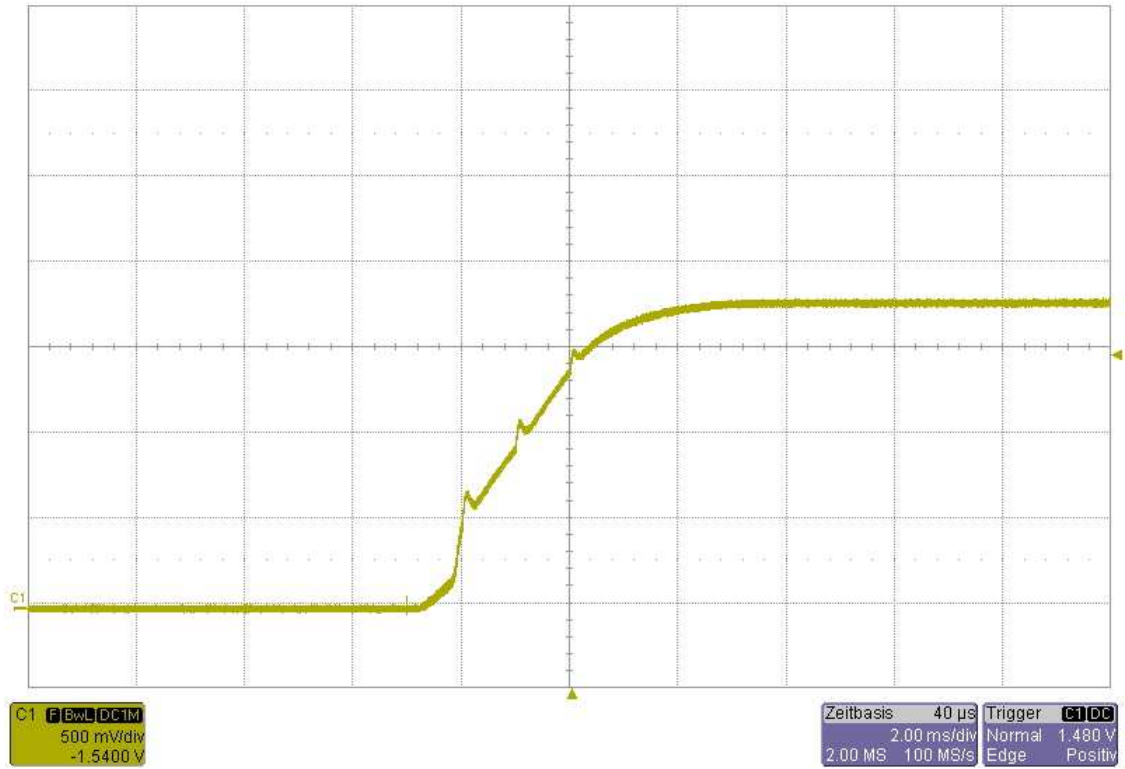


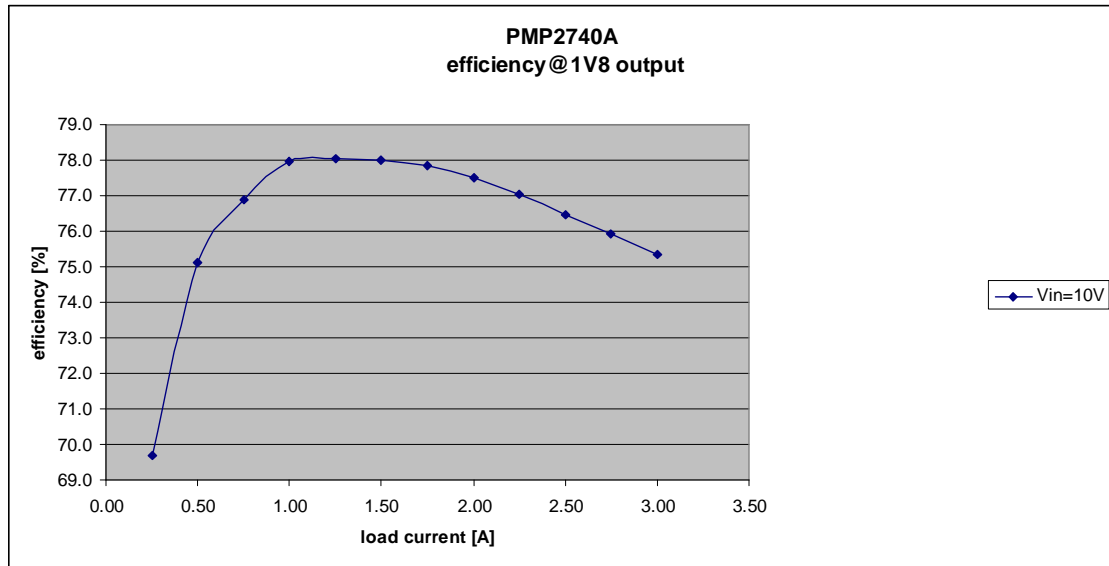
1 Startup

The startup waveform is shown in the figure below. The input voltage was set at 10V, with 3A load on the output.



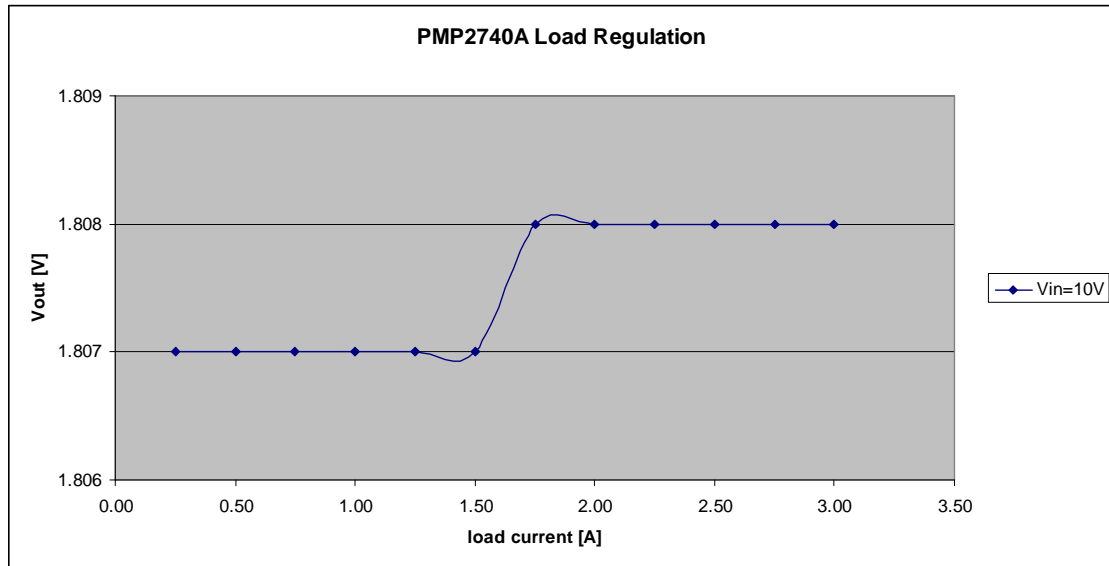
2 Efficiency

The efficiency is shown in the figure below.



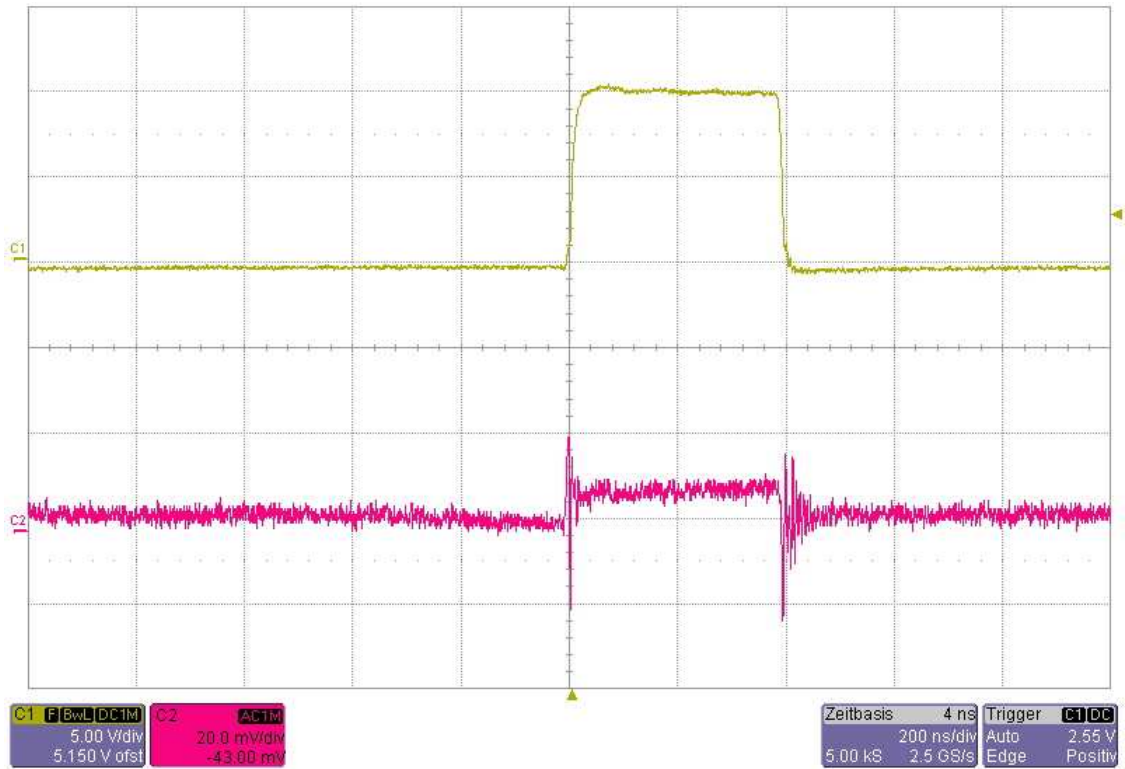
3 Load Regulation

The load regulation of the output is shown in the graph below.



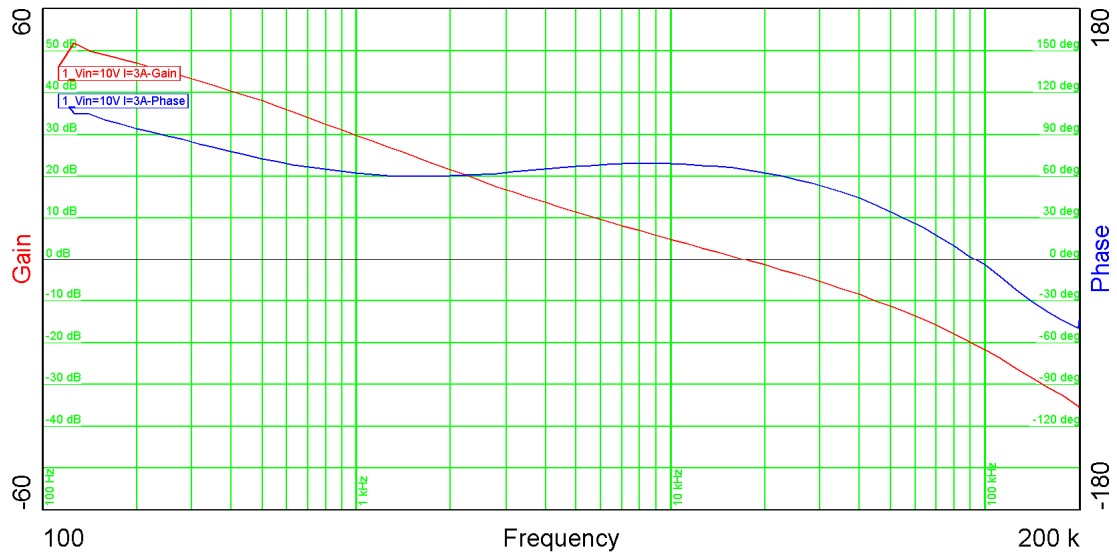
4 Output Ripple Voltage

The output ripple voltage is shown in the figure below. The image was taken with a 3 A load and 10V at the input – upper channel is switchnode, lower channel is output (AC-coupled).



5 Control Loop Frequency Response

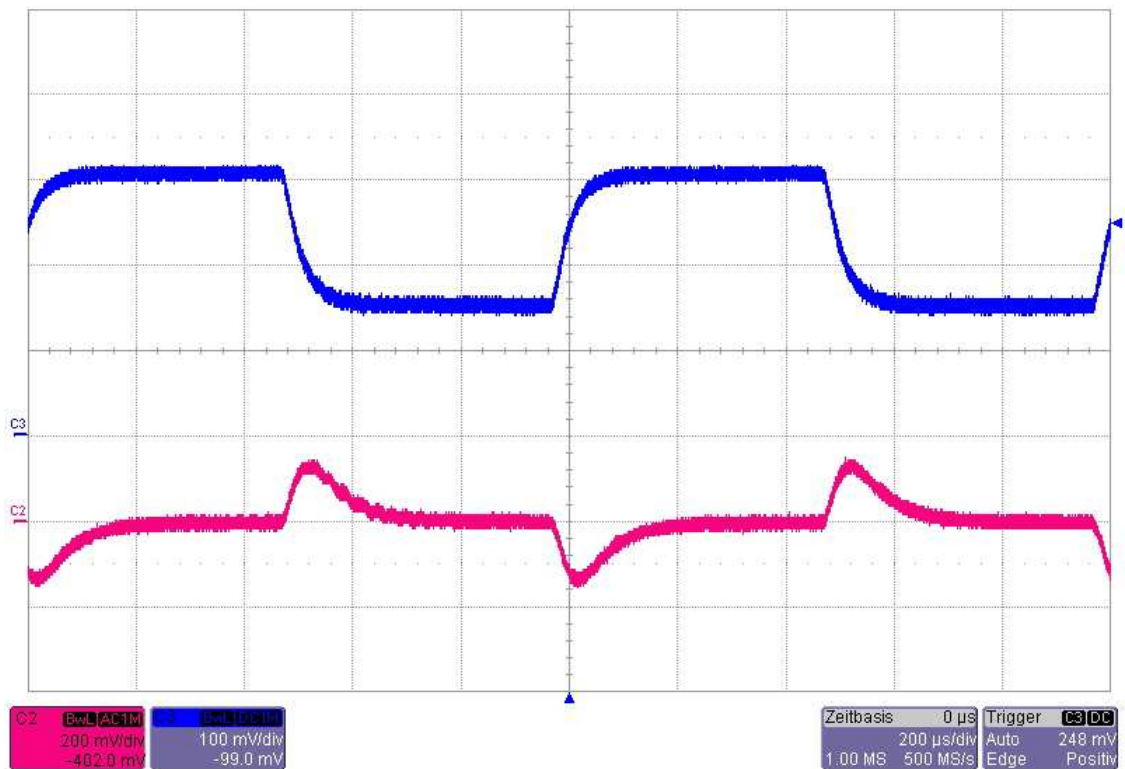
The figure below shows the loop response. The input voltage was set to 10V and the load current to 3A.



6 Load Transients

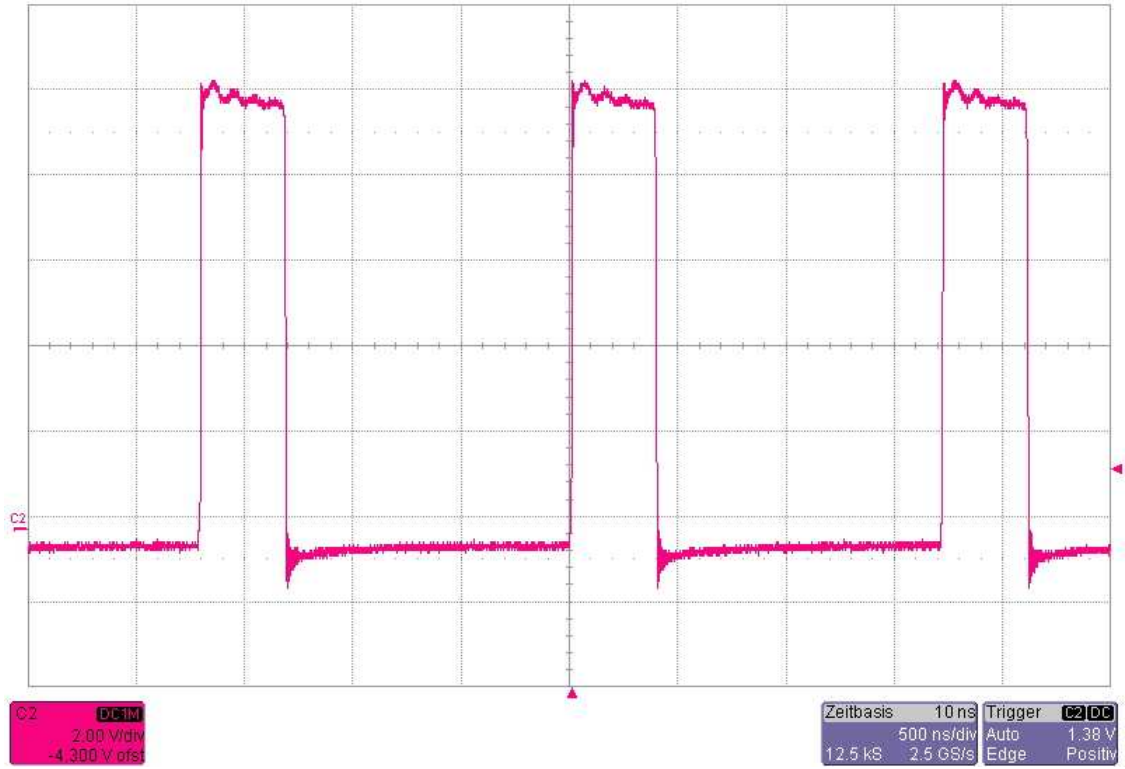
The figure below shows the response to load transients. The input voltage was set to 10V. The load is switching from 1.5A to 3A.

Channel 3 shows the output current: 100mV=1A
Channel 2 shows the output voltage



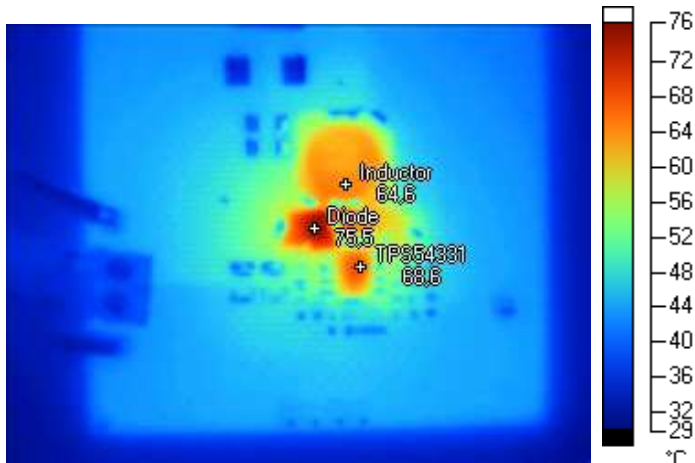
7 Switch Node Waveform

The load current: 3A



8 Thermal Measurement

load current: 3A

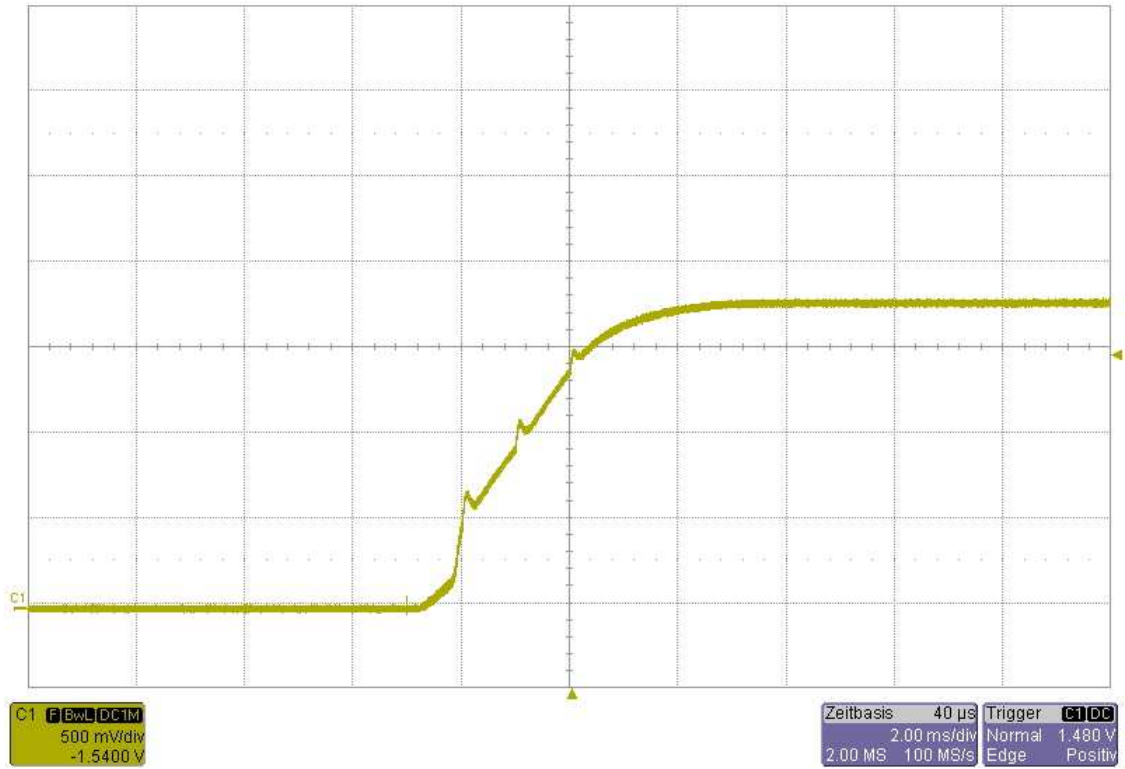


Marks

Diode	75,5 °C
TPS54331	68,6 °C
Inductor	64,6 °C

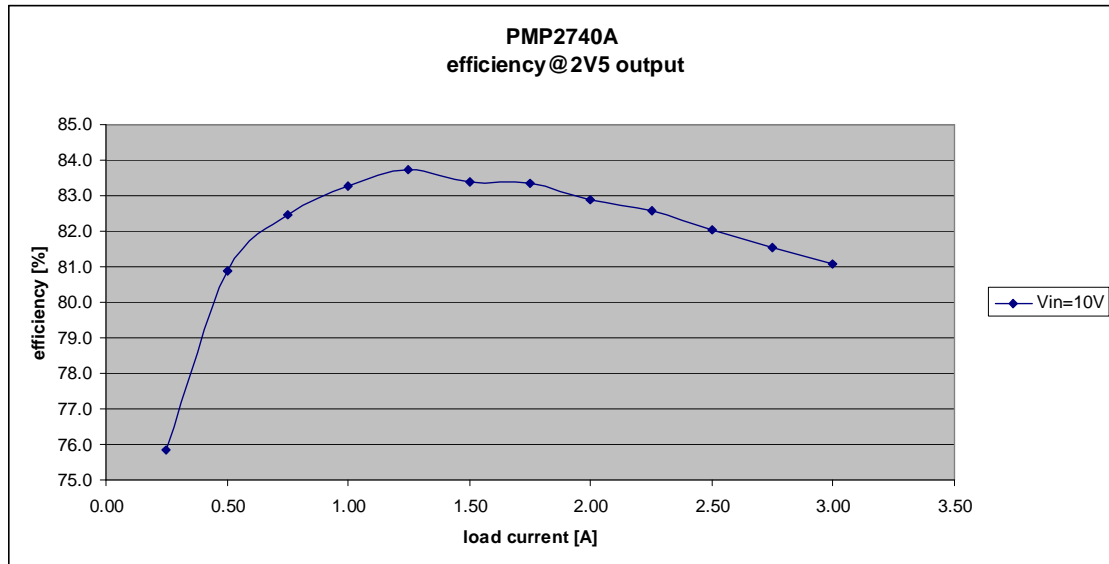
1 Startup

The startup waveform is shown in the figure below. The input voltage was set at 10V, with 3A load on the output.



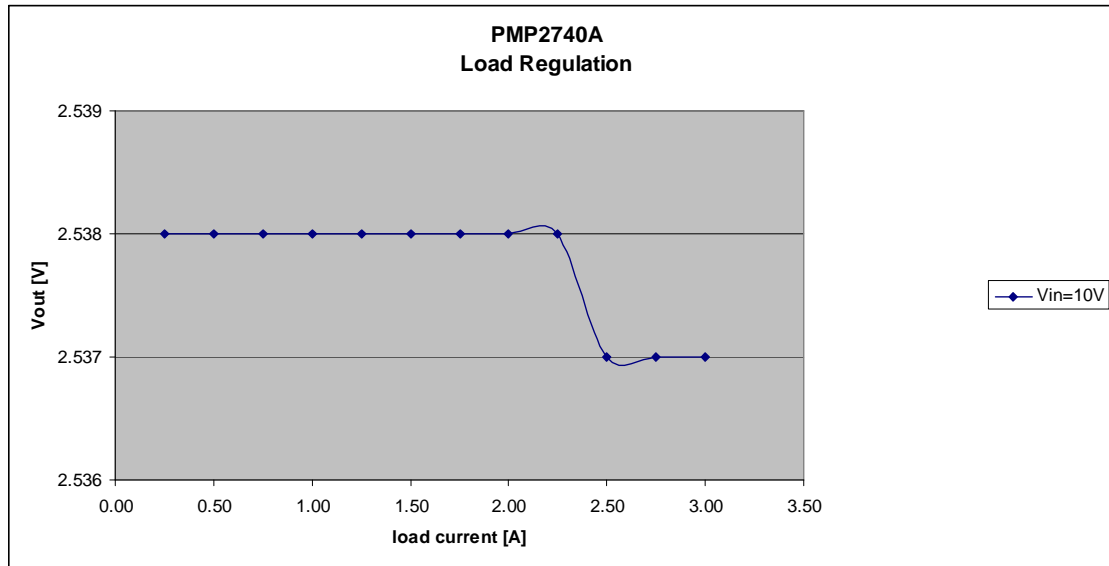
2 Efficiency

The efficiency is shown in the figure below.



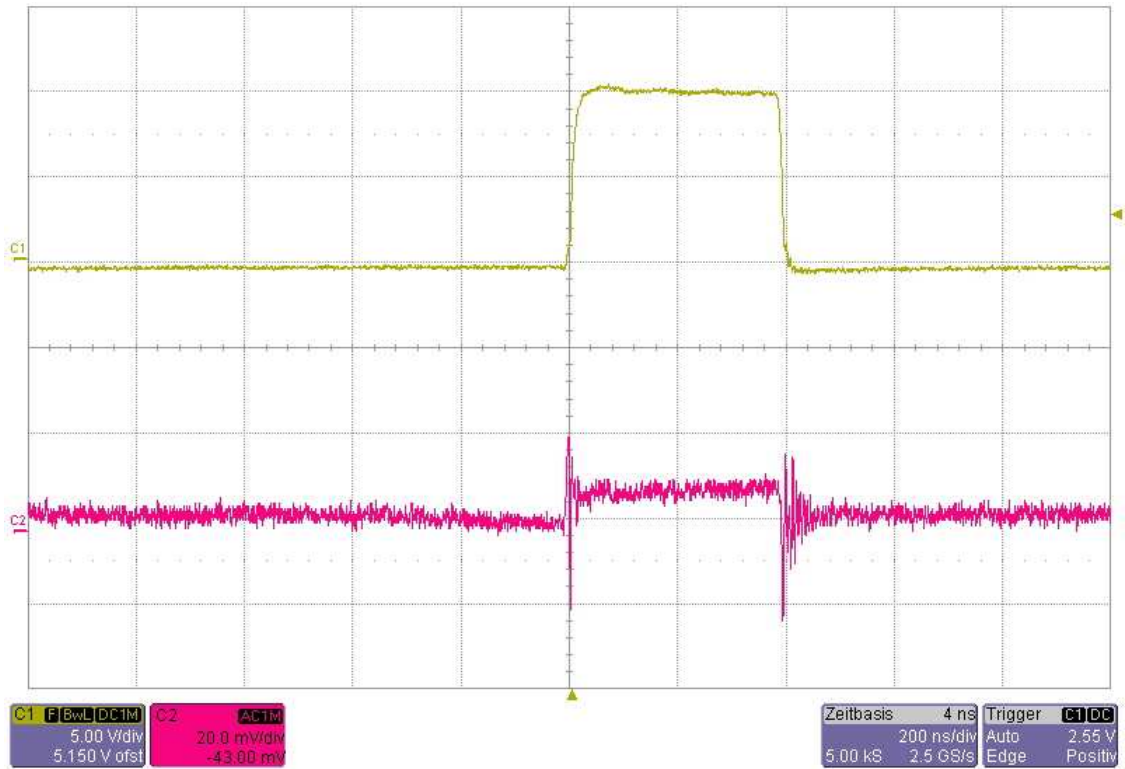
3 Load Regulation

The load regulation of the output is shown in the graph below.



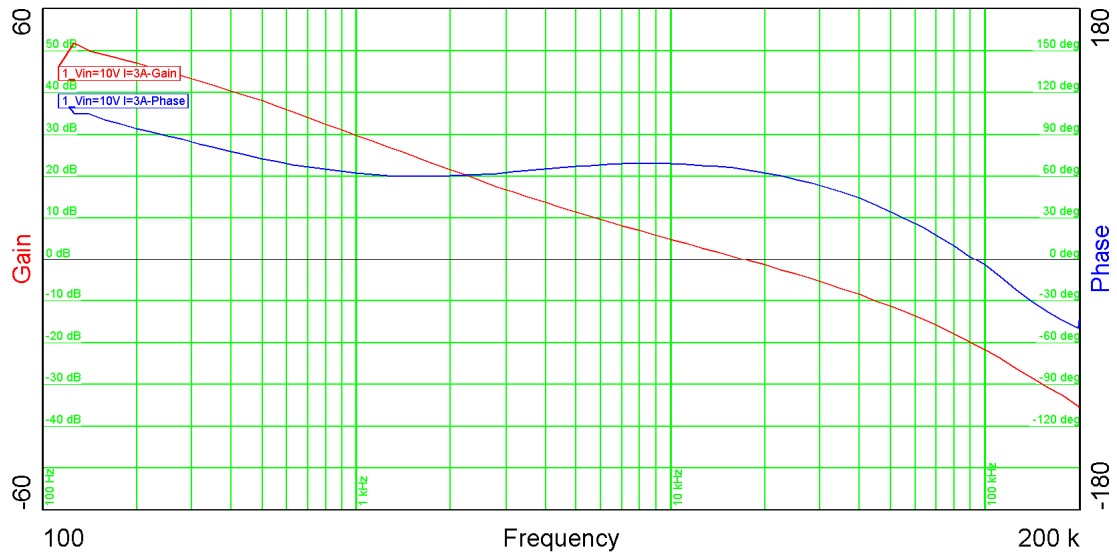
4 Output Ripple Voltage

The output ripple voltage is shown in the figure below. The image was taken with a 3 A load and 10V at the input – upper channel is switchnode, lower channel is output (AC-coupled).



5 Control Loop Frequency Response

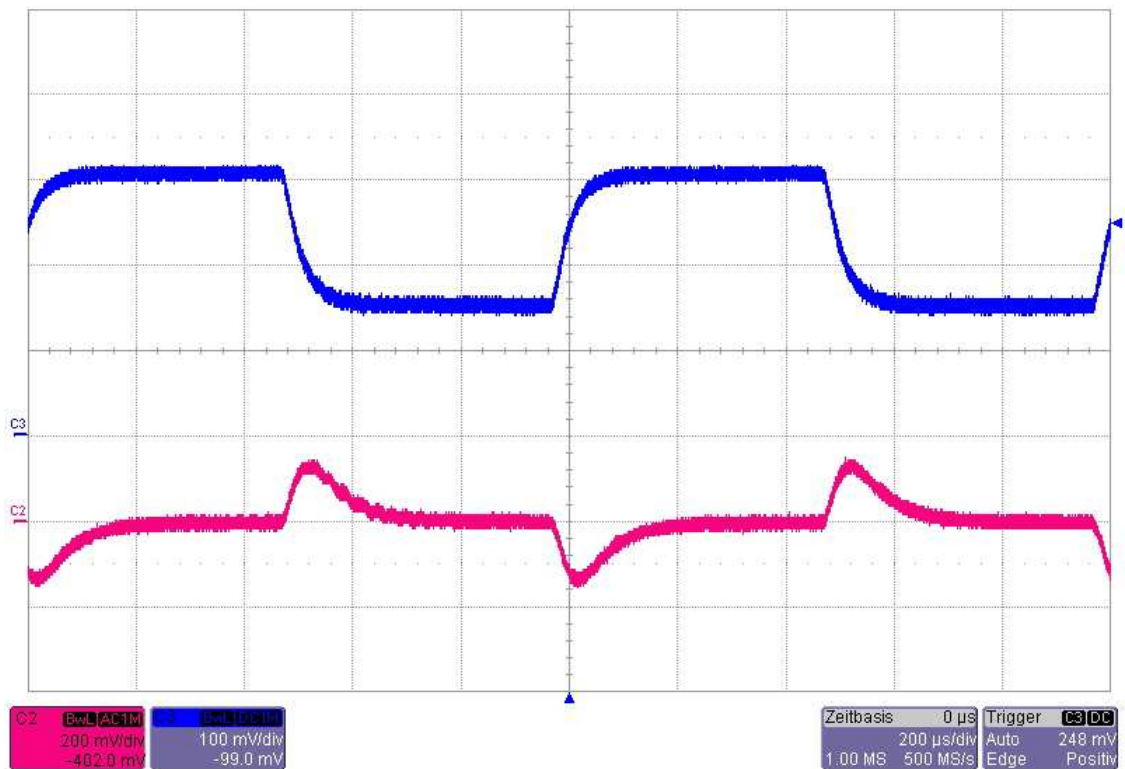
The figure below shows the loop response. The input voltage was set to 10V and the load current to 3A.



6 Load Transients

The figure below shows the response to load transients. The input voltage was set to 10V. The load is switching from 1.5A to 3A.

Channel 3 shows the output current: 100mV=1A
 Channel 2 shows the output voltage



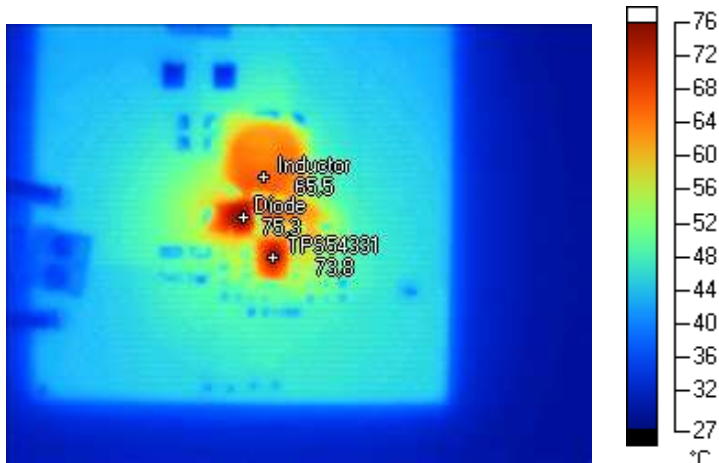
7 Switch Node Waveform – rising edge w/ short leads

The load current: 3A



8 Thermal Measurement

load current: 3A

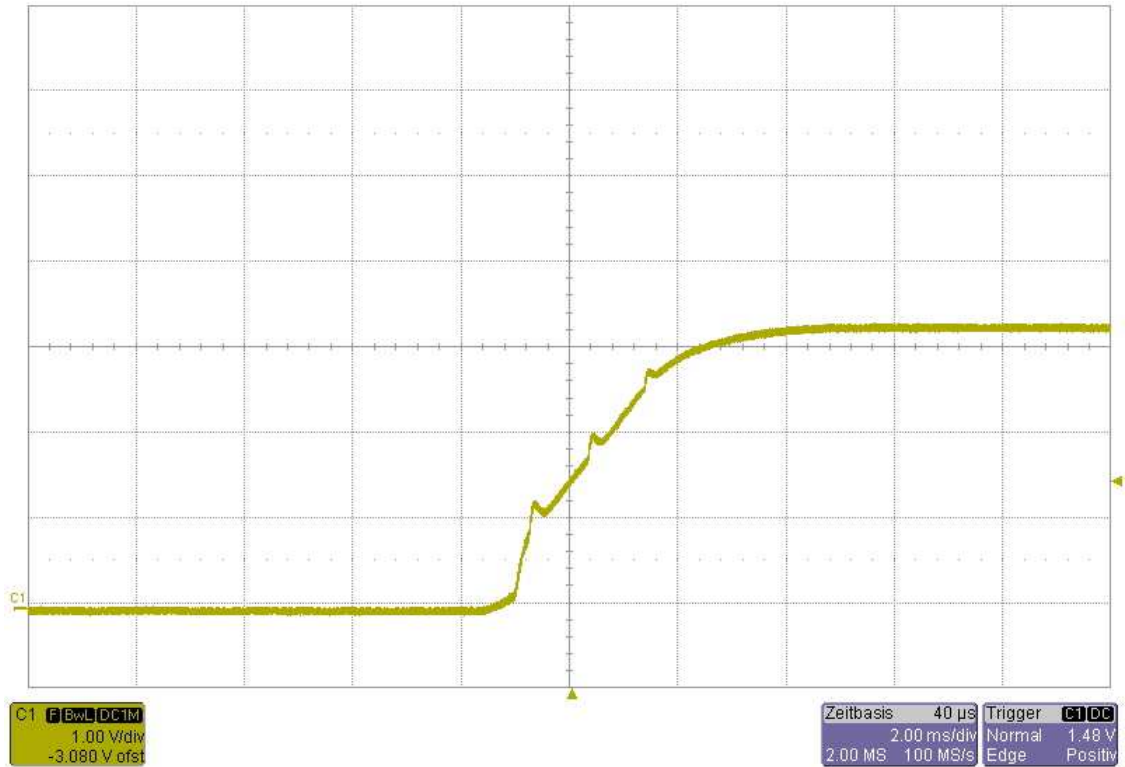


Marks

TPS54331	73,8 °C
Diode	75,3 °C
Inductor	65,5 °C

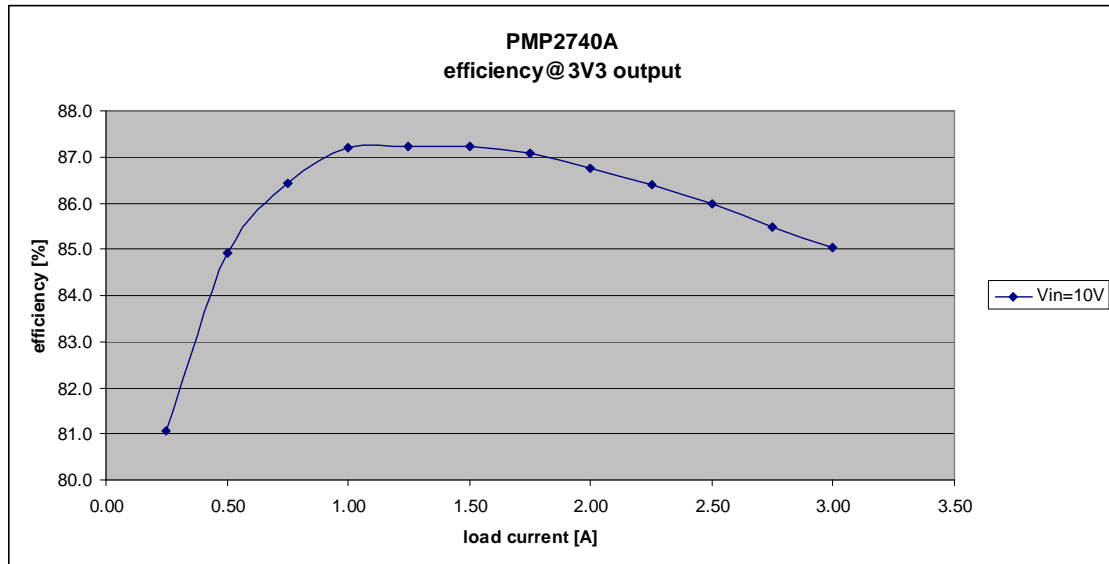
1 Startup

The startup waveform is shown in the figure below. The input voltage was set at 10V, with 3A load on the output.



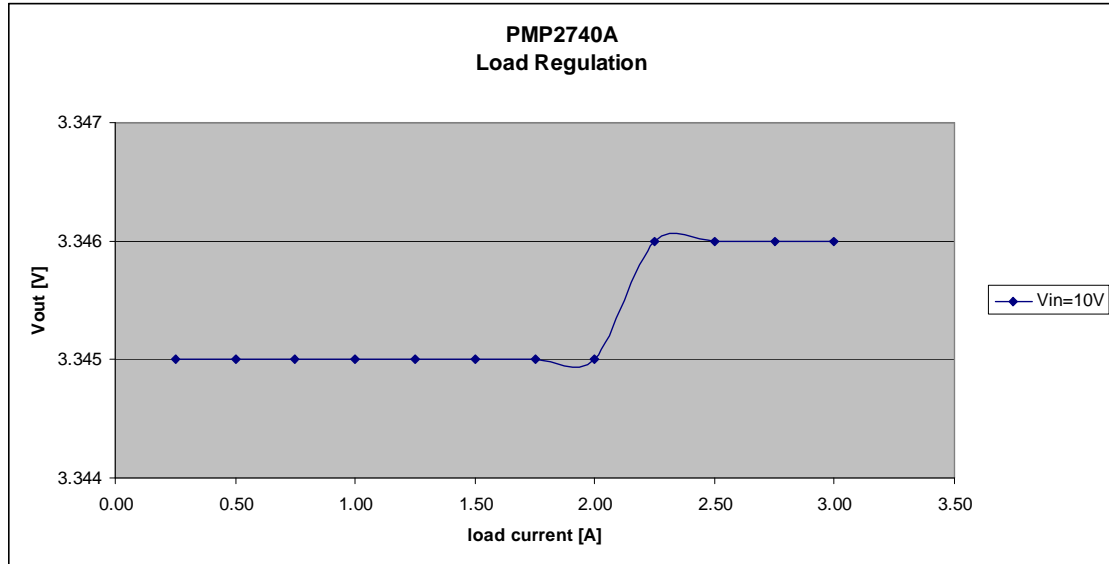
2 Efficiency

The efficiency is shown in the figure below.



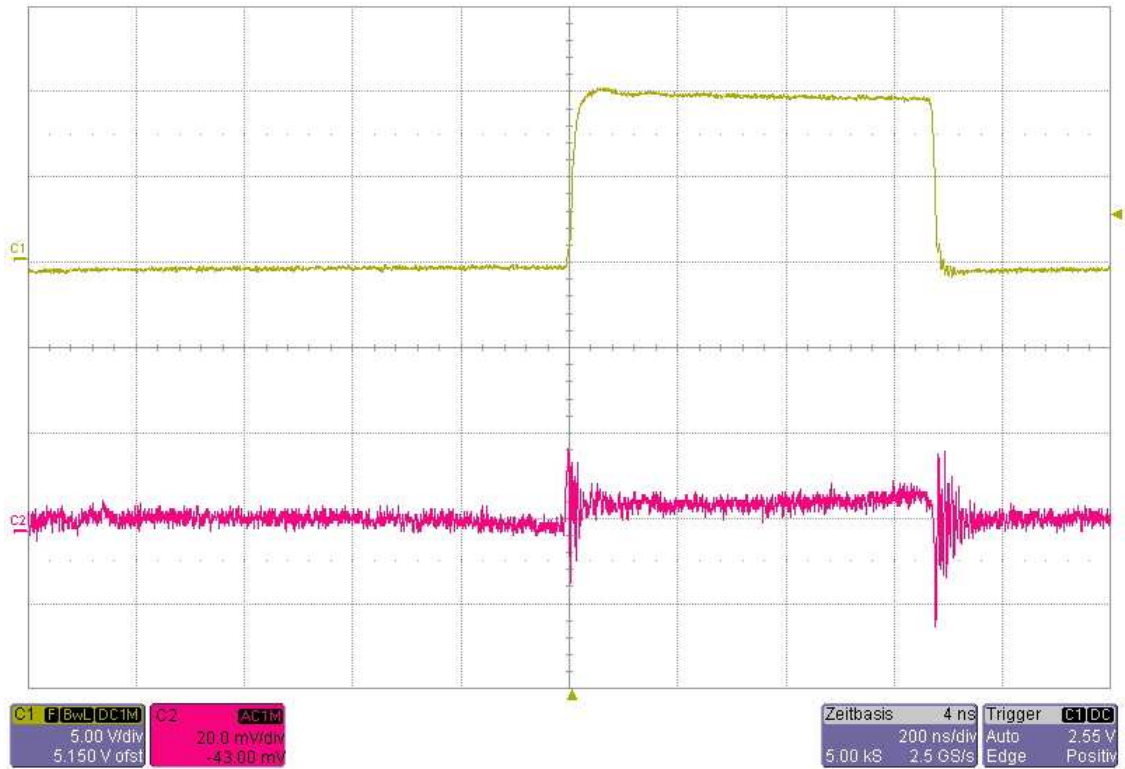
3 Load Regulation

The load regulation of the output is shown in the graph below.



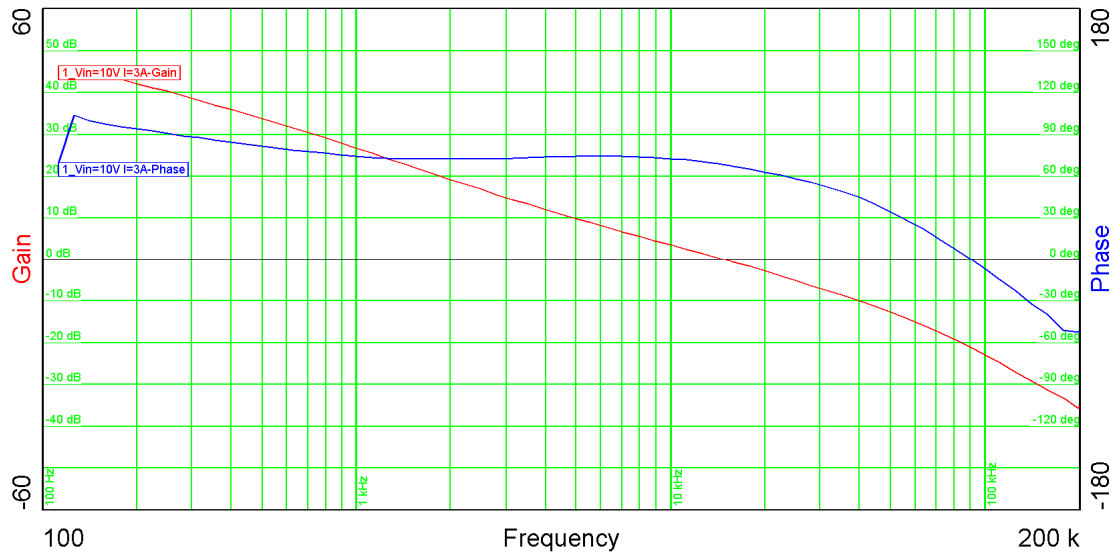
4 Output Ripple Voltage

The output ripple voltage is shown in the figure below. The image was taken with a 3 A load and 10V at the input – upper channel is switchnode, lower channel is output (AC-coupled).



5 Control Loop Frequency Response

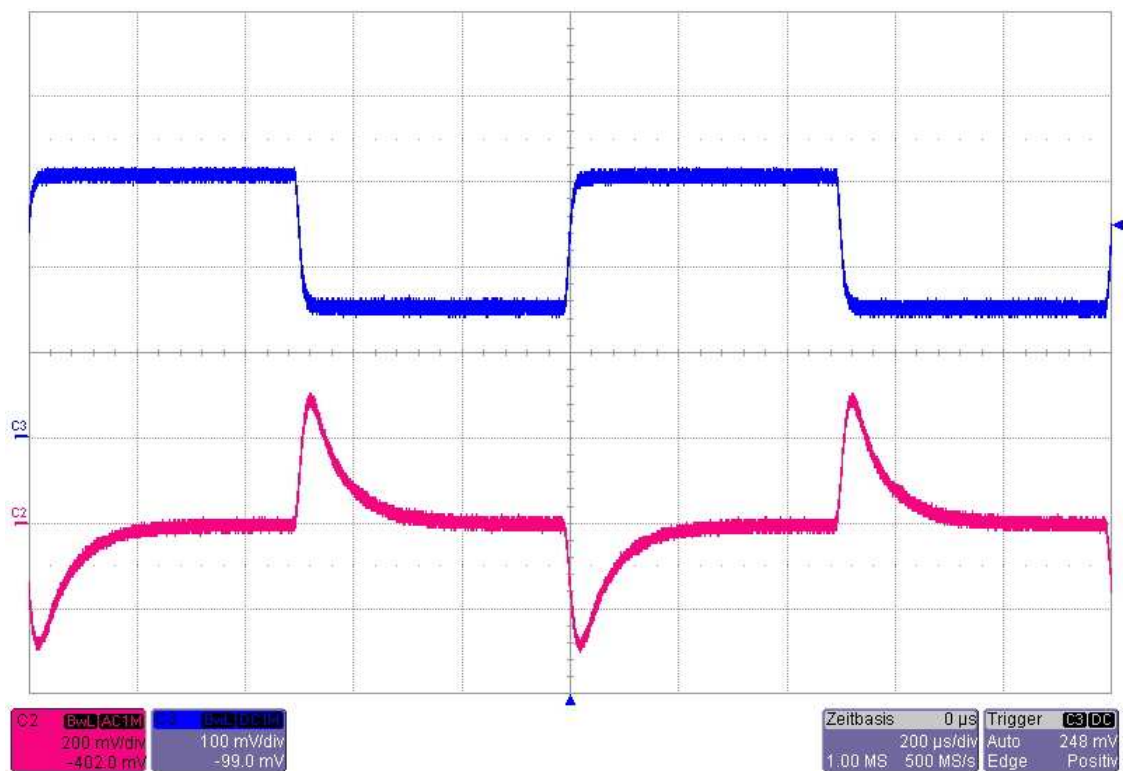
The figure below shows the loop response. The input voltage was set to 10V and the load current to 3A.



6 Load Transients

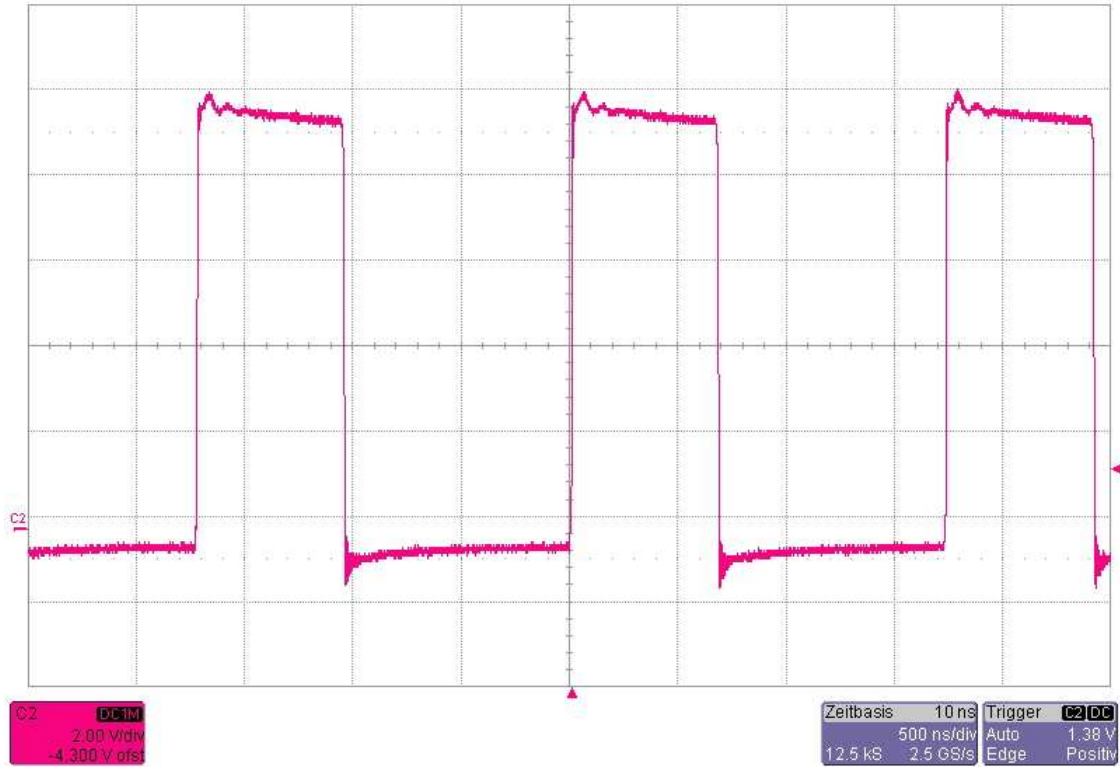
The figure below shows the response to load transients. The input voltage was set to 10V. The load is switching from 1.5A to 3A.

Channel 3 shows the output current: 100mV=1A
Channel 2 shows the output voltage



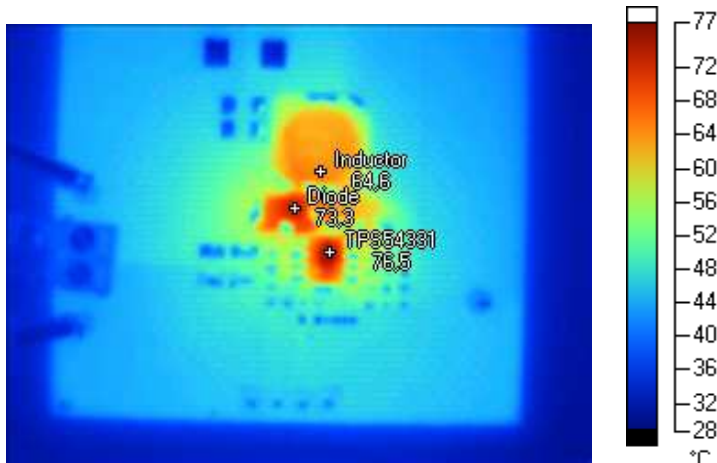
7 Switch Node Waveform – rising edge w/ short leads

The load current: 3A



8 Thermal Measurement

load current: 3A



Marks

Inductor	64,6 °C
Diode	73,3 °C
TPS54331	76,5 °C

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