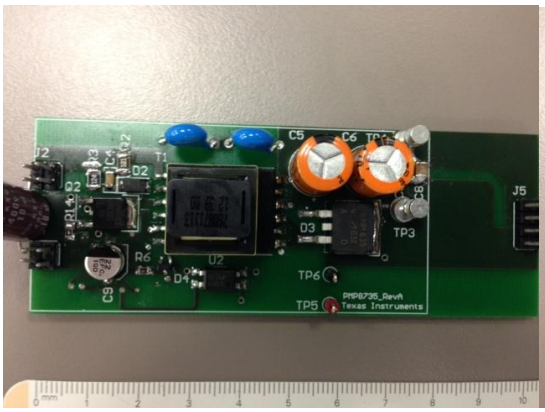
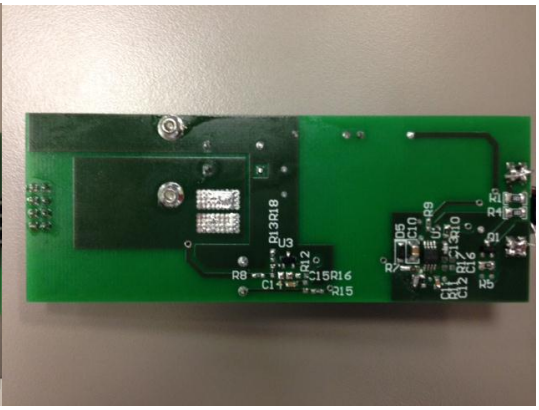
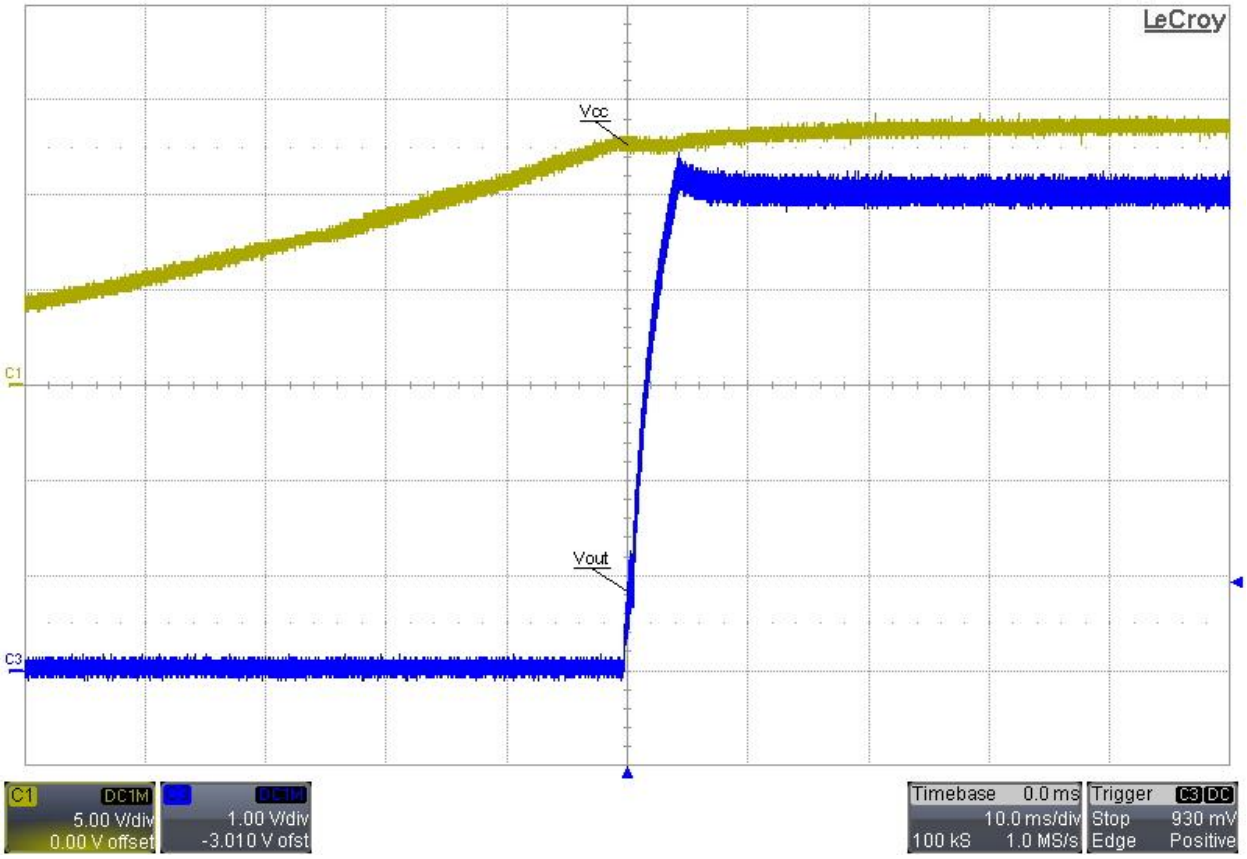




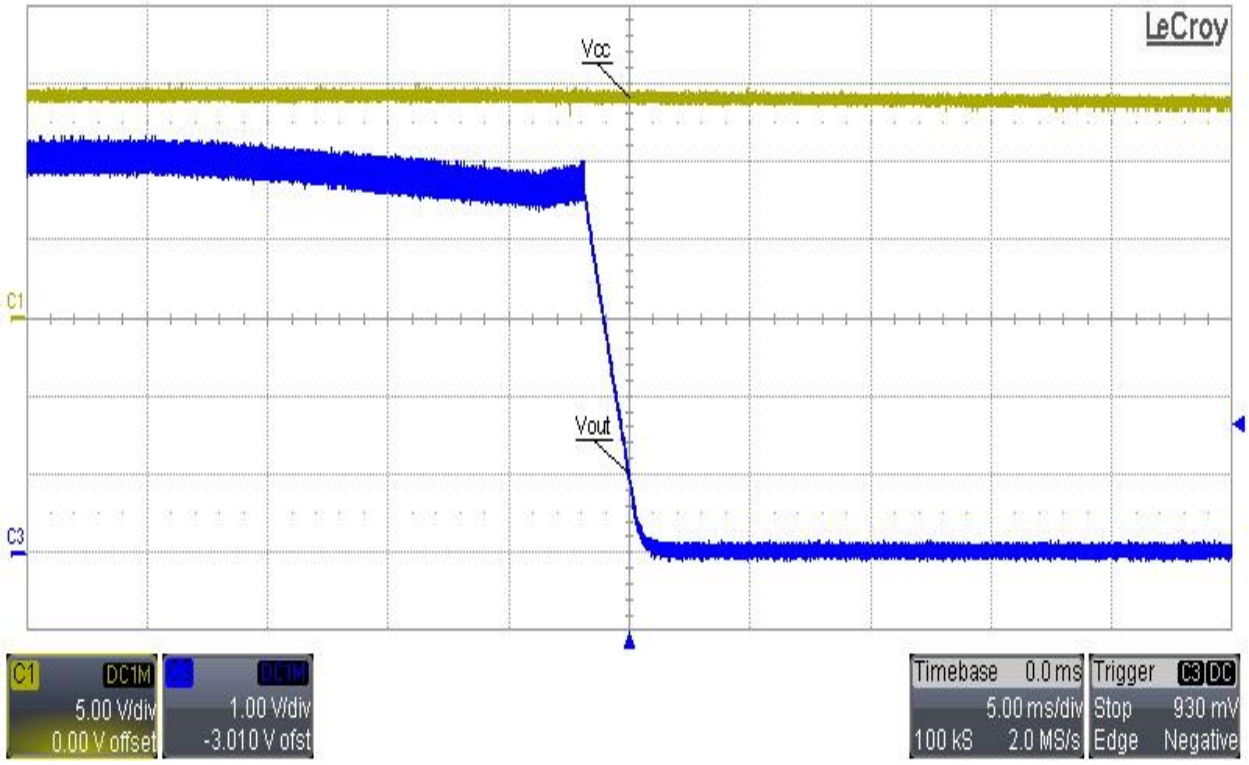
1 Startup

Input voltage = 230VDC
Load current = full load (2.1A)

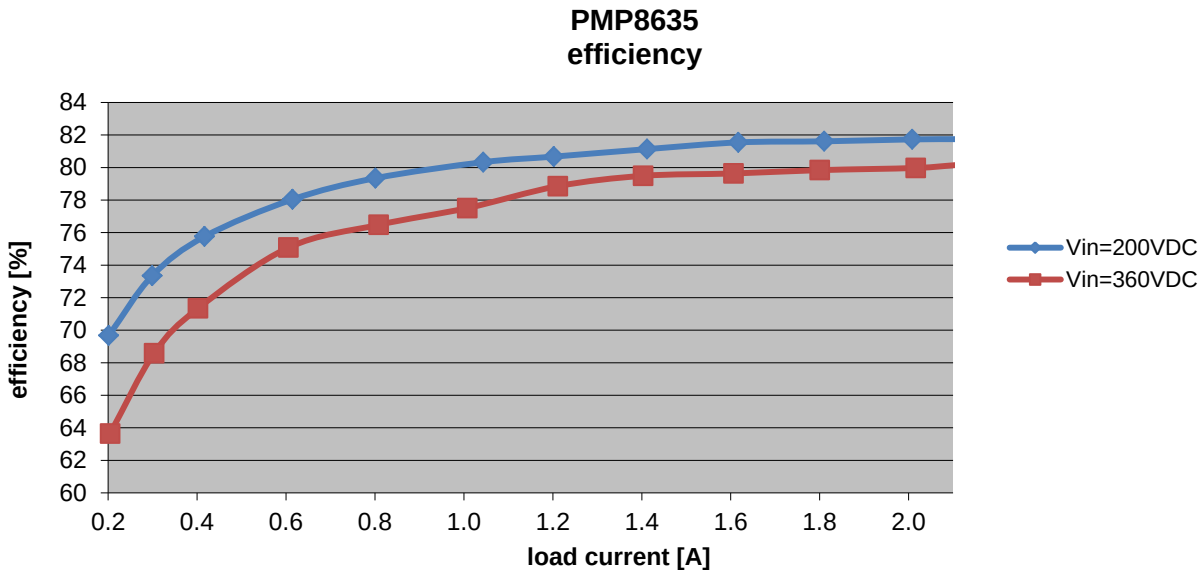


2 Shutdown

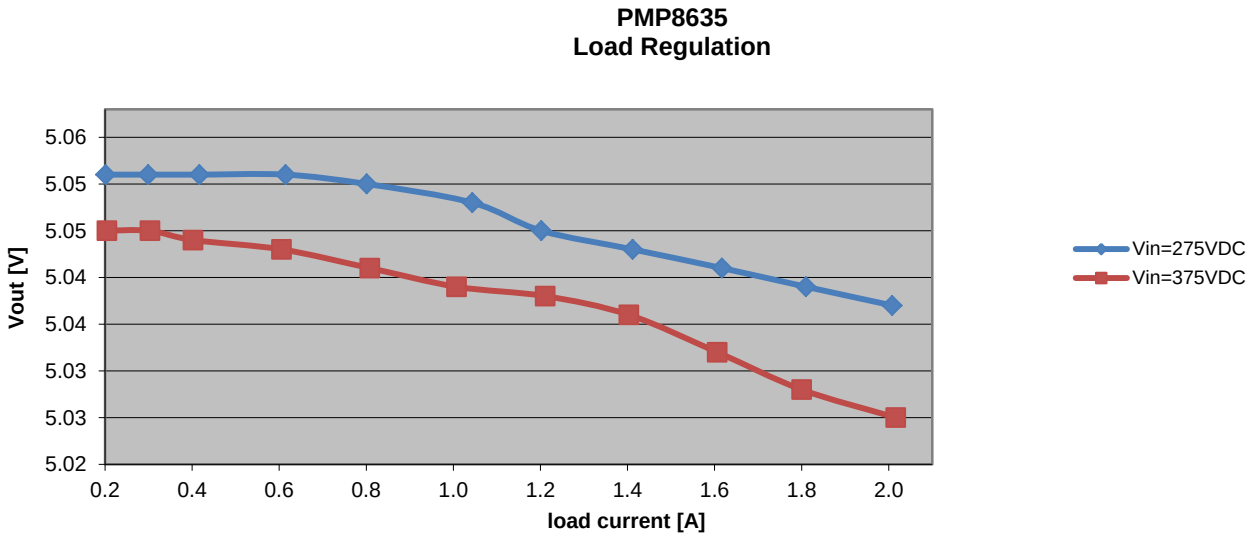
Input voltage = 230VDC
Load current = full load (2.1A)



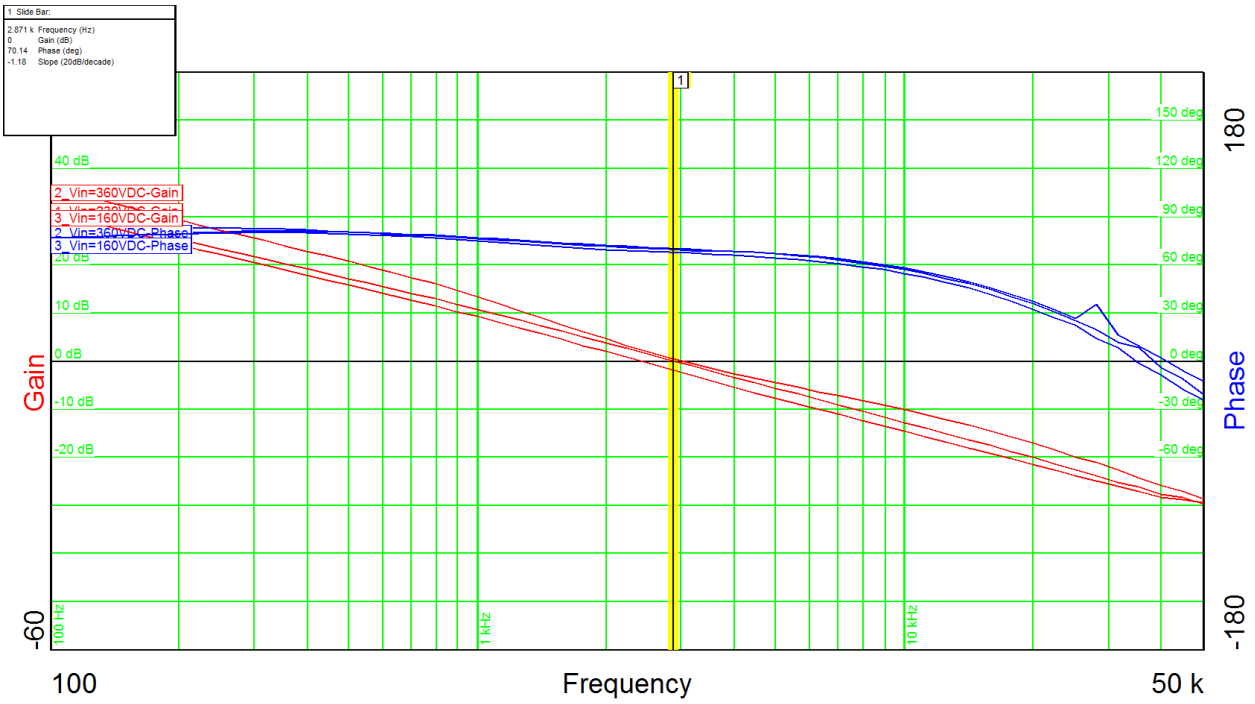
3 Efficiency



4 Load regulation



5 Control Loop Frequency Response

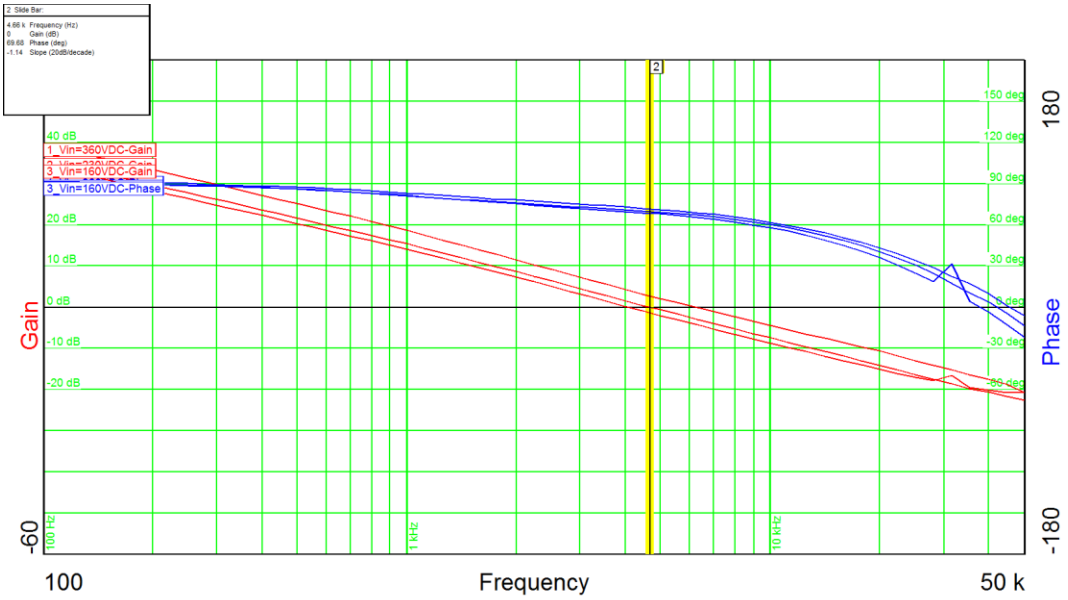


Output power = 5V@2.1A
Input voltage = 160VDC
Phase margin = 68°
Bandwidth = 2.4kHz

Output power = 5V@2.1A
Input voltage = 230VDC
Phase margin = 70°
Bandwidth = 2.9kHz

Output power = 5V@2.1A
Input voltage = 360VDC
Phase margin = 69°
Bandwidth = 3.0kHz

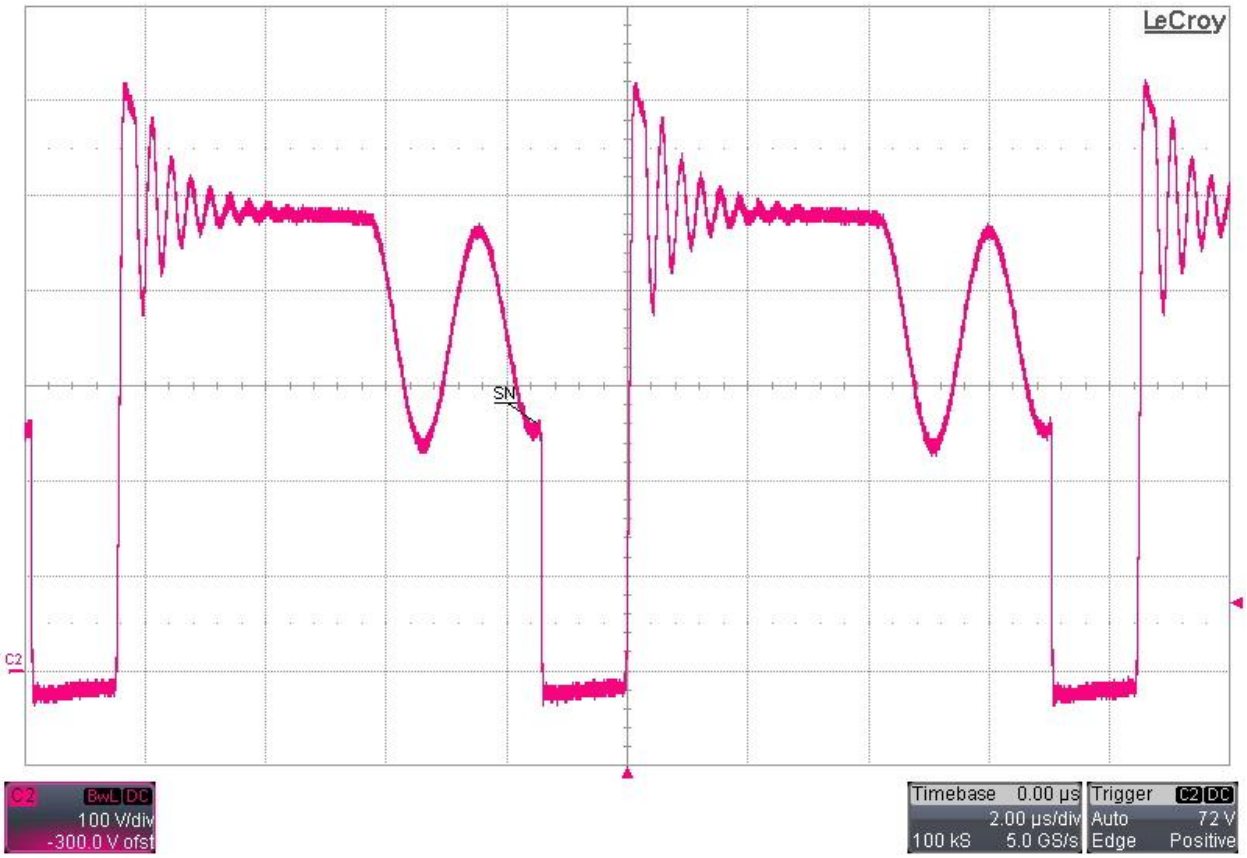
Following picture shows the measurement of the control loop without capacitors C6 and C8. The output was full loaded (5V@2.1A) and the input voltage was set to 160V, 230V and 360V.



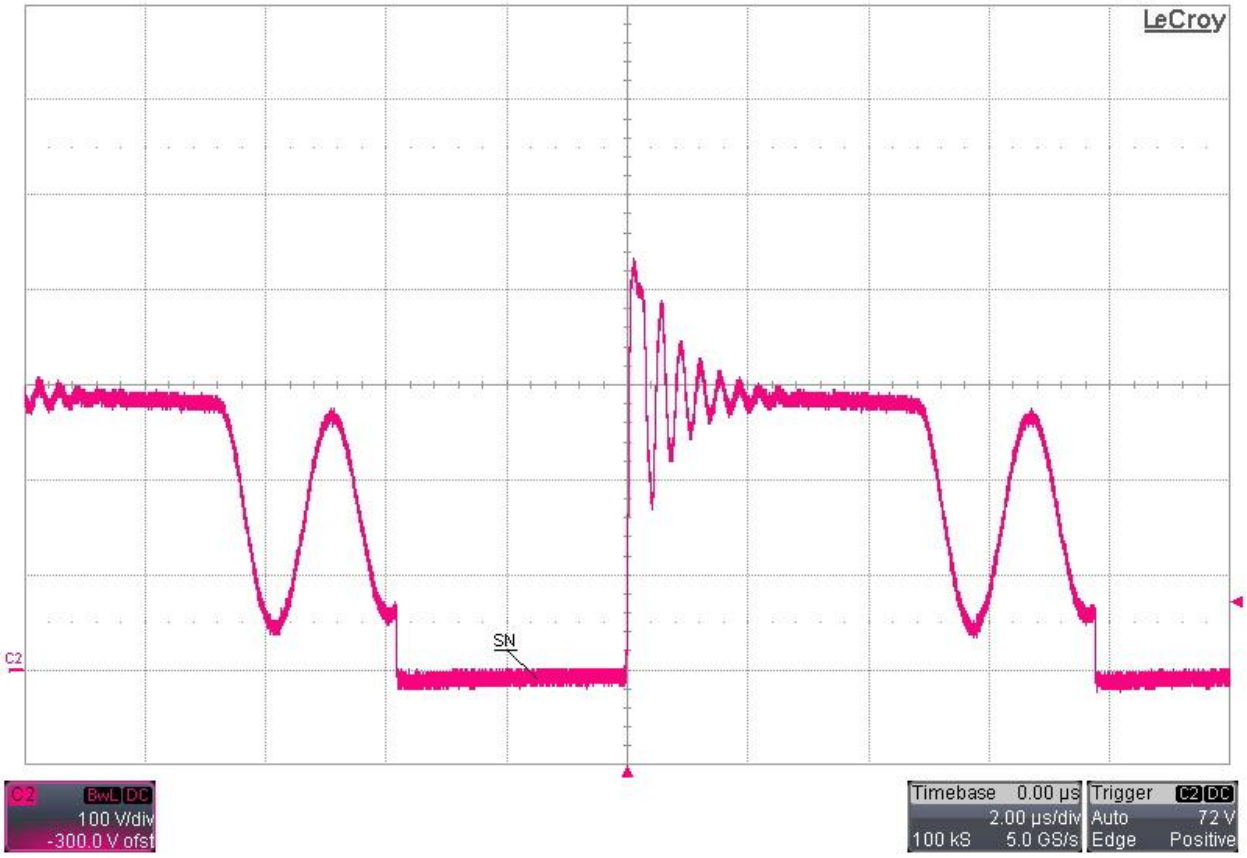
C6: not populated
C8: not populated

6 Switch Node

Input voltage = 360VDC
Load current = full load (2.1A)

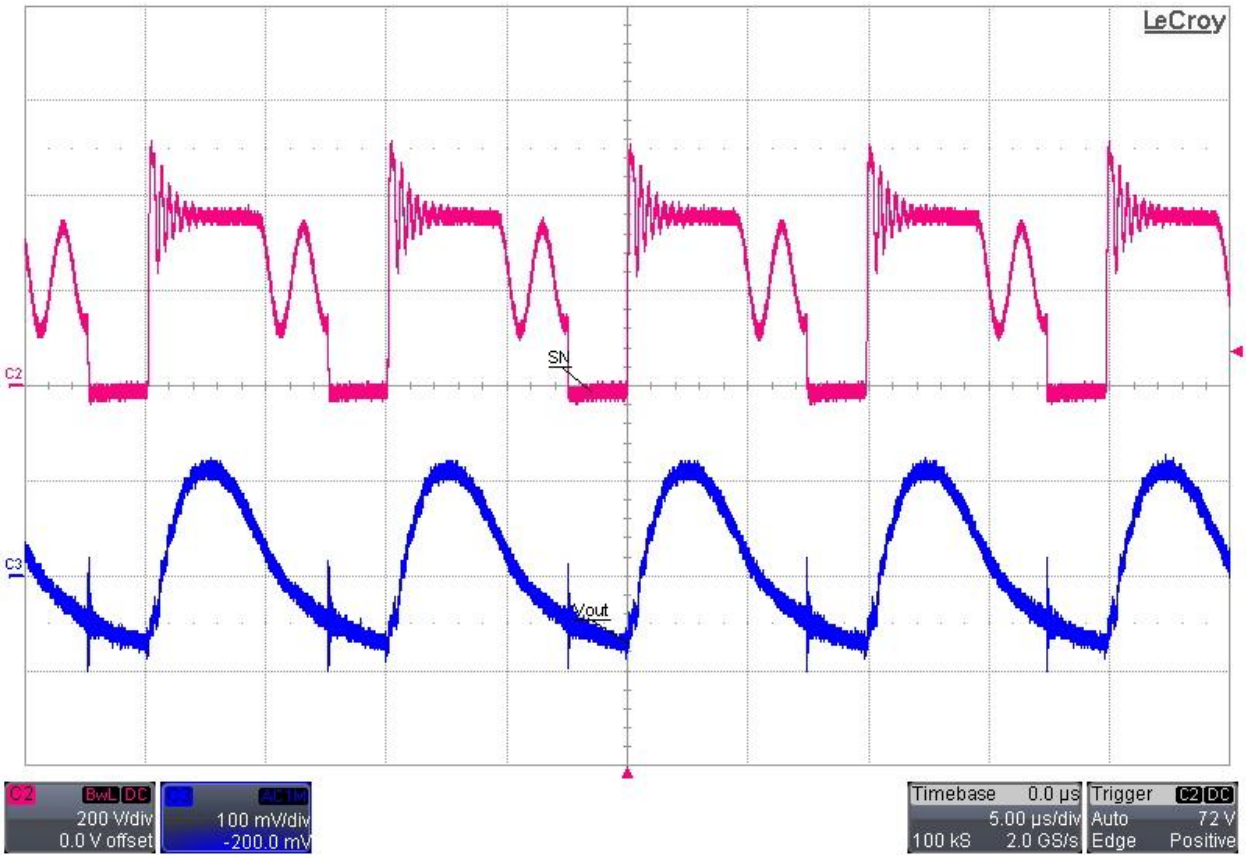


Input voltage = 160VDC
Load current = full load (2.1A)



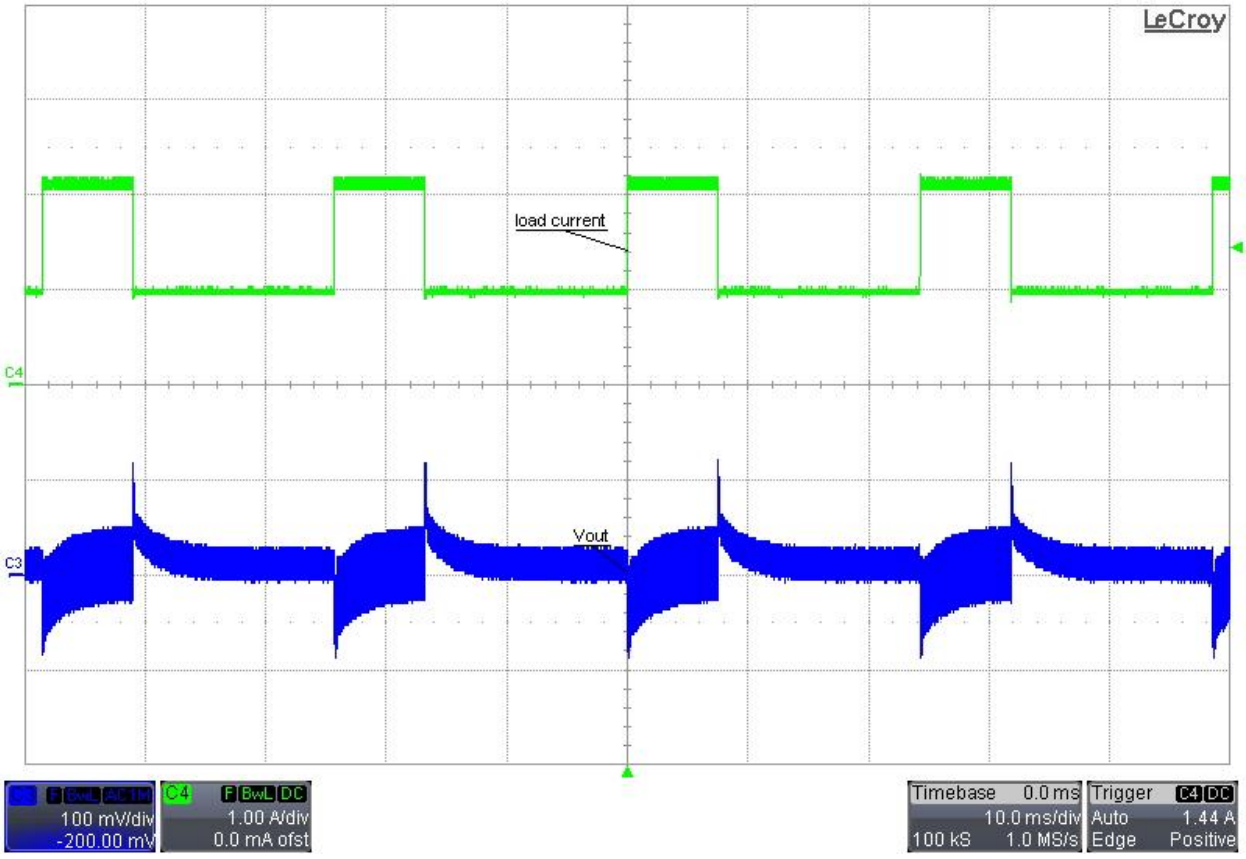
7 Output ripple voltage

Input voltage = 230VDC
Load current = full load (2.1A)



8 Load Transients

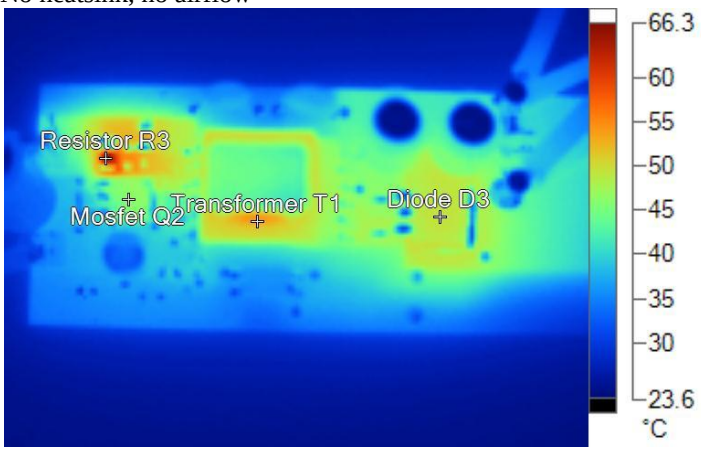
Input voltage = 230VDC
Load current = 1A to 2.1A



9 Thermal Analysis

The images below show the infrared images taken from the FlexCam after 15min at full load (5V@2.1A).

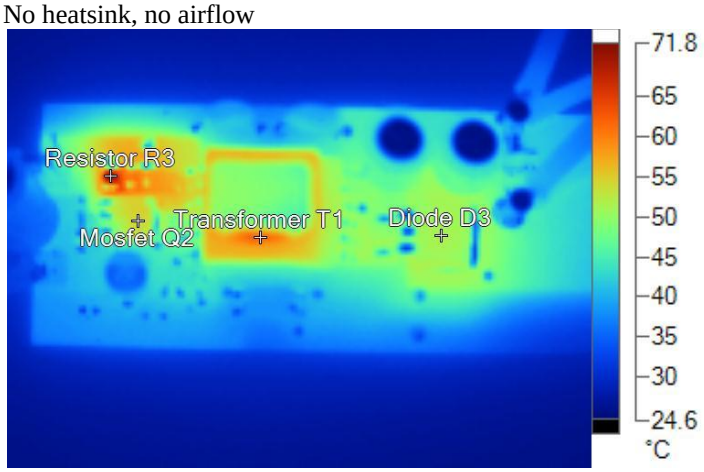
Input voltage = 200VDC
Output power = 10.5W
Ambient temperature = 25°C
No heatsink, no airflow



IR20131218_0409 Vin=200VDC I=2.1A.is2

Name	Temperature	
Transformer T1	54.1°C	
Diode D3	49.5°C	
Mosfet Q2	45.9°C	
Resistor R3	66.3°C	

Input voltage = 360VDC
Output power = 10.5W
Ambient temperature = 25°C
No heatsink, no airflow



IR20131218_0410 Vin=360VDC I=2.1A.is2

Name	Temperature	
Diode D3	51.4°C	
Transformer T1	62.0°C	
Mosfet Q2	54.1°C	
Resistor R3	71.8°C	

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1. You have unique knowledge concerning Federal, State and local regulatory requirements (including but not limited to Food and Drug Administration regulations, if applicable) which relate to your products and which relate to your use (and/or that of your employees, affiliates, contractors or designees) of the EVM for evaluation, testing and other purposes.
2. You have full and exclusive responsibility to assure the safety and compliance of your products with all such laws and other applicable regulatory requirements, and also to assure the safety of any activities to be conducted by you and/or your employees, affiliates, contractors or designees, using the EVM. Further, you are responsible to assure that any interfaces (electronic and/or mechanical) between the EVM and any human body are designed with suitable isolation and means to safely limit accessible leakage currents to minimize the risk of electrical shock hazard.
3. Since the EVM is not a completed product, it may not meet all applicable regulatory and safety compliance standards (such as UL, CSA, VDE, CE, RoHS and WEEE) which may normally be associated with similar items. You assume full responsibility to determine and/or assure compliance with any such standards and related certifications as may be applicable. You will employ reasonable safeguards to ensure that your use of the EVM will not result in any property damage, injury or death, even if the EVM should fail to perform as described or expected.

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