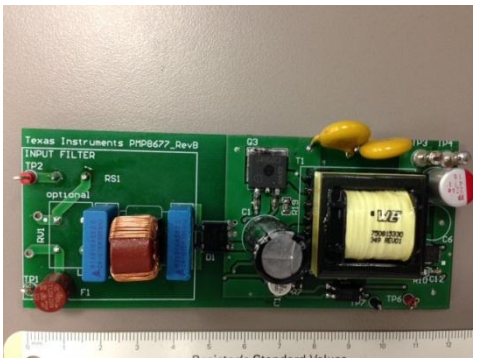
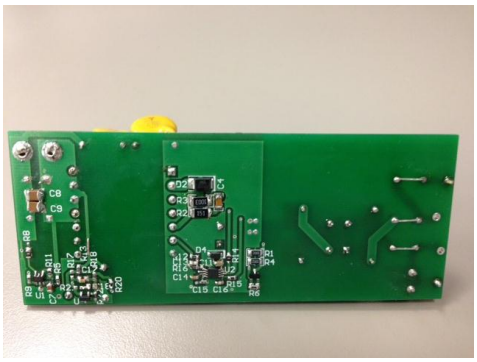
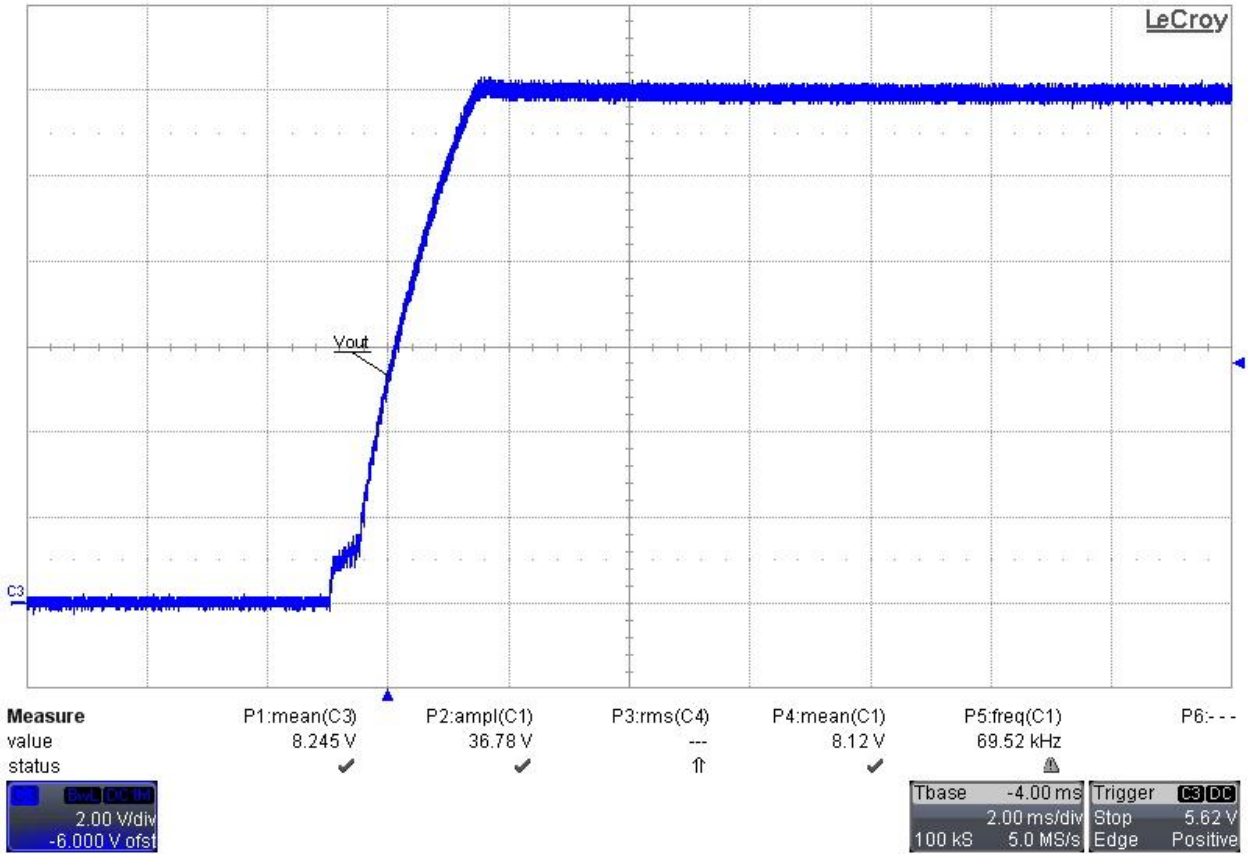




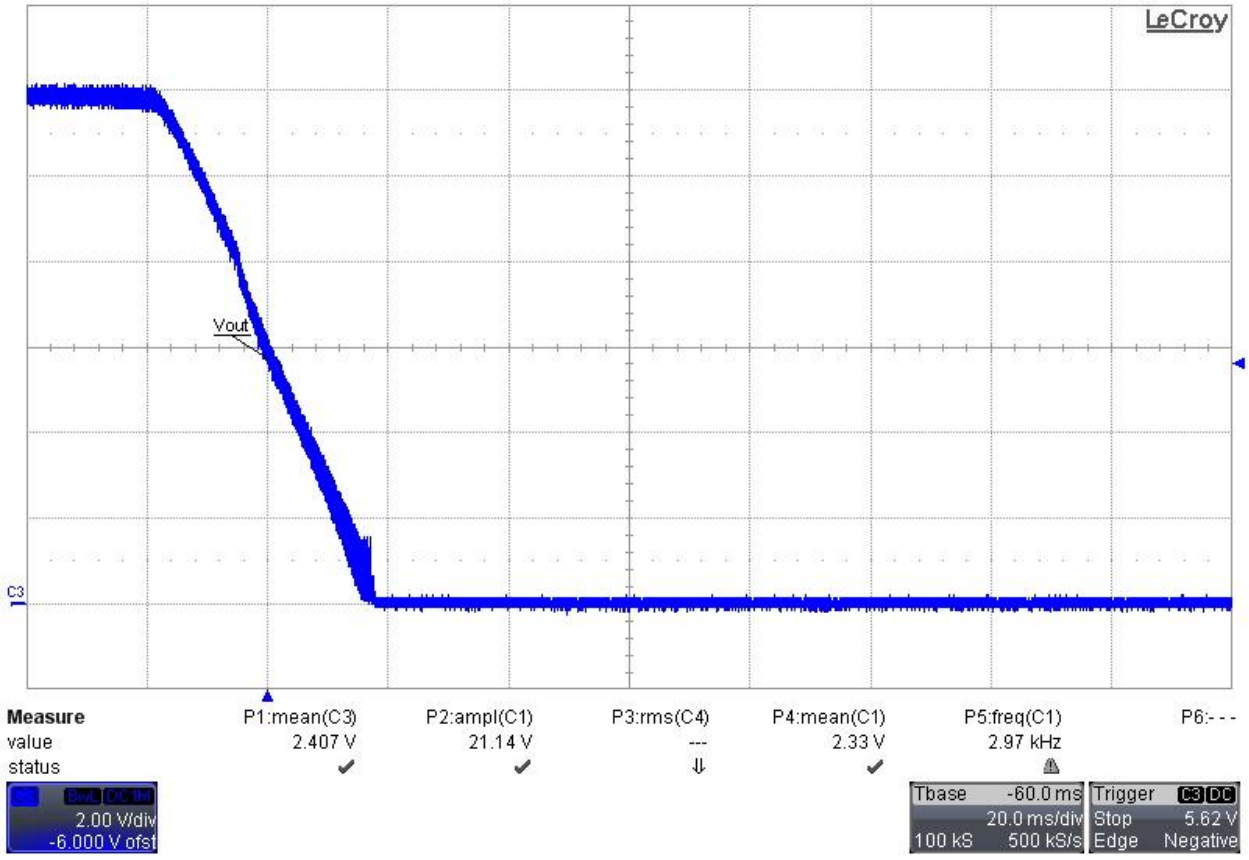
1 Startup

Input voltage = 275VDC
Load current = full load (4.2A)

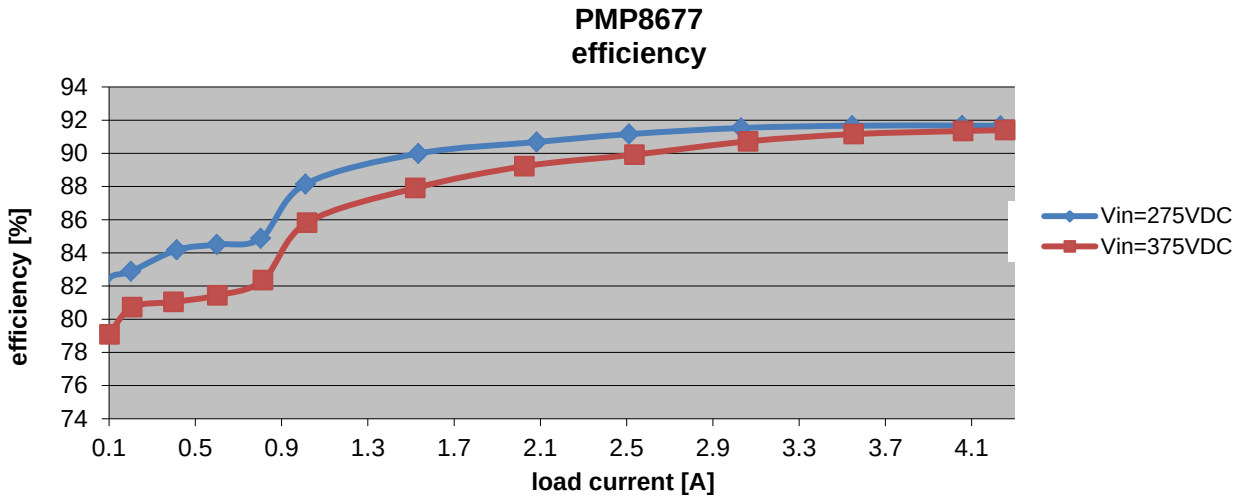


2 Shutdown

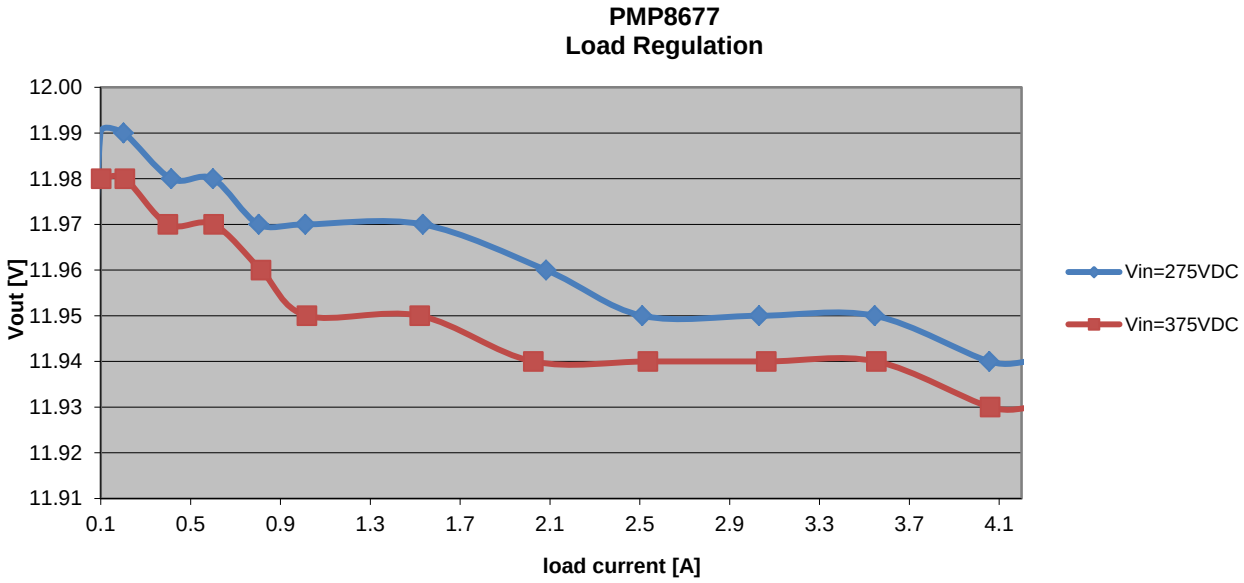
Input voltage = 275VDC
Load current = full load (4.2A)



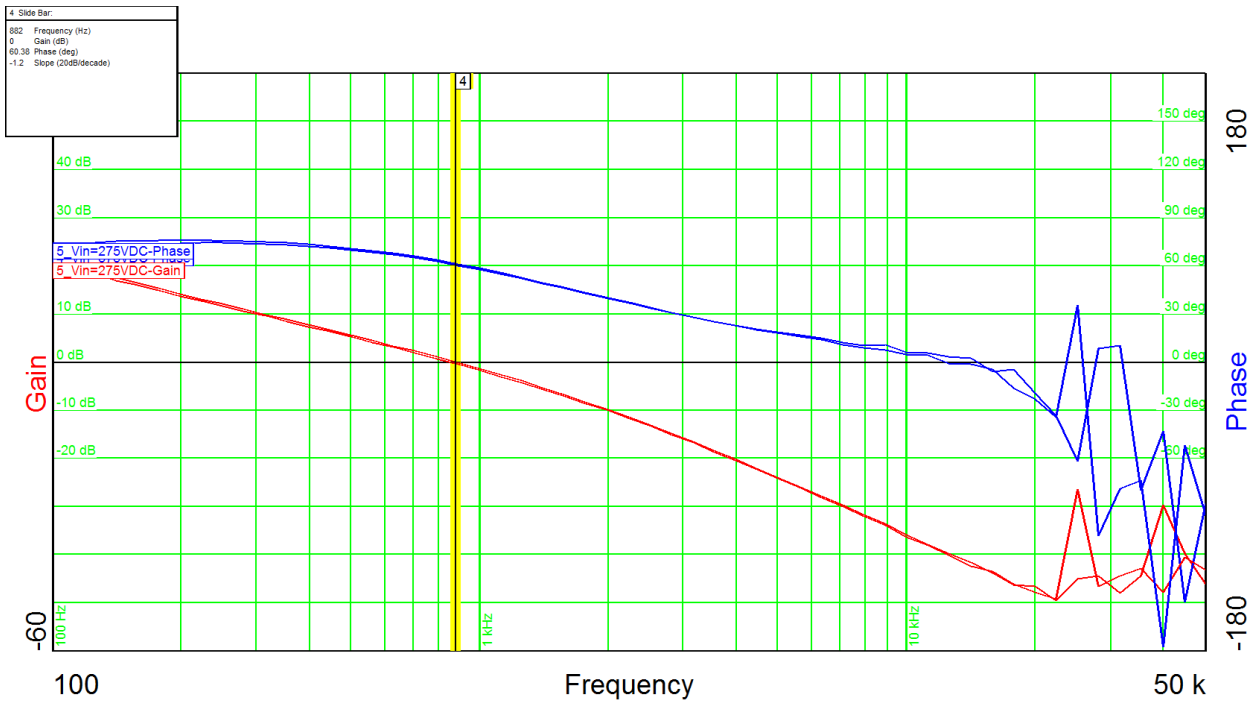
3 Efficiency



4 Load regulation



5 Control Loop Frequency Response

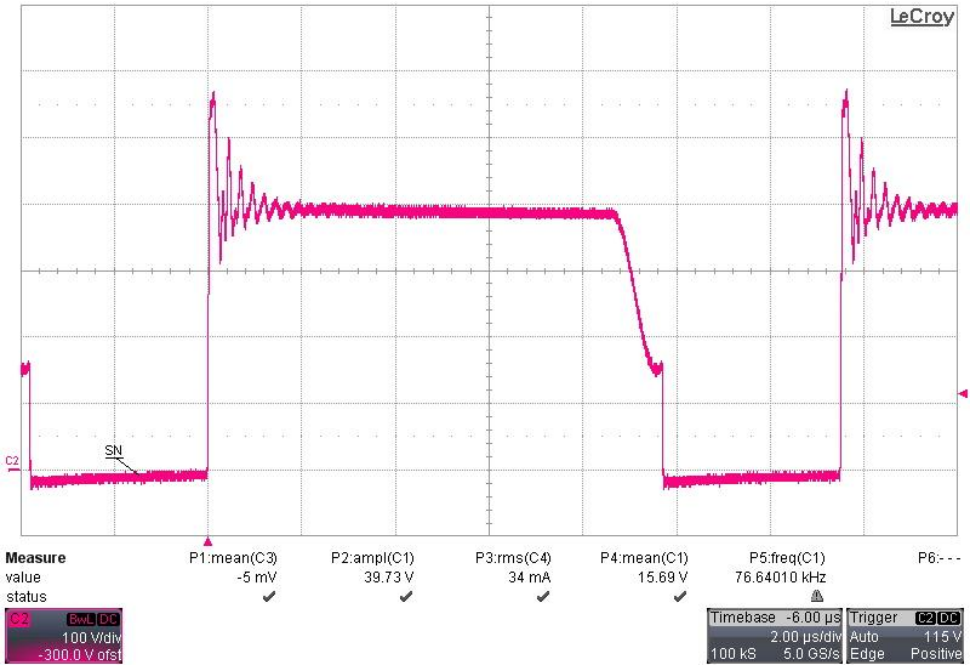


Output power = 12V@4.2A
Input voltage = 275VDC
Phase margin = 62°
Bandwidth = 0.85kHz

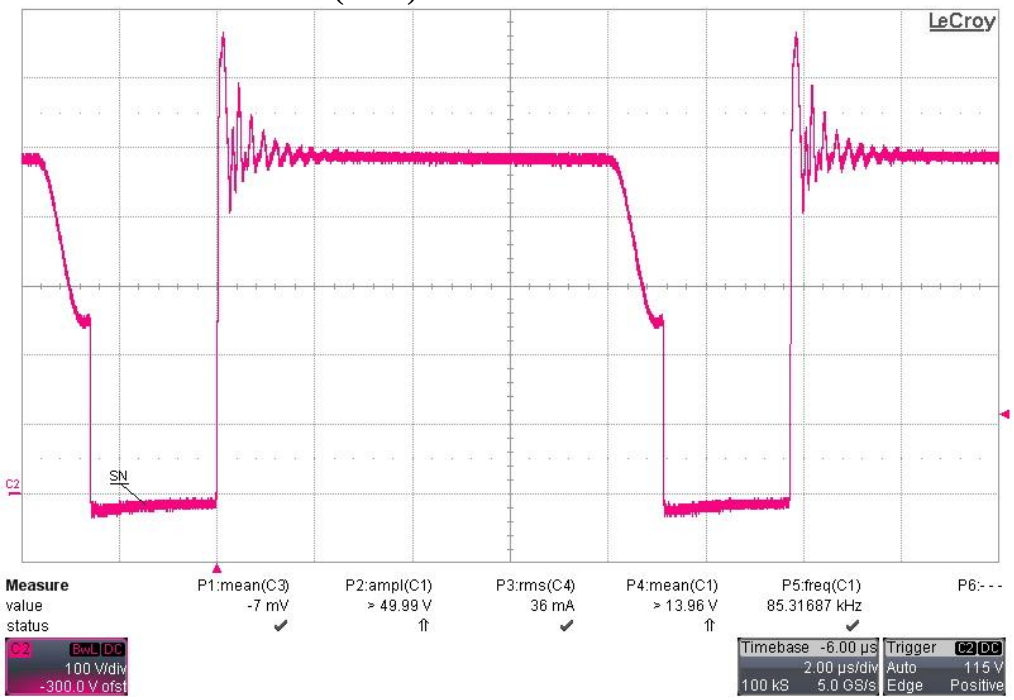
Output power = 12V@4.2A
Input voltage = 375VDC
Phase margin = 60°
Bandwidth = 0.88kHz

6 Switch Node

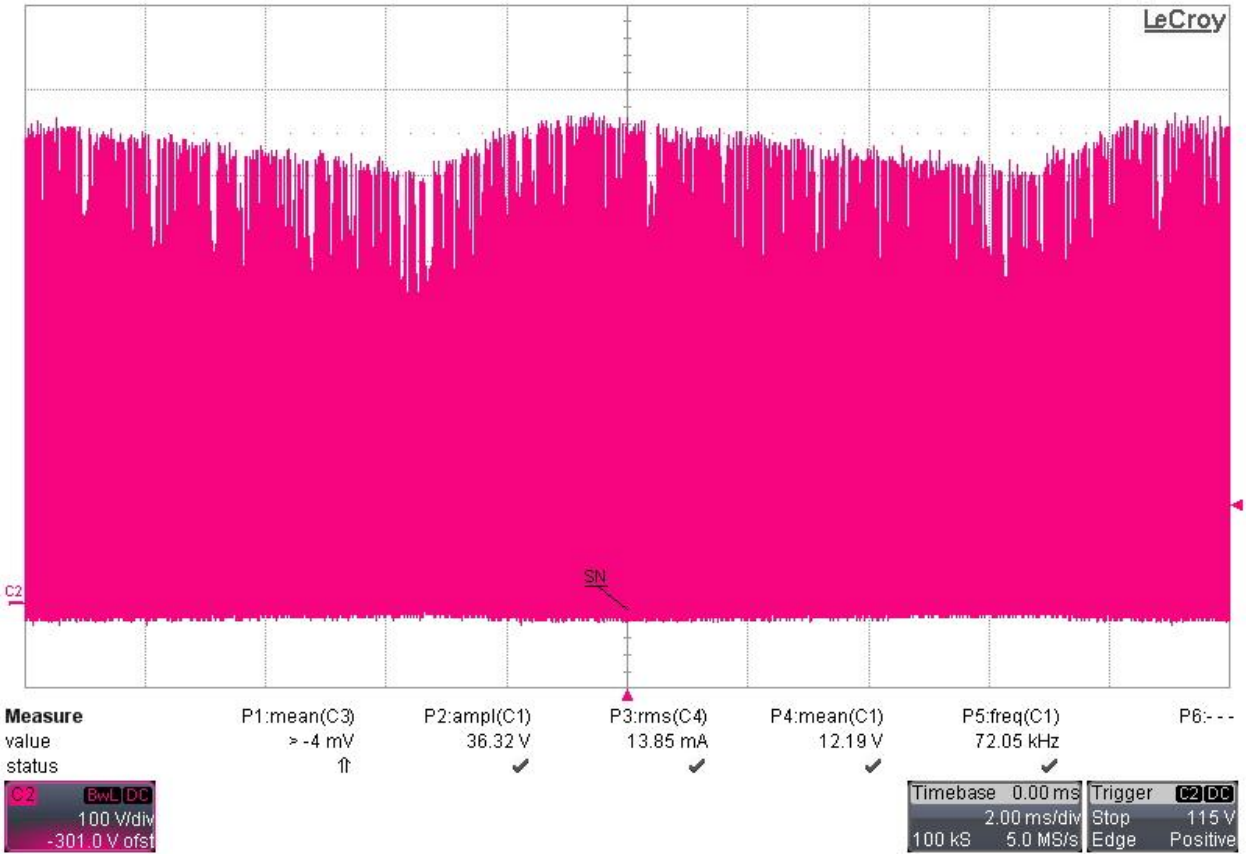
Input voltage = 275VDC
Load current = full load (4.2A)



Input voltage = 375VDC
Load current = full load (4.2A)



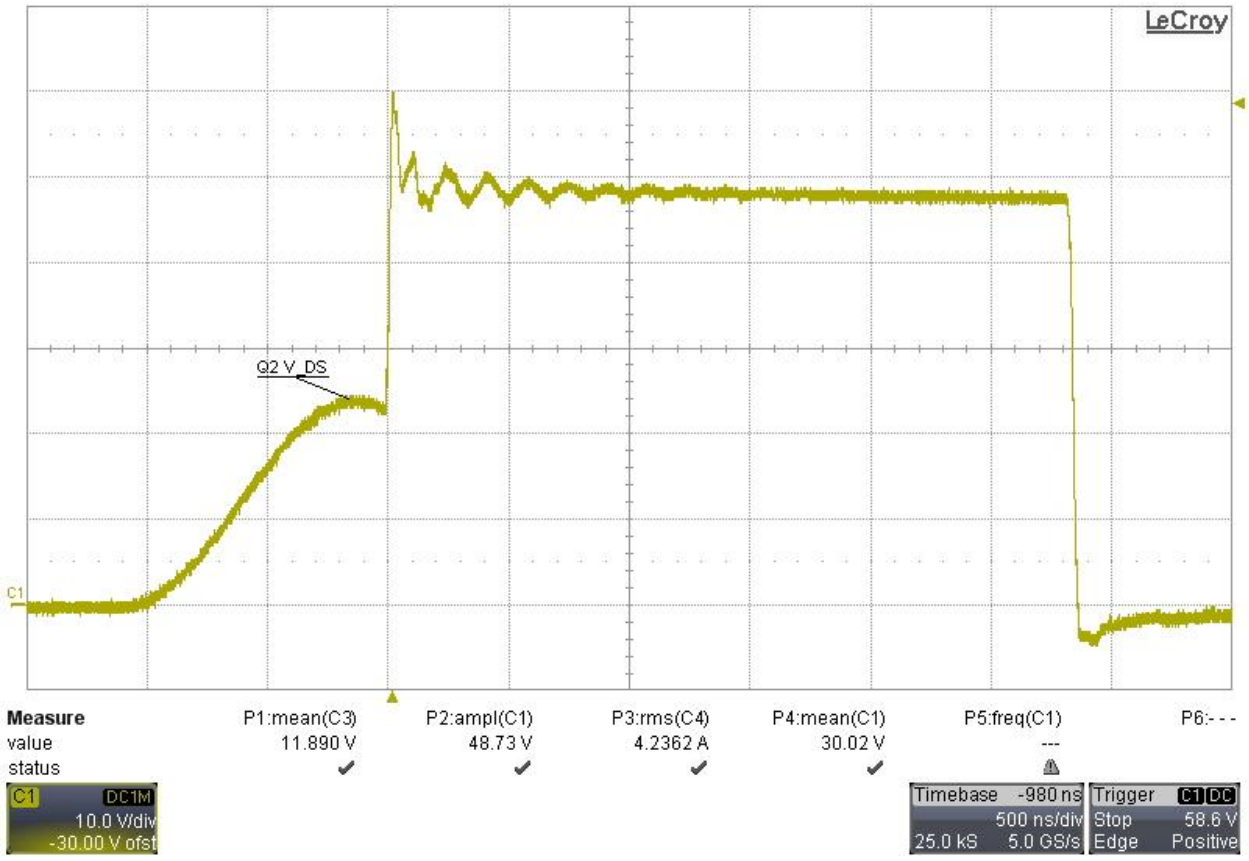
Input voltage = 265VAC
Load current = full load (4.2A)



7 Switch Node secondary side

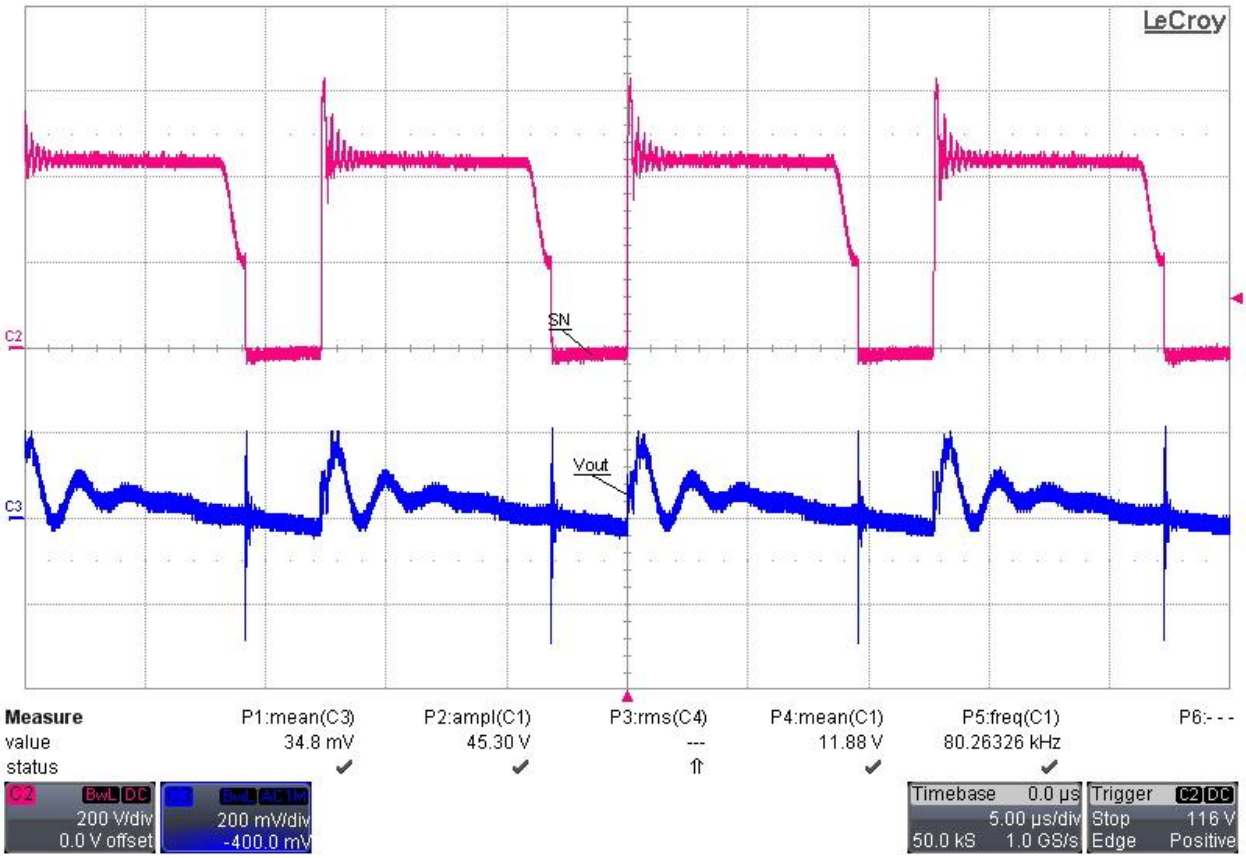
Q2: Drain Source voltage

Input voltage = 265VAC
Load current = full load (4.2A)



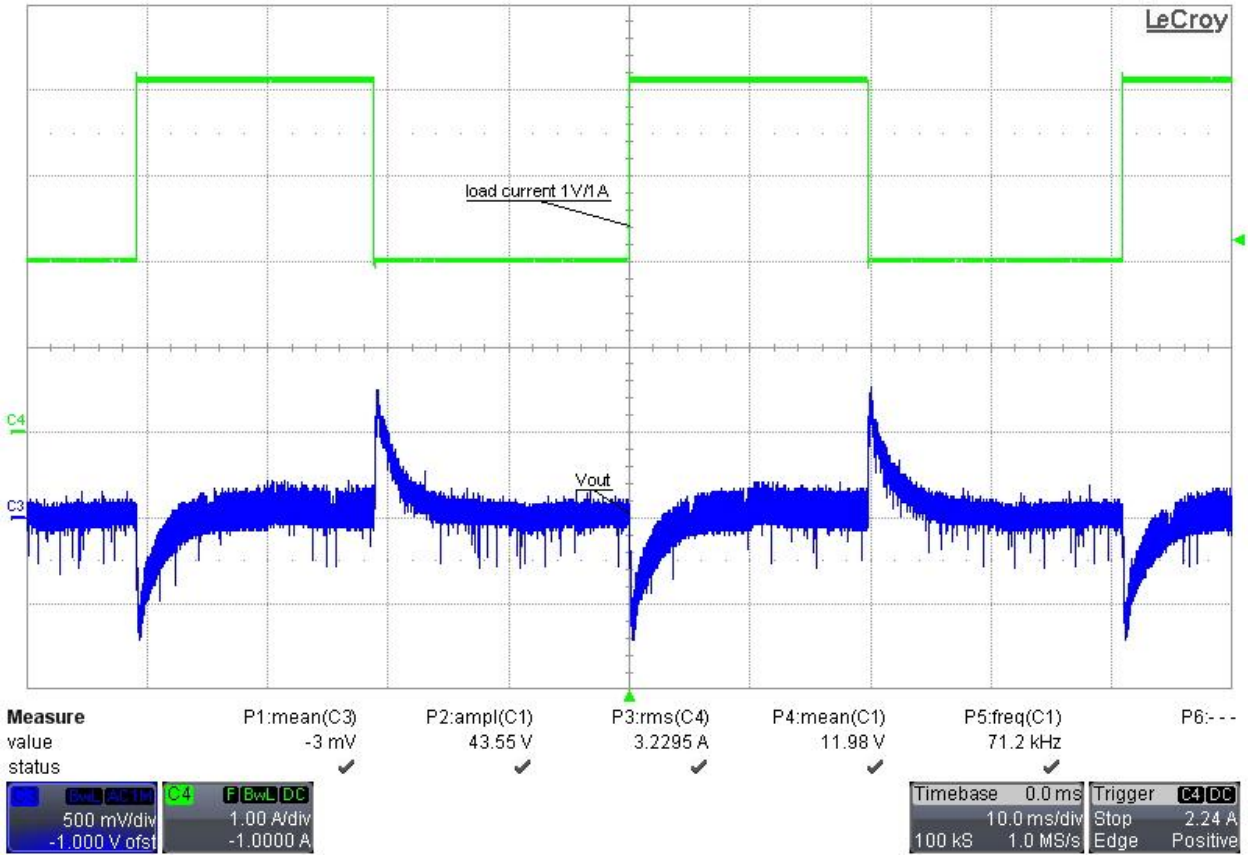
8 Output ripple voltage

Input voltage = 230VAC
Load current = full load (4.2A)



9 Load Transients

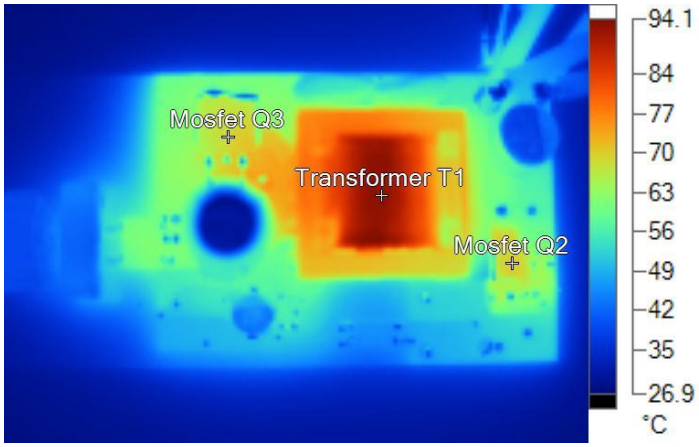
Input voltage = 230VAC
Load current = 2A to 4.2A



10 Thermal Analysis

The images below show the infrared images taken from the FlexCam after 15min at full load (12V@4.2A).

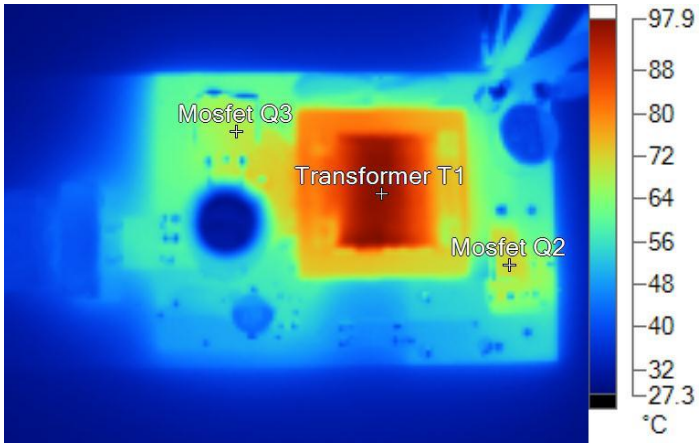
Input voltage = 195VAC
Output power = 50.4W
Ambient temperature = 25°C
No heatsink, no airflow



IR20131213_0407 Vin=195VAC I=4.2A.is2

Name	Temperature	
Transformer T1	92.8°C	
Mosfet Q3	68.8°C	
Mosfet Q2	70.0°C	

Input voltage = 265VAC
Output power = 50.4W
Ambient temperature = 25°C
No heatsink, no airflow



IR20131213_0408 Vin=265VC I=4.2A.is2

Name	Temperature	
Transformer T1	96.7°C	
Mosfet Q2	72.1°C	
Mosfet Q3	68.6°C	

For Feasibility Evaluation Only, in Laboratory/Development Environments. The EVM is not a complete product. It is intended solely for use for preliminary feasibility evaluation in laboratory / development environments by technically qualified electronics experts who are familiar with the dangers and application risks associated with handling electrical / mechanical components, systems and subsystems. It should not be used as all or part of a production unit.

Your Sole Responsibility and Risk. You acknowledge, represent and agree that:

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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