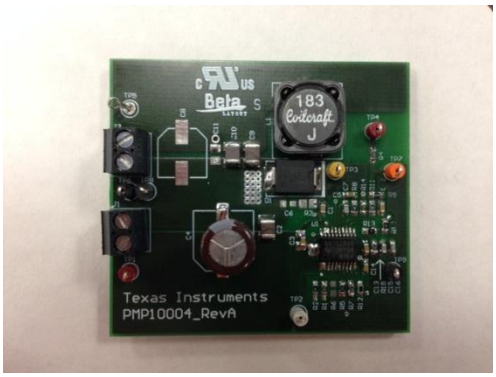
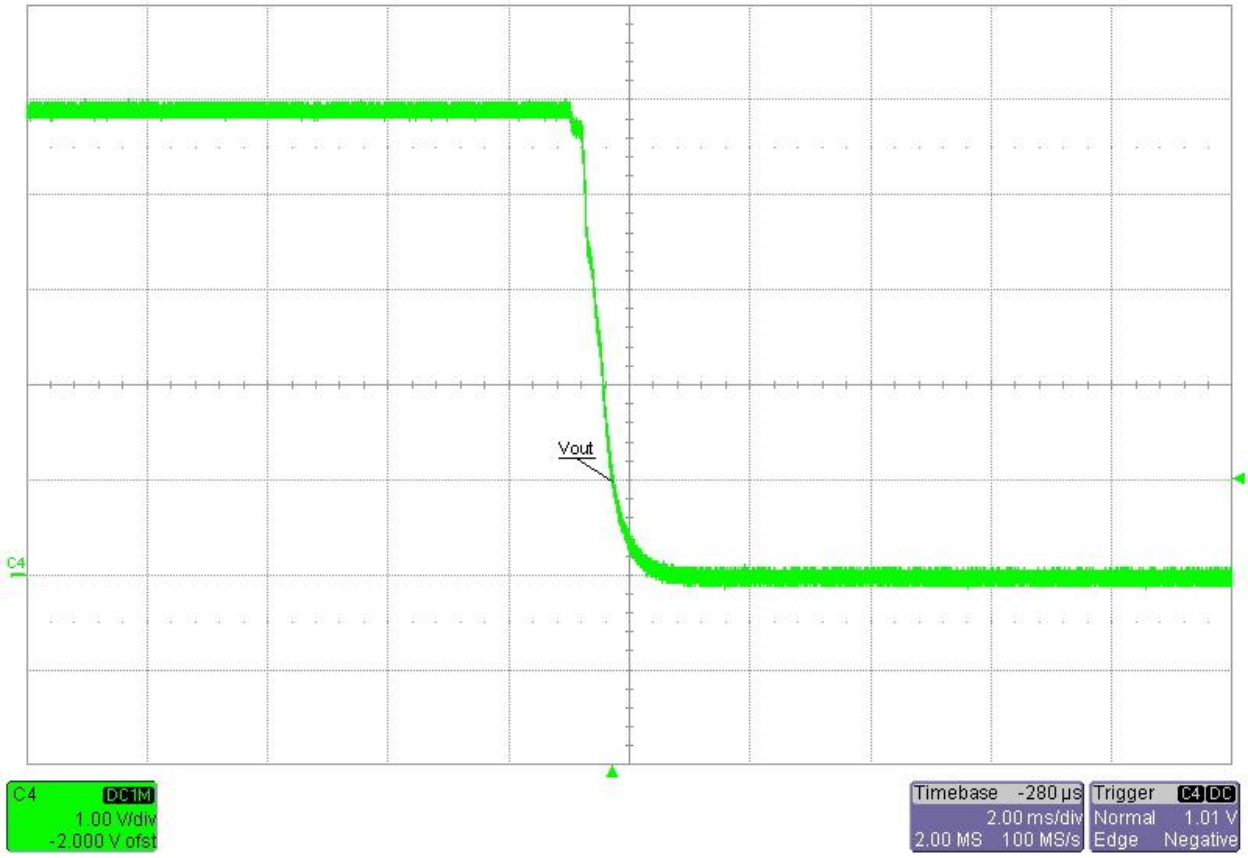
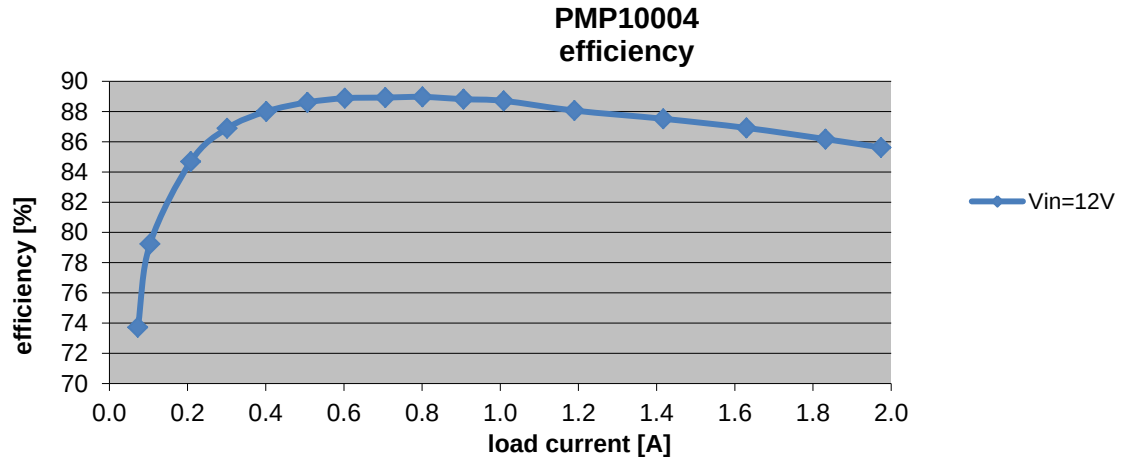


1 Shutdown

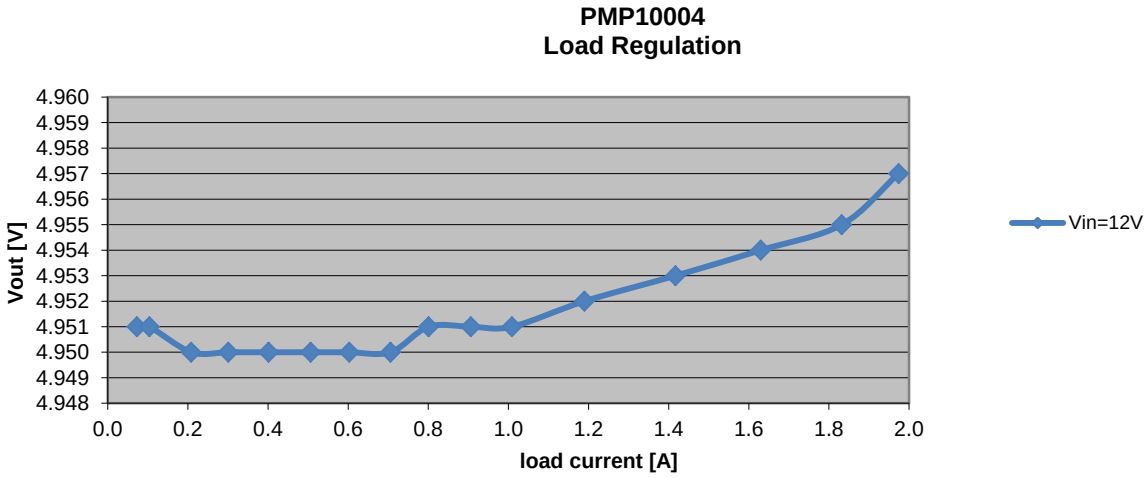
Input voltage = 12VDC
Load current = full load (2.0A)



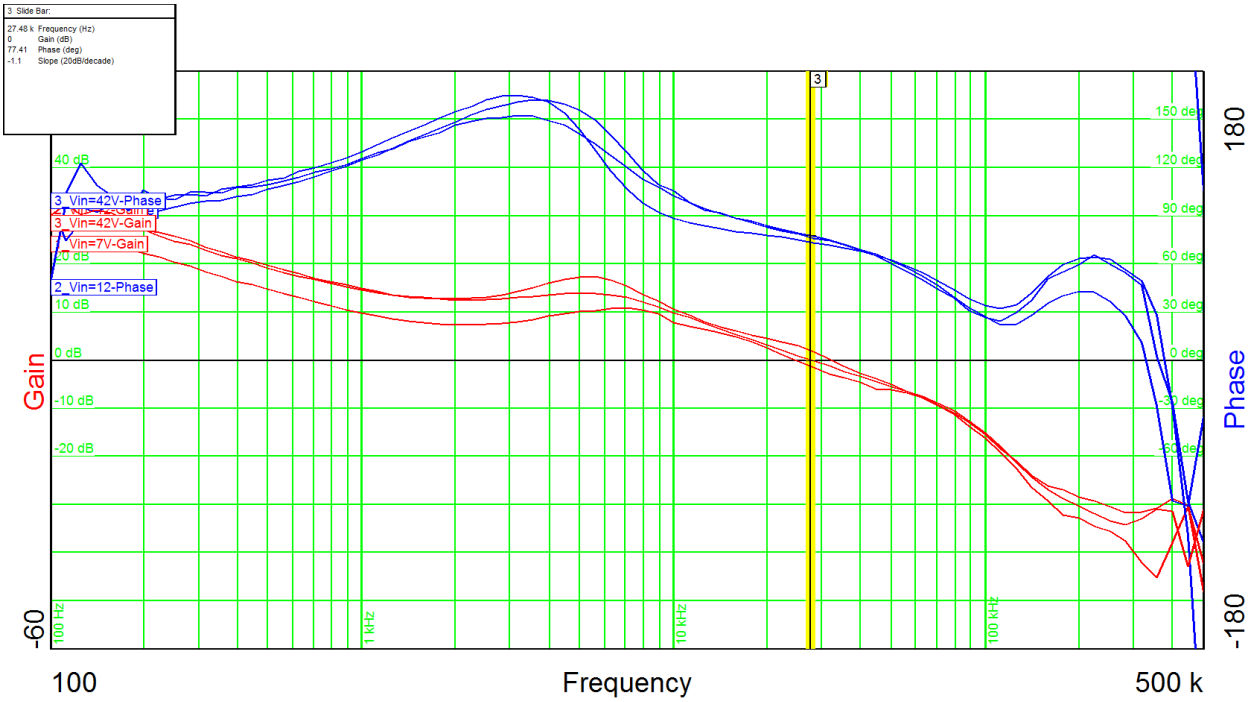
2 Efficiency



3 Load regulation



4 Control Loop Frequency Response



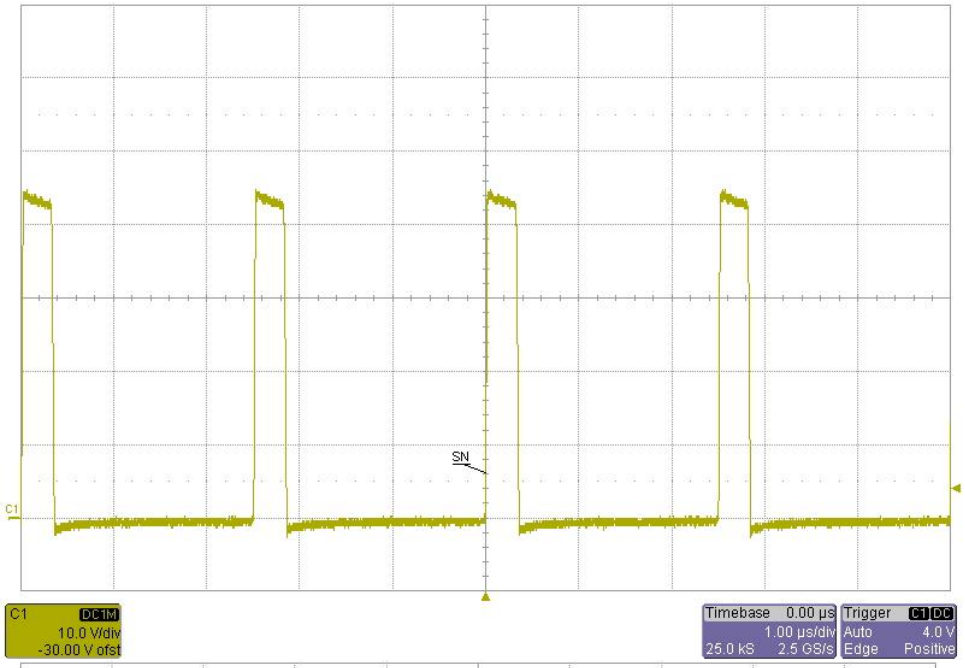
Output power = 5V@2.0A
Input voltage = 7VDC
Phase margin = 79°
Bandwidth = 24.4kHz

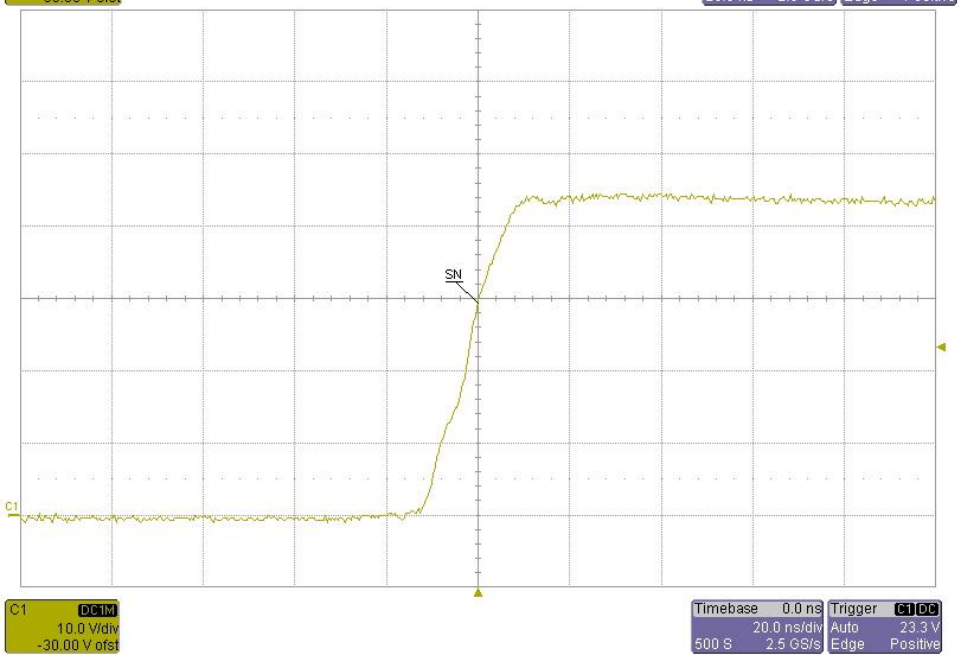
Output power = 5V@2.0A
Input voltage = 12VDC
Phase margin = 71°
Bandwidth = 32.0kHz

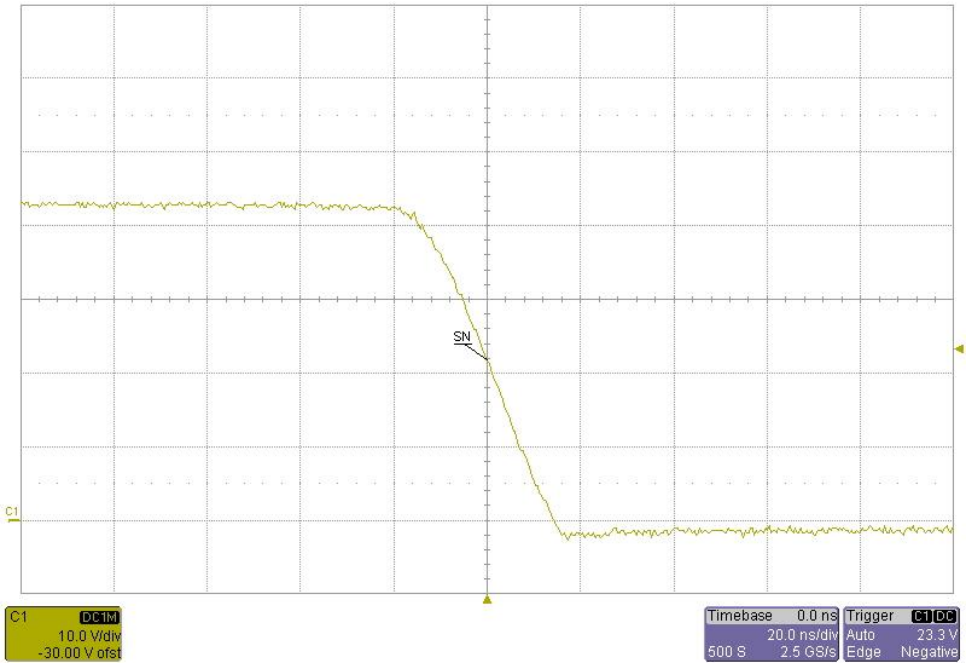
Output power = 5V@2.0A
Input voltage = 42VDC
Phase margin = 77°
Bandwidth = 27.5kHz

5 Switch Node

Input voltage = 42VDC
Load current = full load (2.0A)

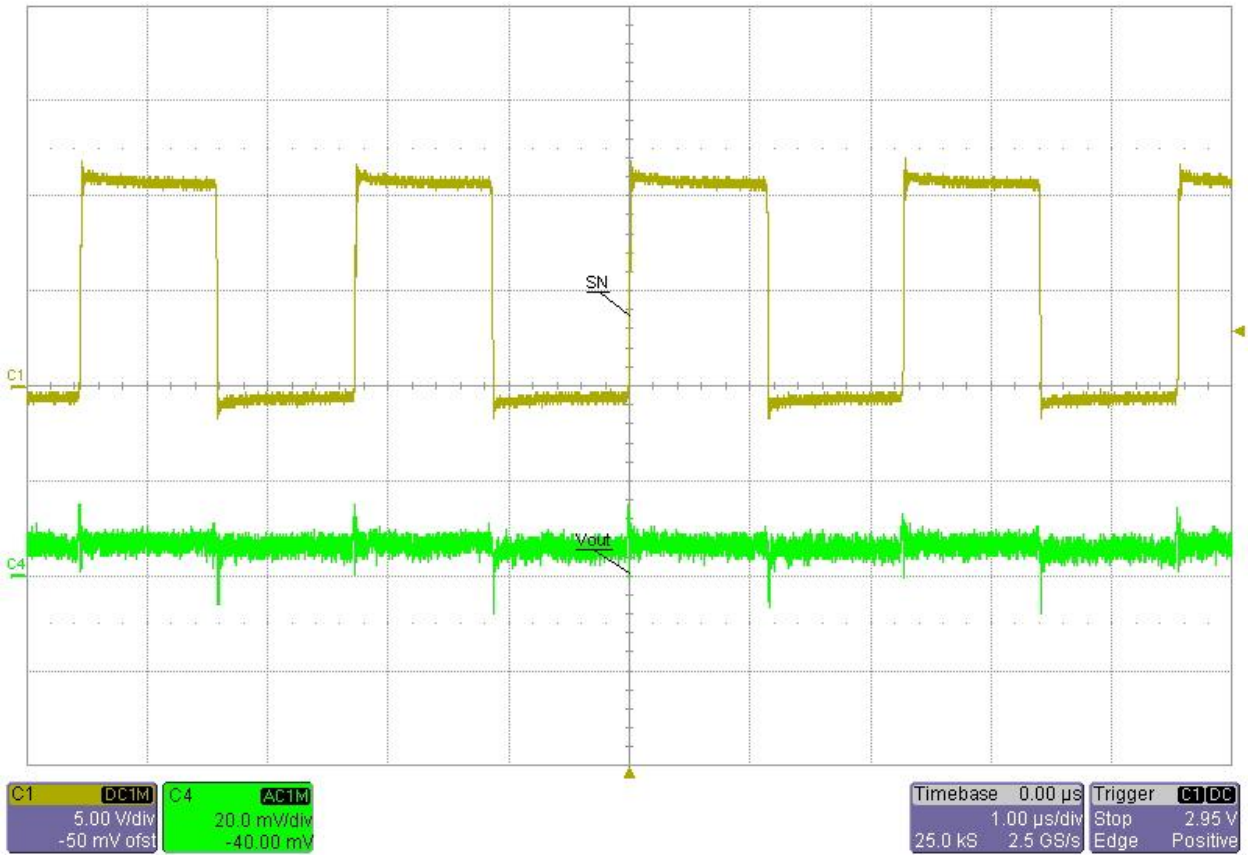





SN
C1
C1 DC 1M
10.0 V/div
-30.00 V ofst
Timebase 0.0 ns
20.0 ns/div
500 S 2.5 GS/s
Trigger C1 DC
Auto 23.3 V
Edge Negative

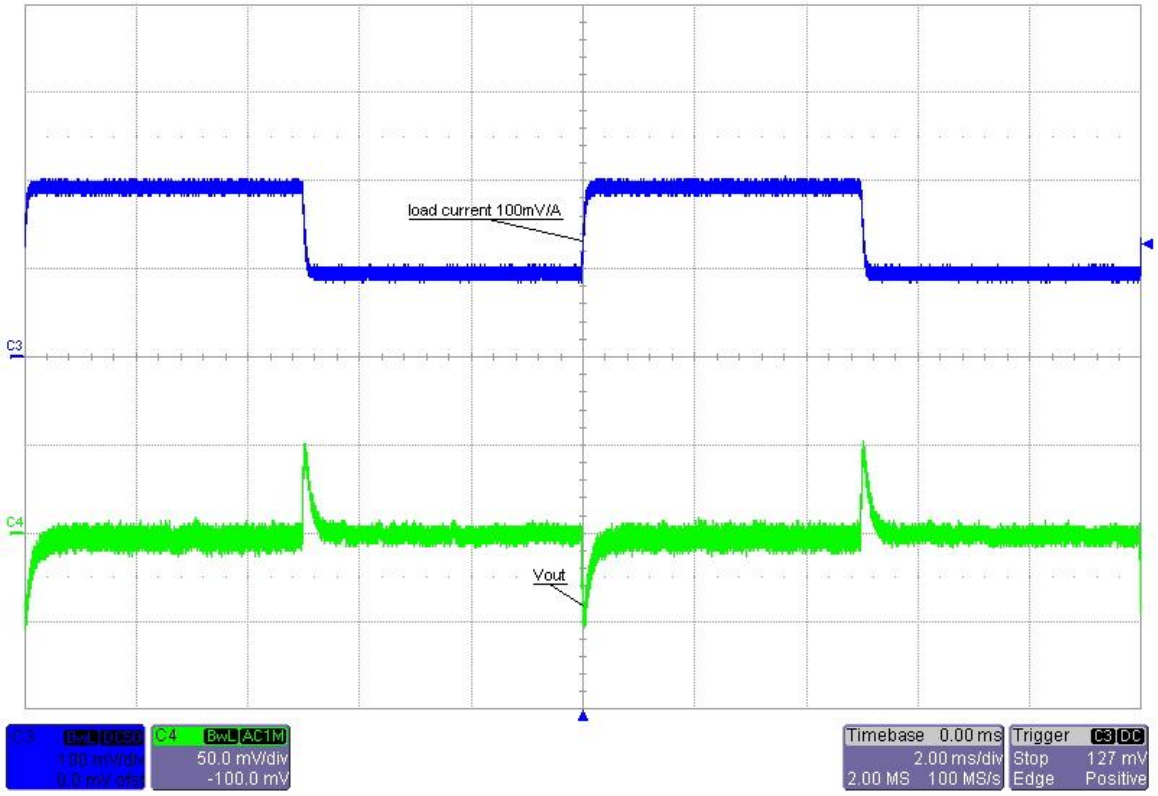
6 Output ripple voltage

Input voltage = 12VDC
Load current = full load (2.0A)

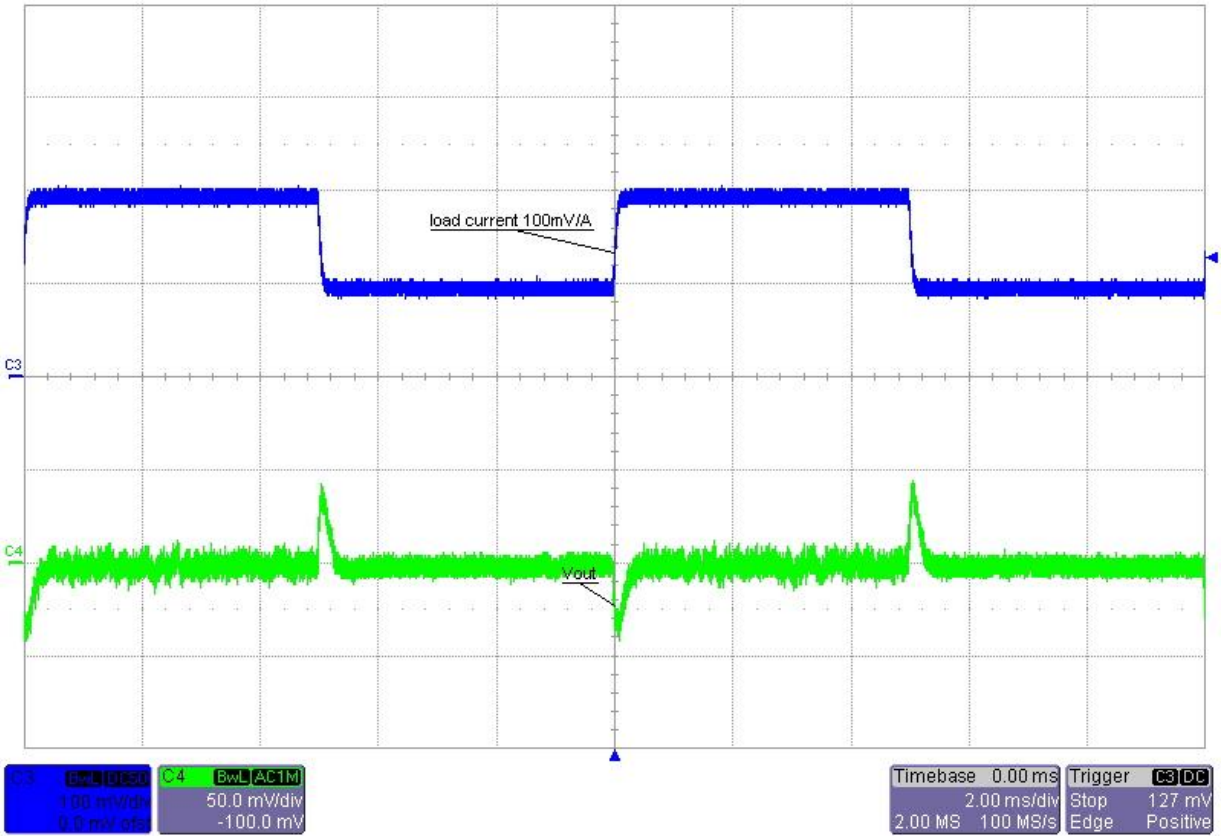


7 Load Transients

Input voltage = 12VDC
Load current = 1.0A to 2.0A



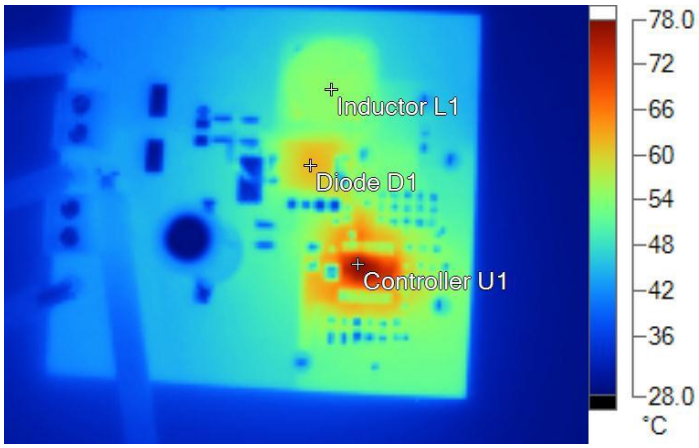
Input voltage = 6VDC
Load current = 1.0A to 2.0A



8 Thermal Analysis

The images below show the infrared images taken from the FlexCam after 15min at full load.

Input voltage = 12V
Output power = 10W (5.0V@2.0A)
Ambient temperature = 25°C
No heatsink, no airflow



Name	Temperature	
Controller U1	78.0°C	
Diode D1	62.0°C	
Inductor L1	54.4°C	

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