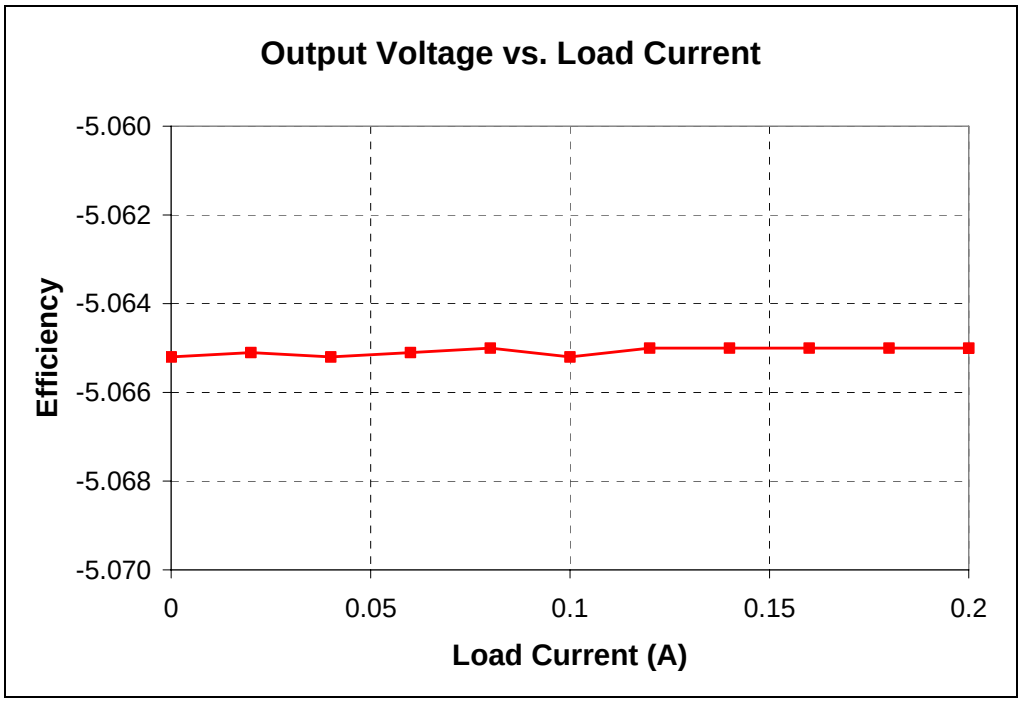
The photo below shows the transient response. The current is pulsed from 10% to 100% (20mA to 200mA). The input voltage is 12V. The time-base is set to 200us/Division.

Channel 3: -5V Output - Blue (50mV/Division; AC Coupled)
Channel 4: Output Current - Green (200mA/Division)



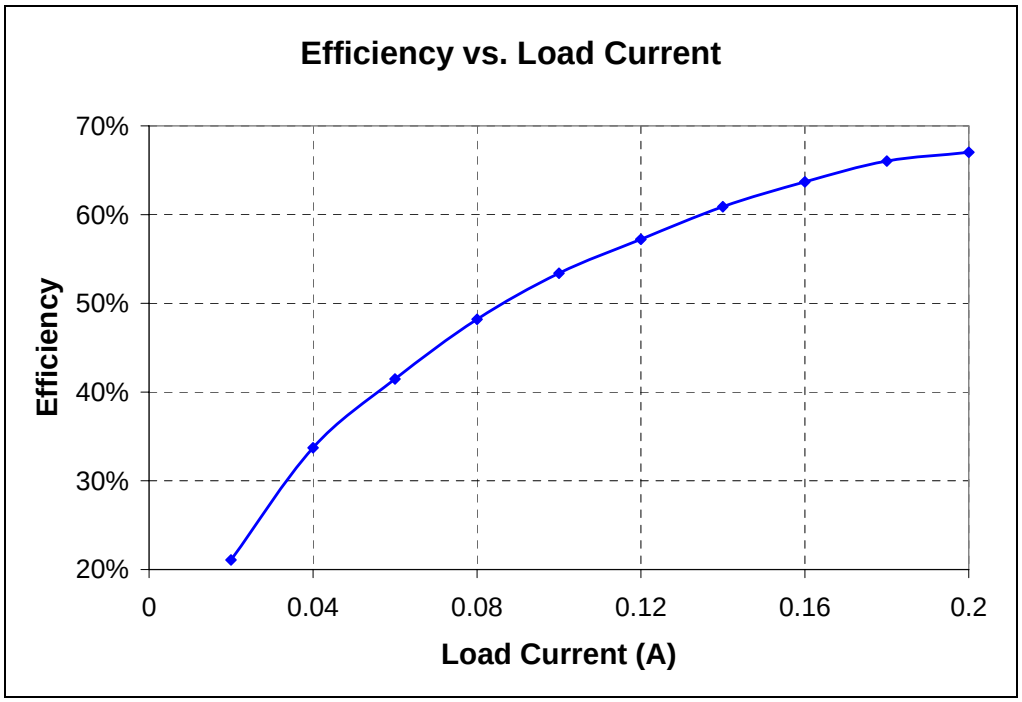
21 Load Regulation

The load regulation is shown in the figure below. The input voltage is 12V.



22 Efficiency

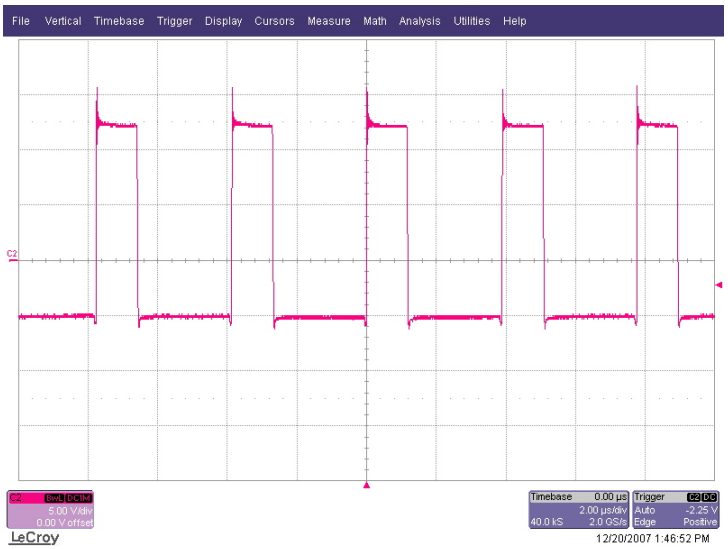
The efficiency is shown in the figure below. The input voltage is 12V.



23 Switch Node Waveforms

The plot below shows the switching waveforms for the converter. The input is 12V.

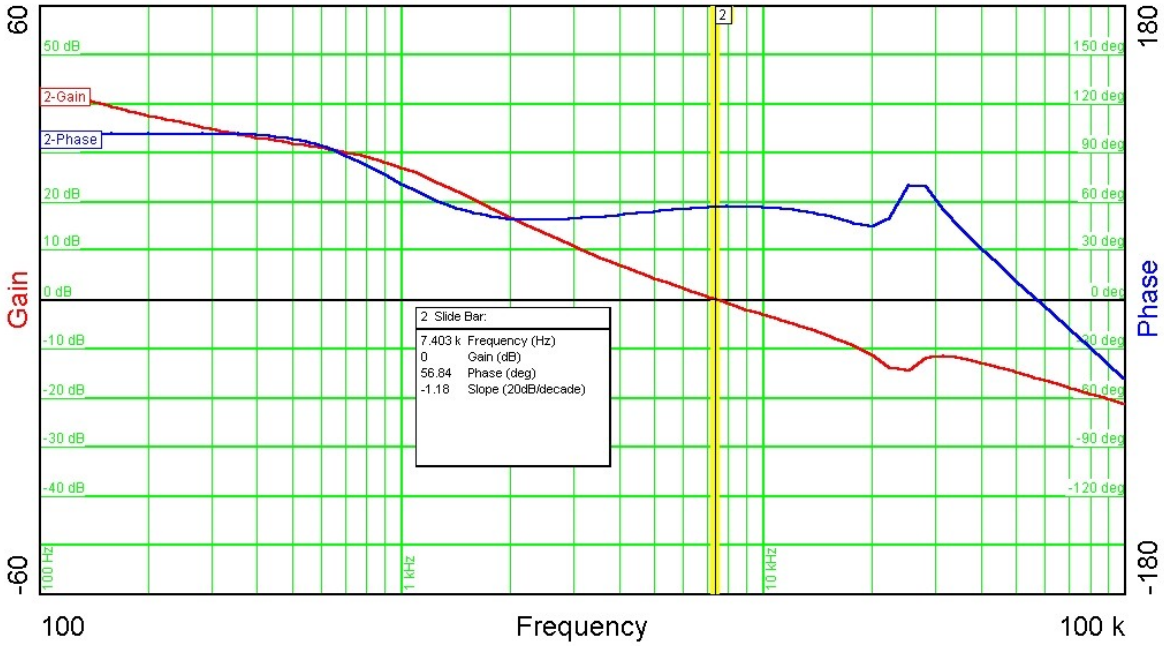
Channel 2: Switch Node - Pink (5V/Division)



200mA External Load, 20MHz Band Limited

24 Loop Response

The loop response of the converter is shown in the picture below. The input is 12V. The output is fully loaded.

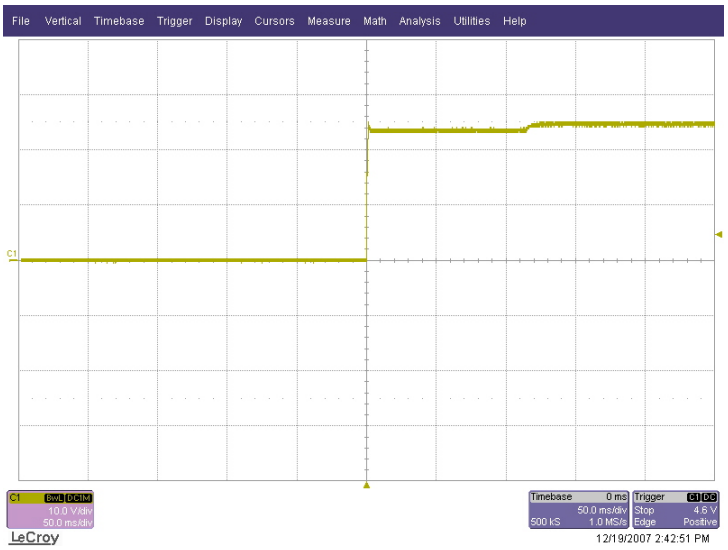


D TPS40210 – 25V @ 1A

25 Startup

The photo below shows the startup waveform. The input voltage is 24V and the output is not loaded. The time-base is set to 50ms/Division.

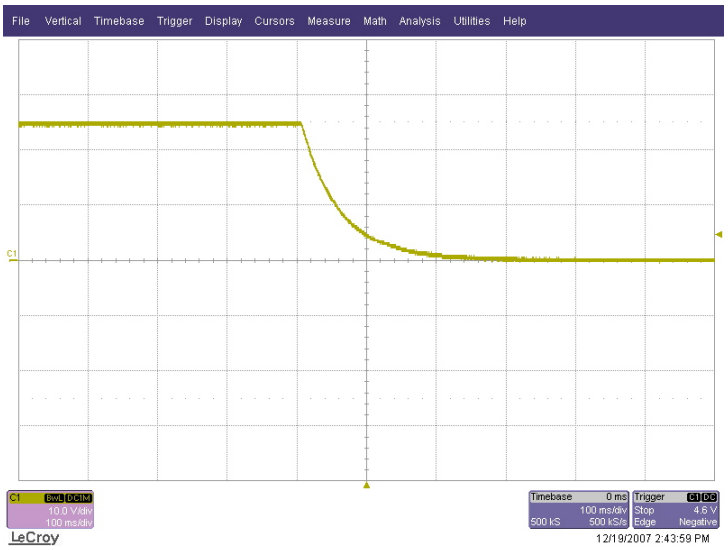
Channel 1: 25V Output - Yellow (10V/Division)



26 Shutdown

The photo below shows the shutdown waveform. The input voltage is 24V and the output is loaded with 1A. The time-base is set to 100ms/Division

Channel 1: 25V Output - Yellow (10V/Division)



27 Output Ripple Voltage/Switch Node

The photo below shows the output voltage ripple. The input voltage is 24V.

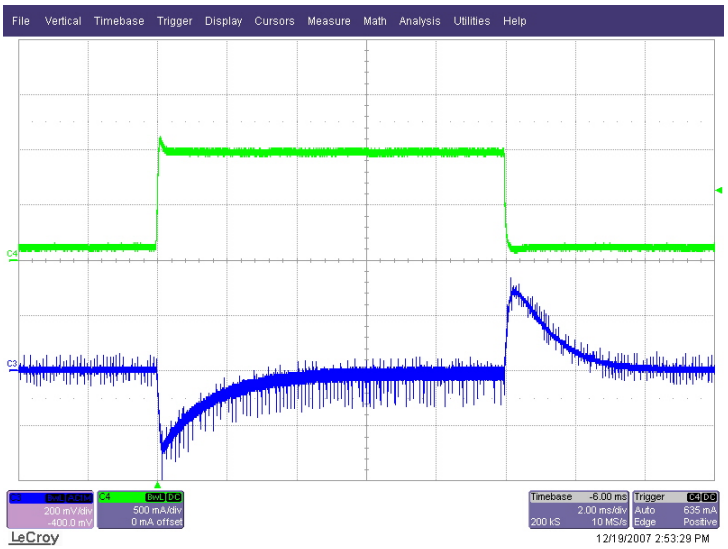
Channel 2 : Switch Node - Pink (10V/Division)
Channel 3: 25V Output - Blue (100mV/Division; AC Coupled)

1A External Load; 2us/Division

28 Load Transients

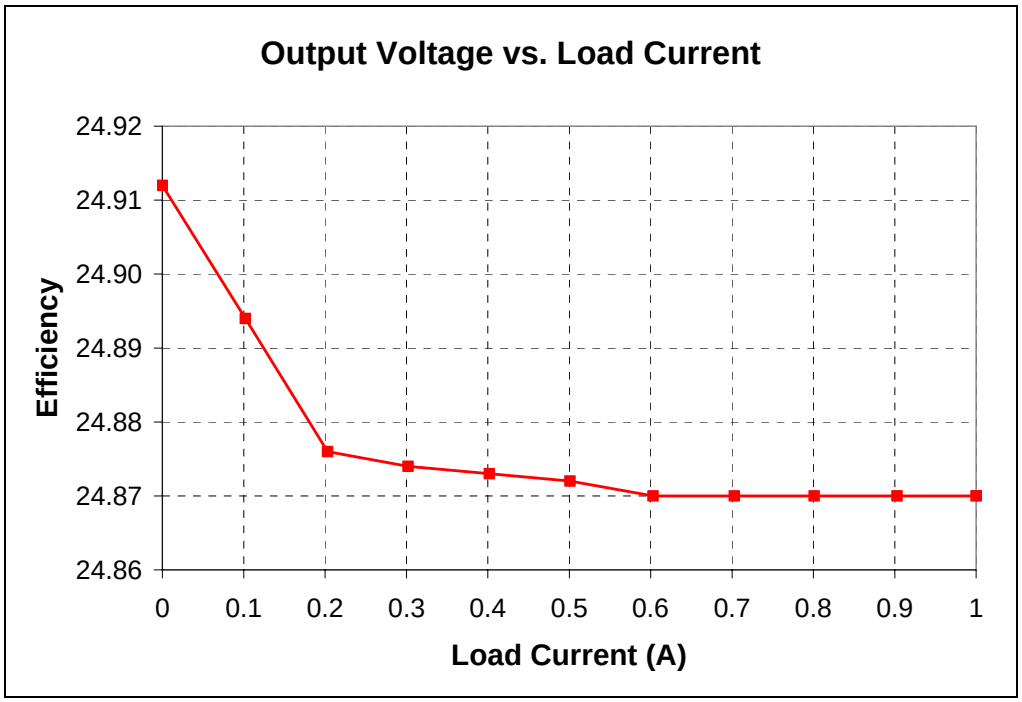
The photo below shows the transient response. The current is pulsed from 10% to 100% (0.1A to 1A). The input voltage is 24V. The time-base is set to 2ms/Division.

Channel 3: 25V Output - Blue (200mV/Division; AC Coupled)
Channel 4: Output Current - Green (500mA/Division)



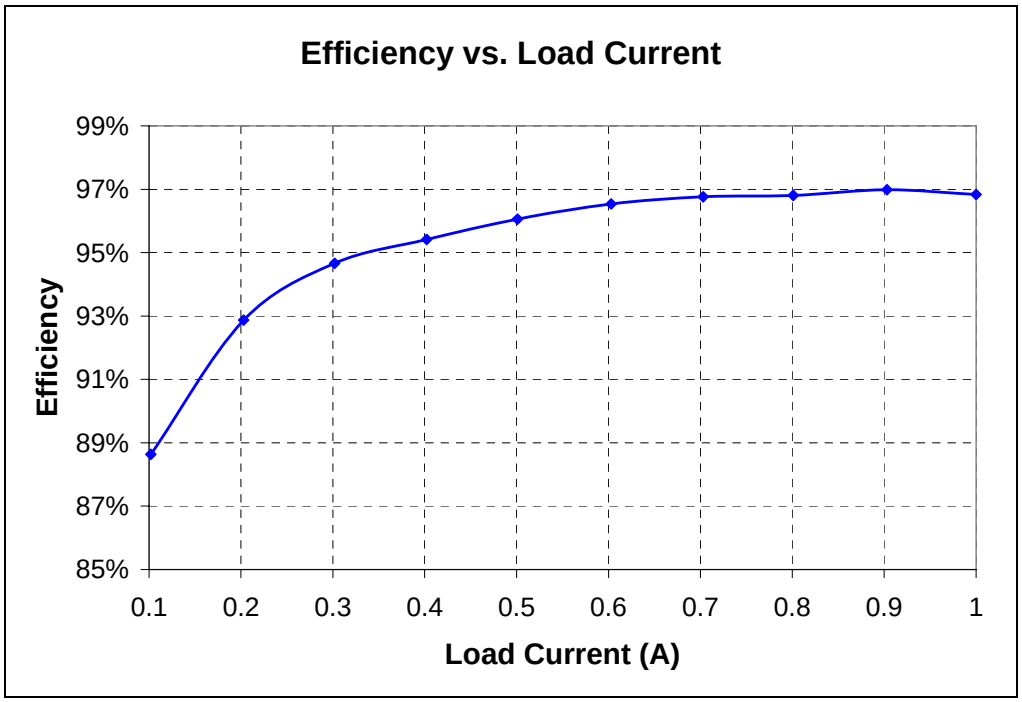
29 Load Regulation

The load regulation is shown in the figure below. The input voltage is 24V.



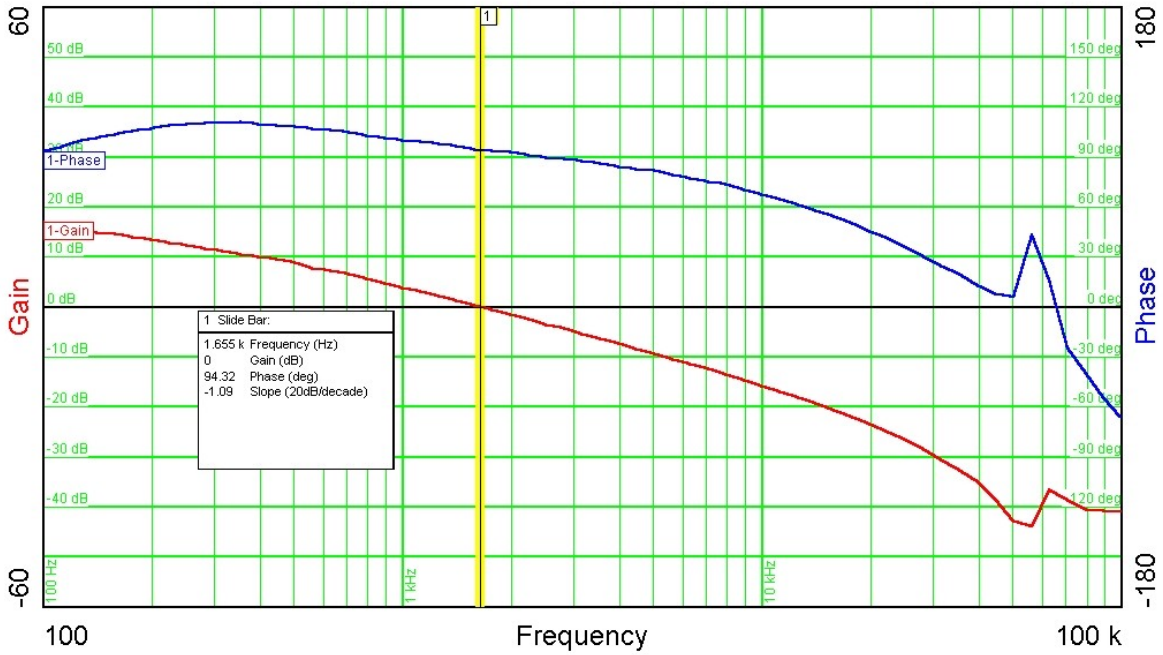
30 Efficiency

The efficiency is shown in the figure below. The input voltage is 24V.



31 Loop Response

The loop response of the converter is shown in the picture below. The input is 24V. The output is fully loaded.

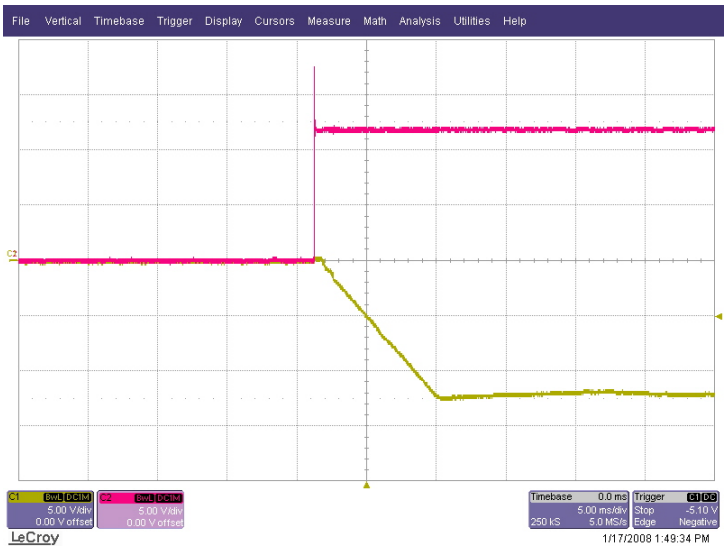


E. TPS5430 – -12V @ 200mA

32 Startup

The photo below shows the startup waveform. The input voltage is 12V and the output is not loaded. The time-base is set to 5ms/Division.

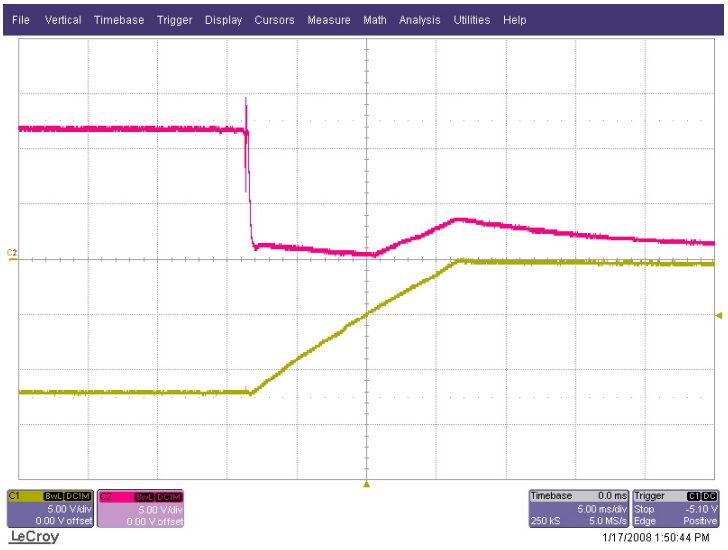
Channel 1: -12V Output - Yellow (2V/Division)
Channel 2: 12V Input - Pink (5V/Division)



33 Shutdown

The photo below shows the shutdown waveform. The input voltage is 12V and the output is loaded with 100mA. The time-base is set to 10ms/Division

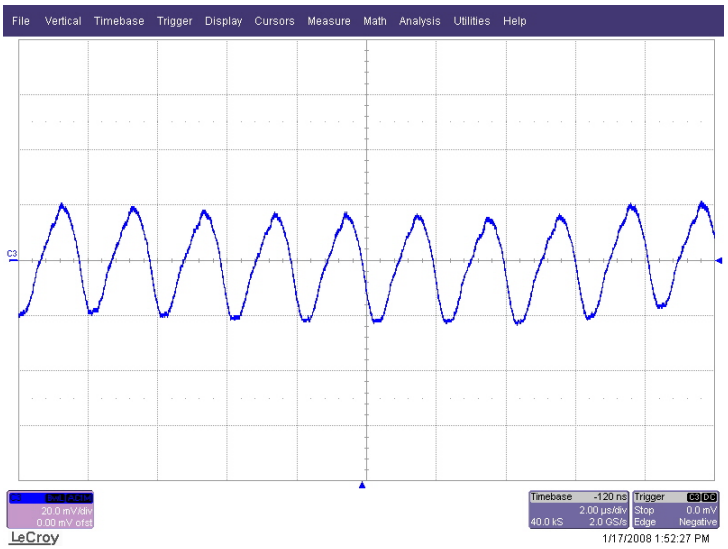
Channel 1: -12V Output - Yellow (2V/Division)
Channel 2: 12V Input - Pink (5V/Division)



34 Output Ripple Voltage

The photo below shows the output voltage ripple. The input voltage is 12V.

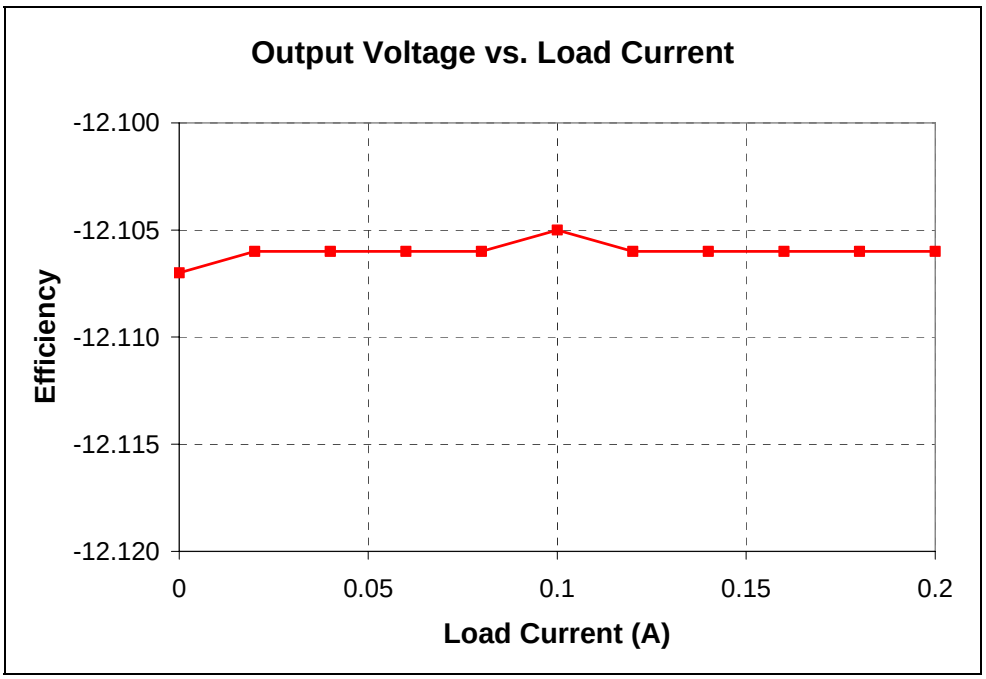
Channel 3: -5V Output - Blue (20mV/Division; AC Coupled)



200mA External Load; 5us/Division

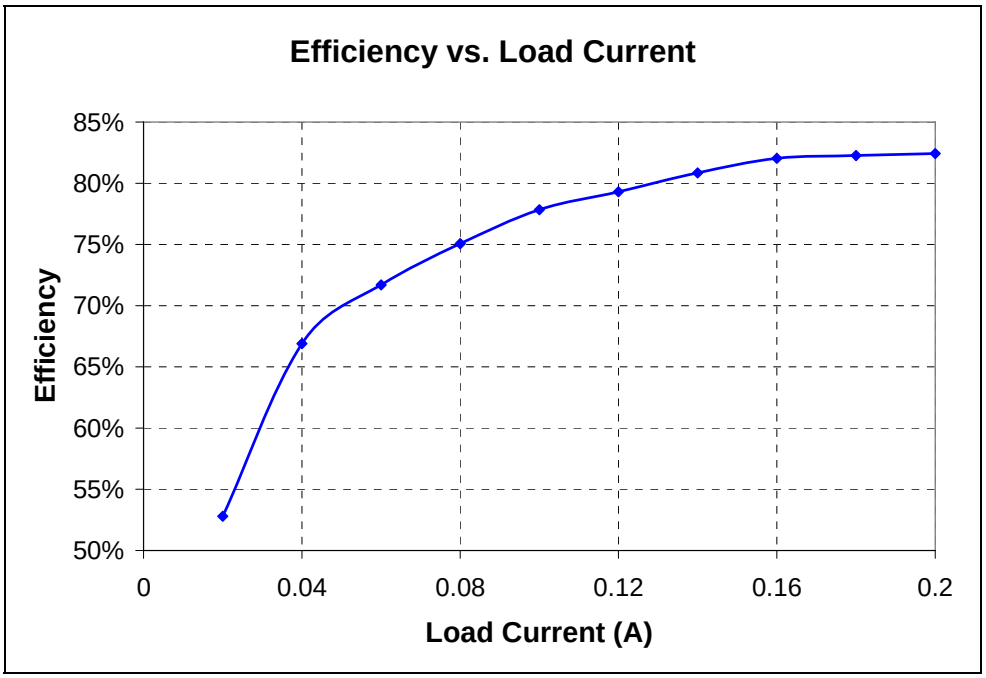
35 Load Regulation

The load regulation is shown in the figure below. The input voltage is 12V.



36 Efficiency

The efficiency is shown in the figure below. The input voltage is 12V.



37 Switch Node Waveforms

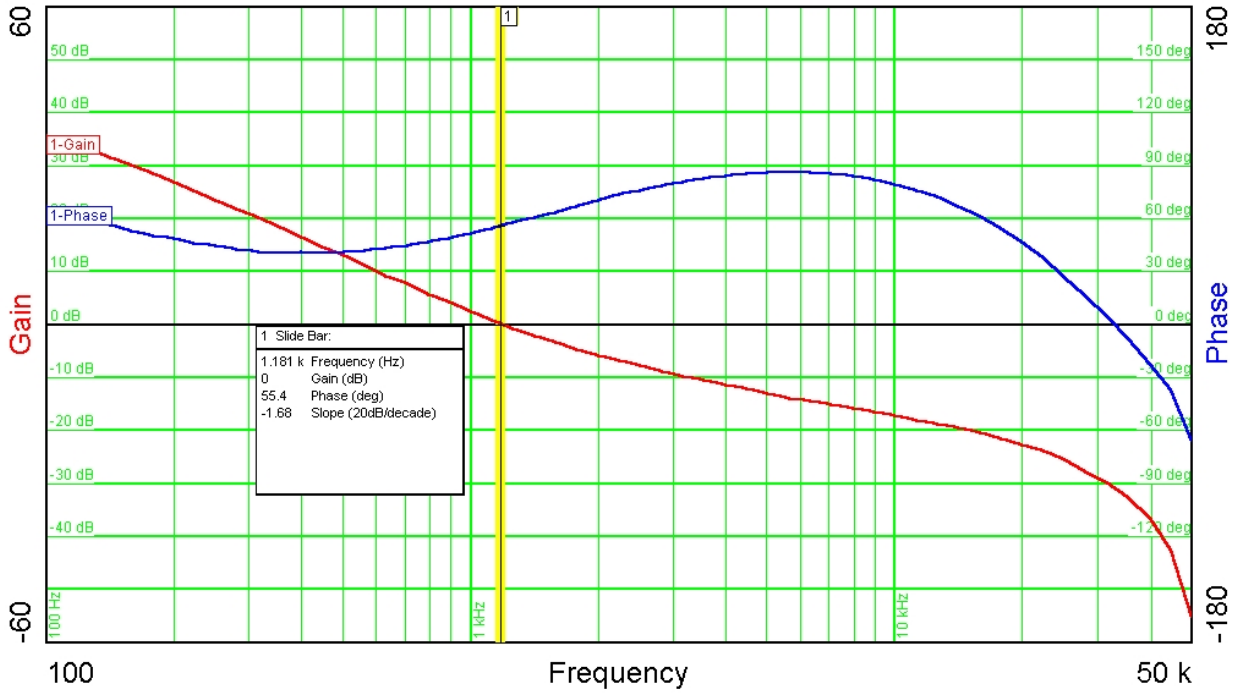
The plot below shows the switching waveforms for the converter. The input is 12V.

Channel 2: Switch Node - Pink (5V/Division)

200mA External Load, 20MHz Band Limited

38 Loop Response

The loop response of the converter is shown in the picture below. The input is 12V. The output is fully loaded.



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