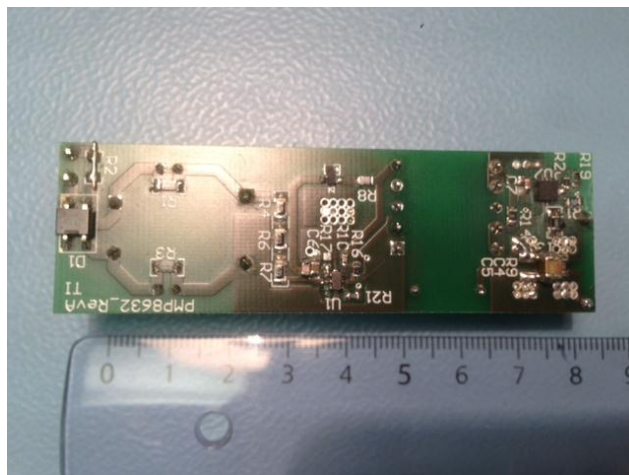
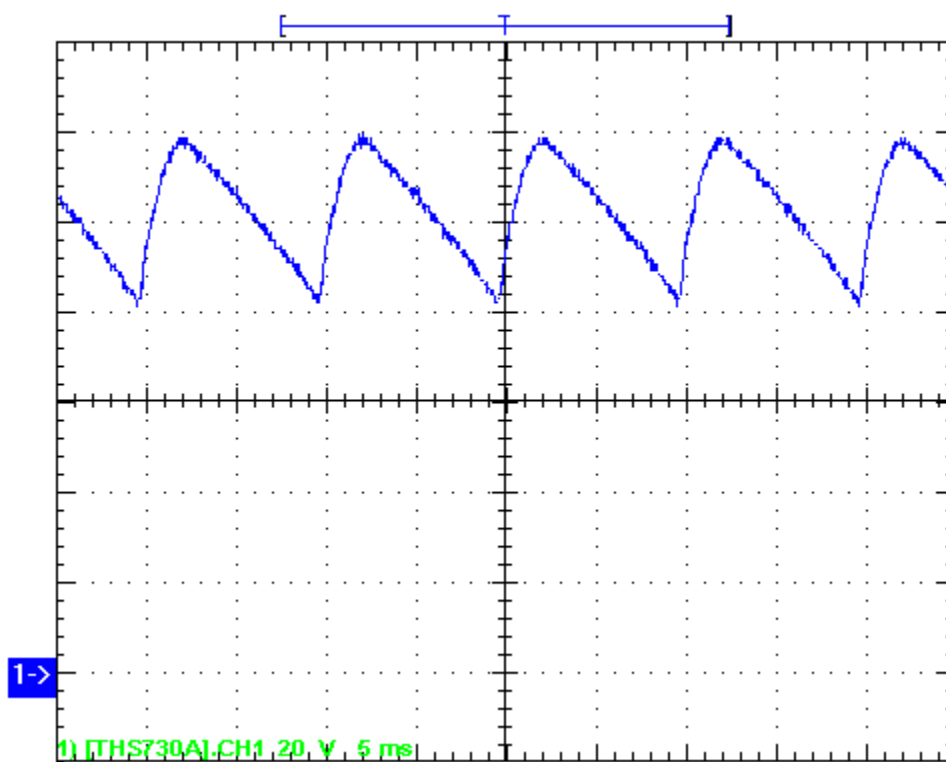




1 Input voltage ripple

Input voltage = 85VAC

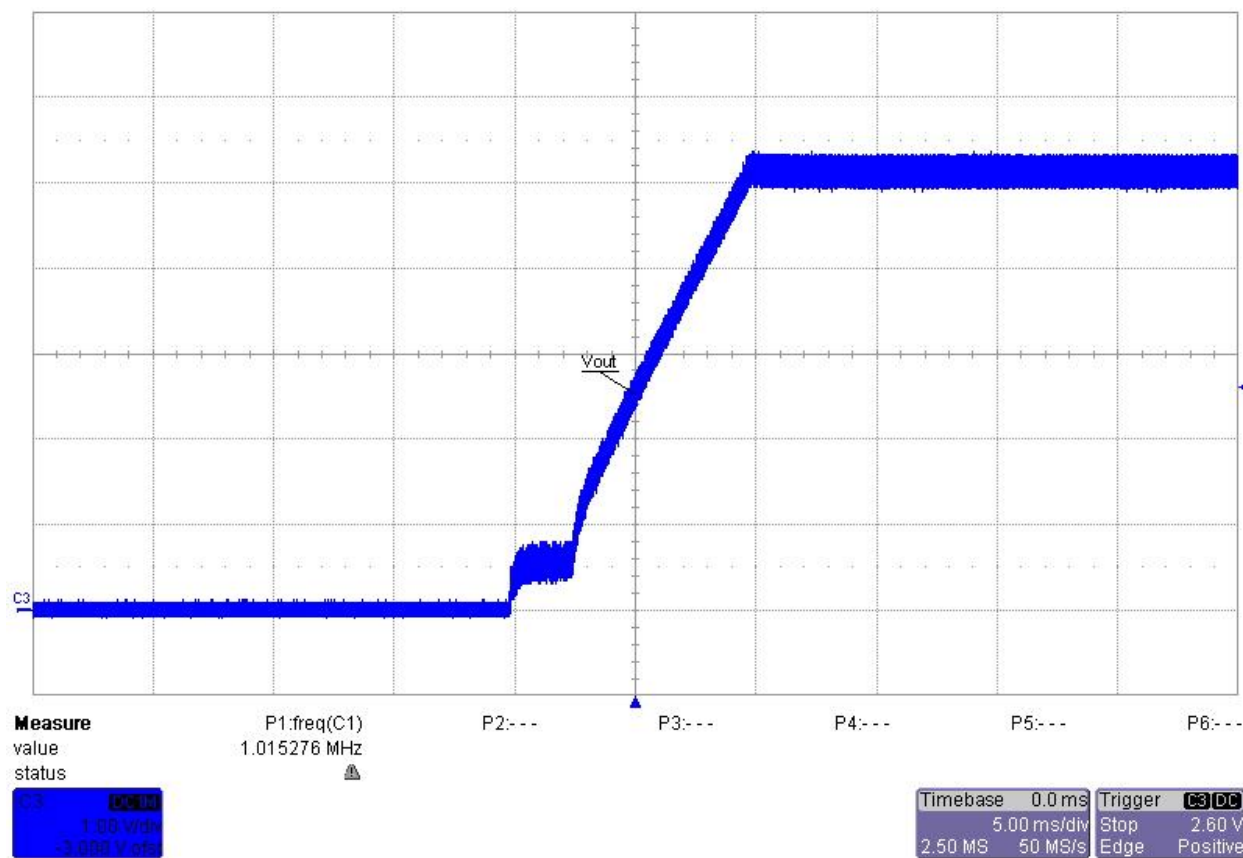
Load current = 1.6A



2 Startup

Input voltage = 85VAC

Load current = 1.6A



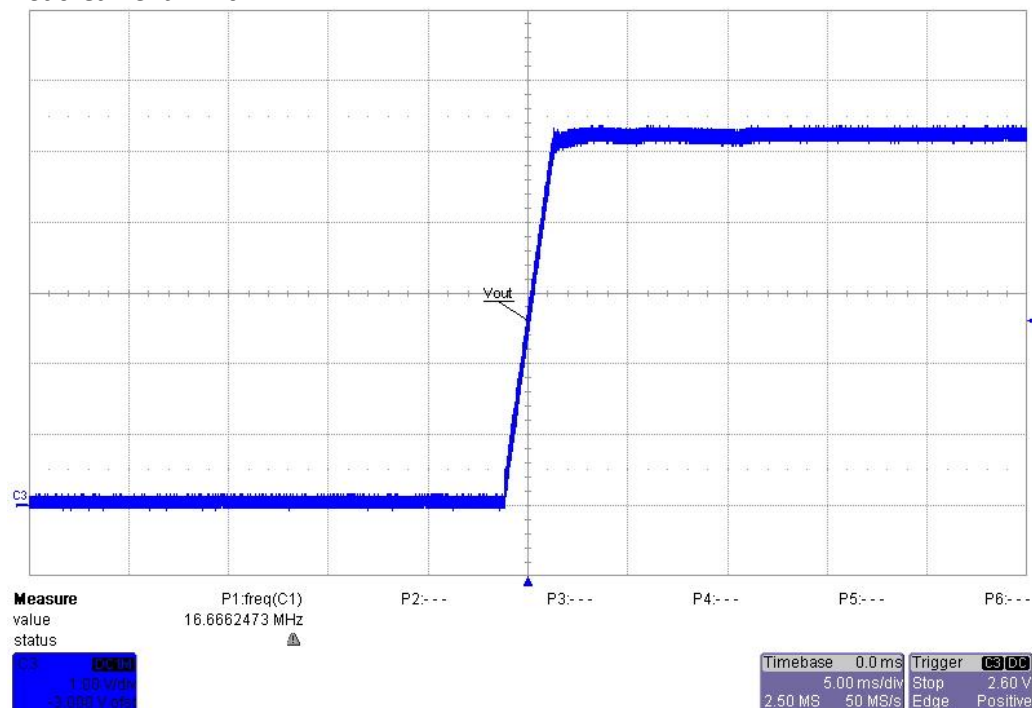
Input voltage = 135VAC

Load current = 1.6A



Input voltage = 85VAC

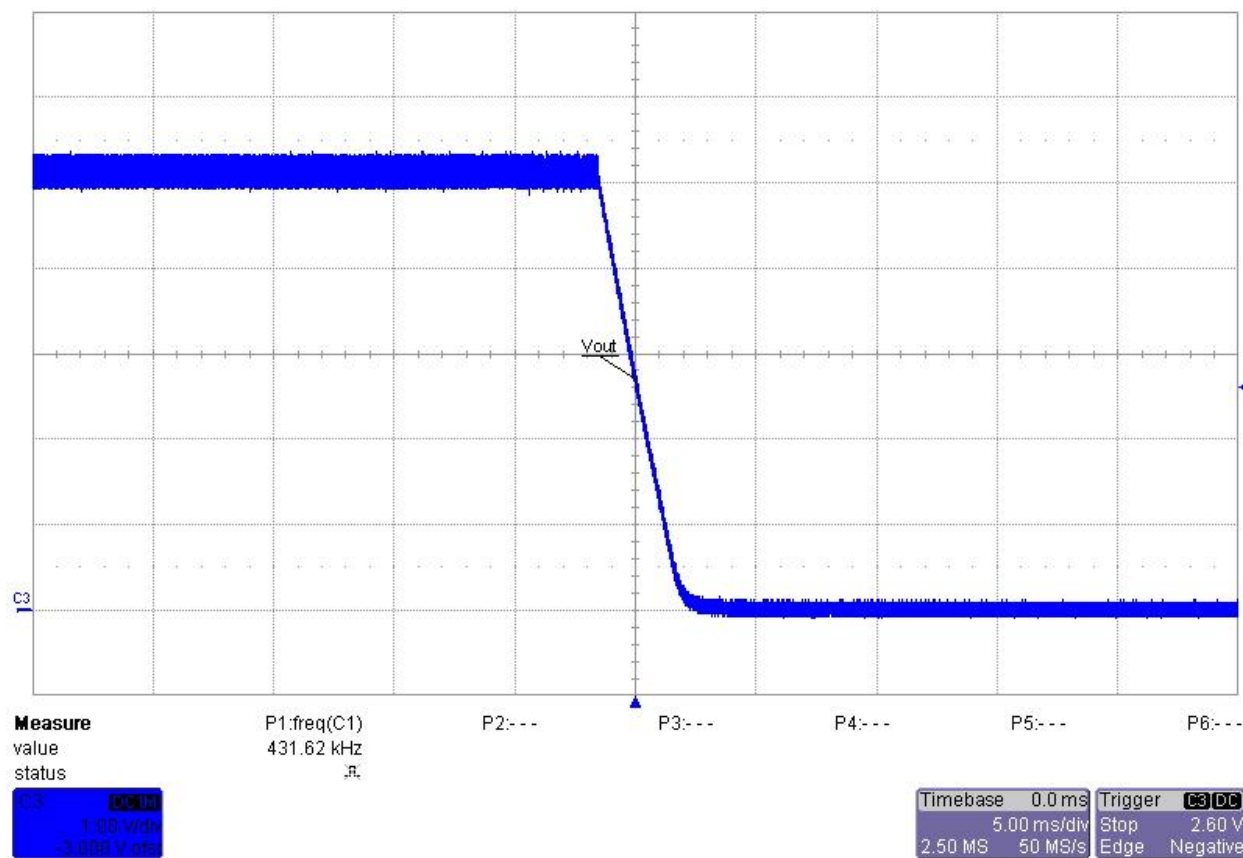
Load current = 0A



3 Shutdown

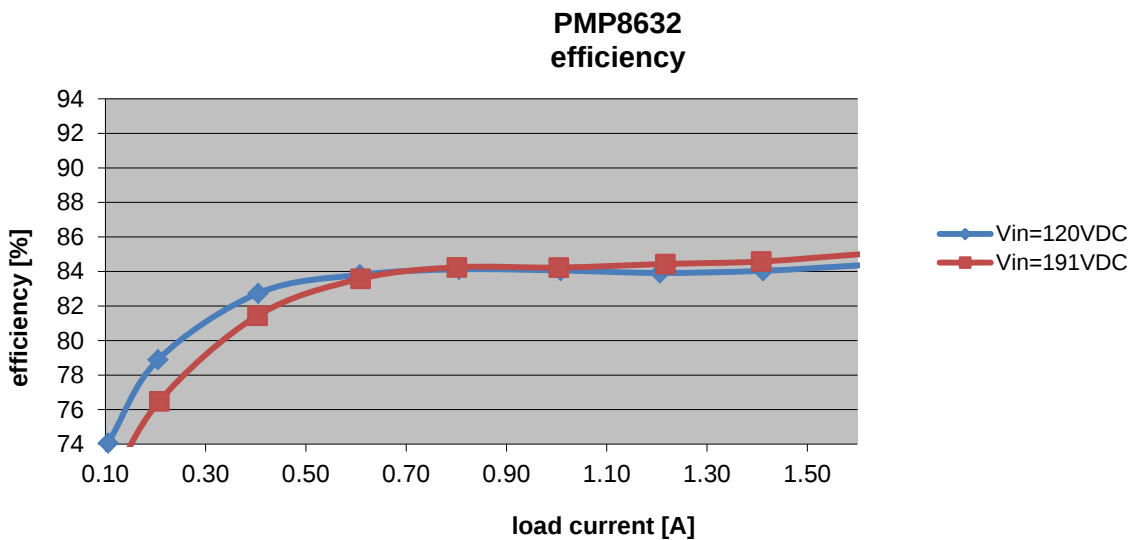
Input voltage = 85VAC

Load current = 1.6A



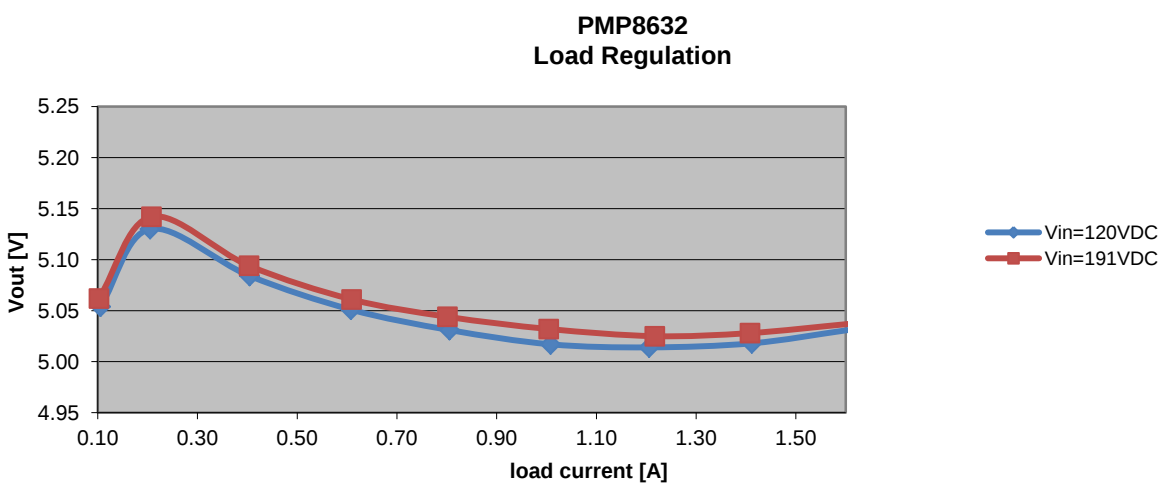
4 Efficiency

Measurements are done with a DC input voltage.



5 Load regulation

Measurements are done with a DC input voltage.

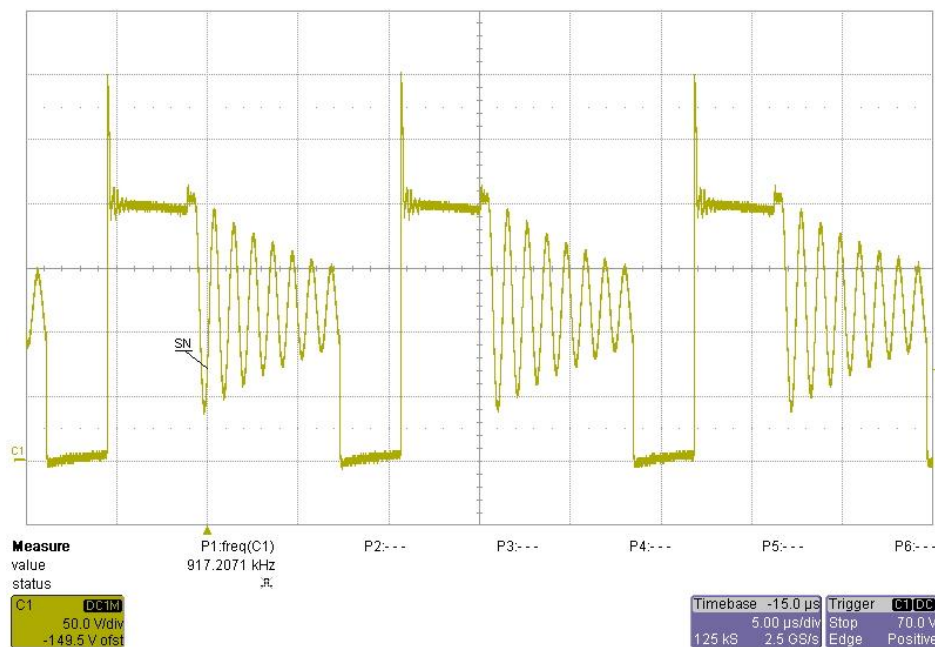


6 Switch Node

Measurements are done with a DC input voltage.

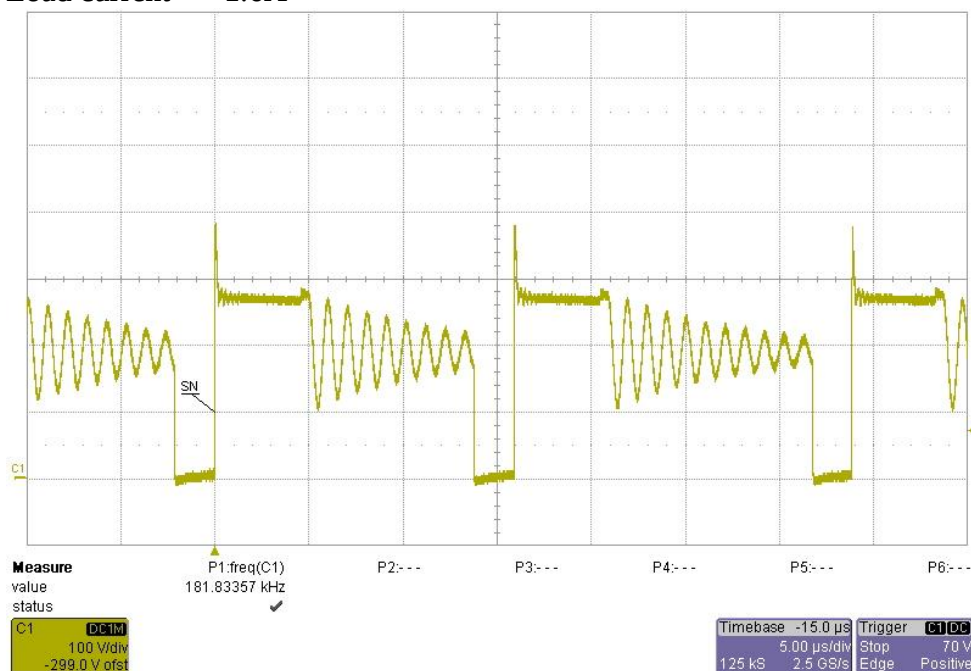
Input voltage = 120VDC

Load current = 1.6A



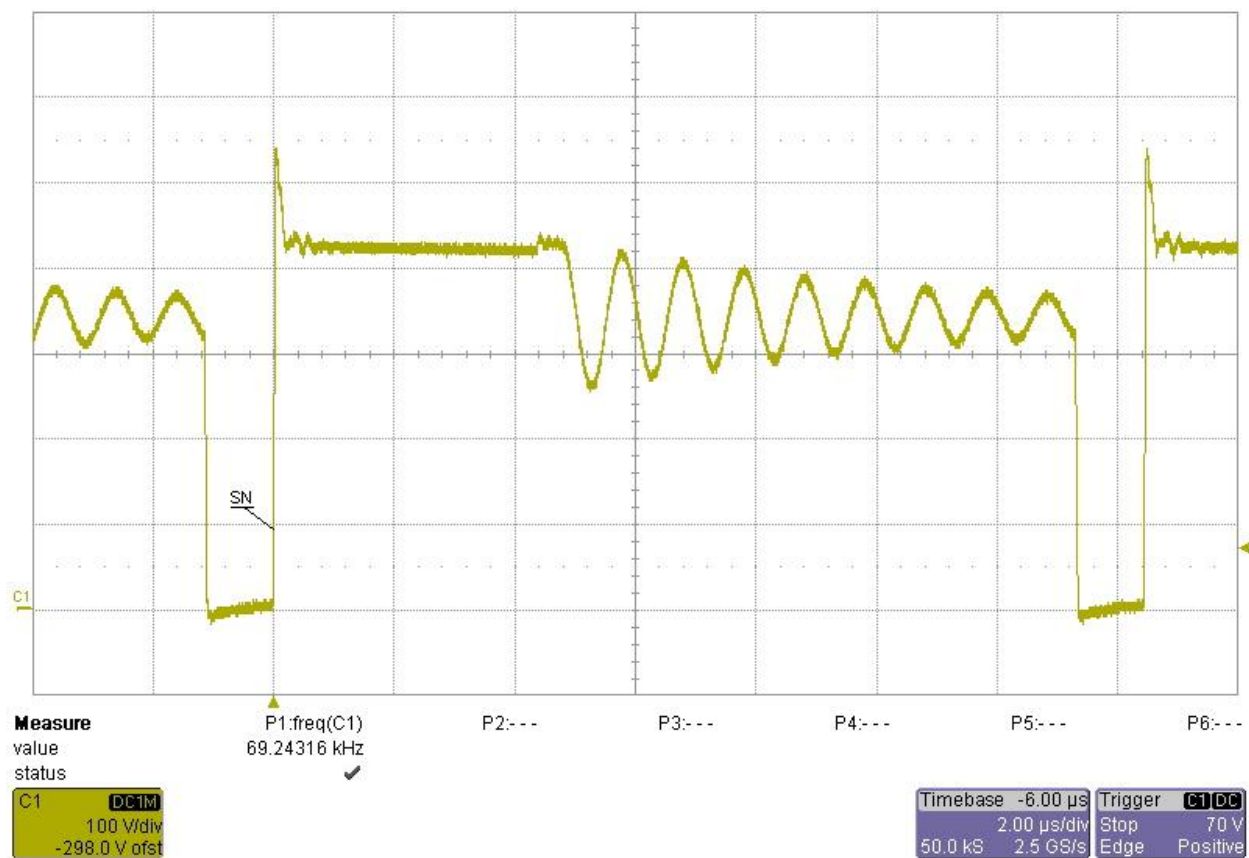
Input voltage = 191VDC

Load current = 1.6A



Input voltage = 340VDC

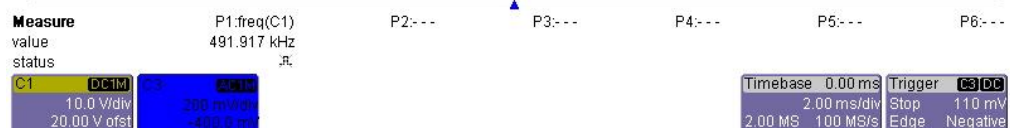
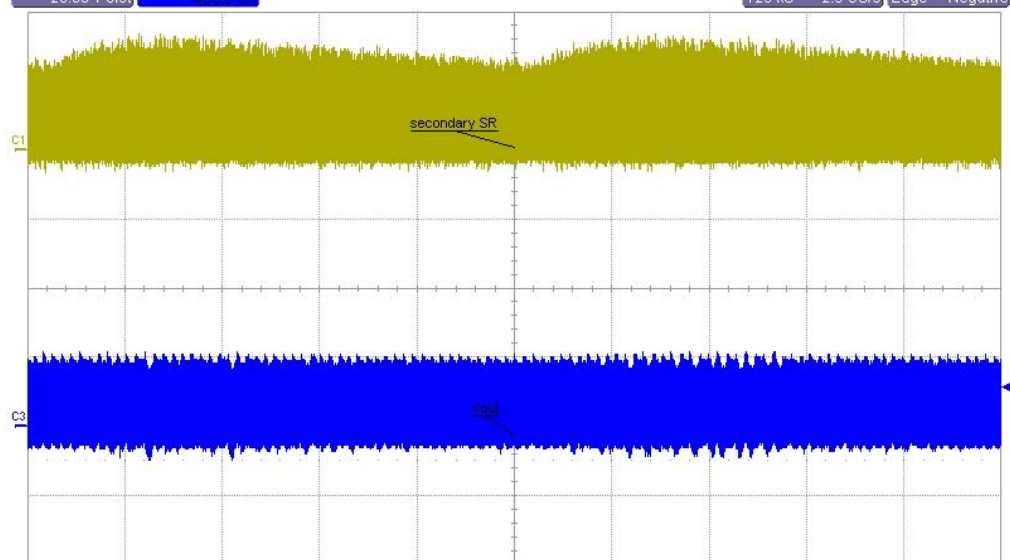
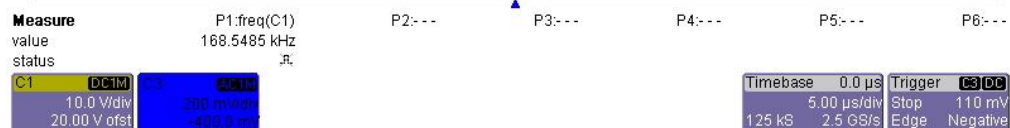
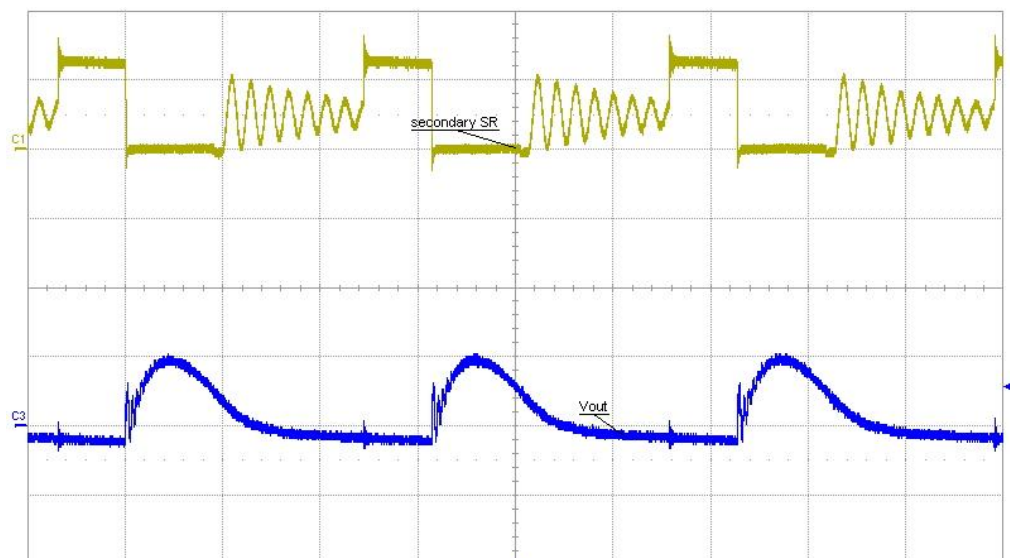
Load current = 1.6A



7 Output ripple voltage

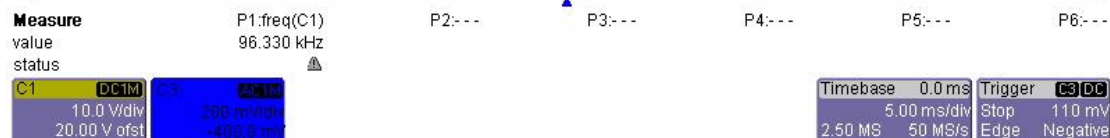
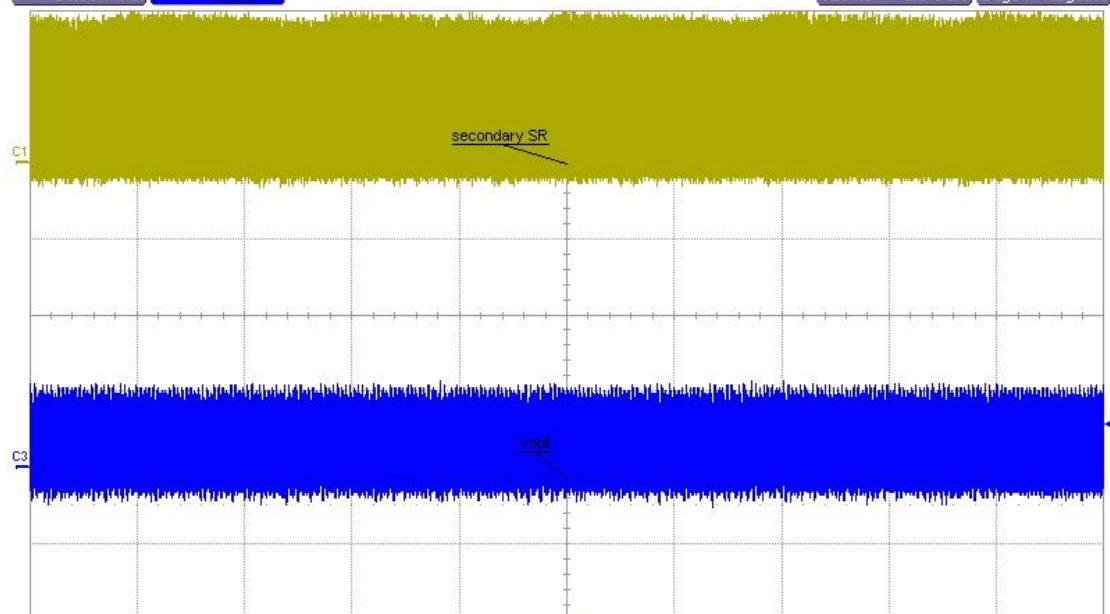
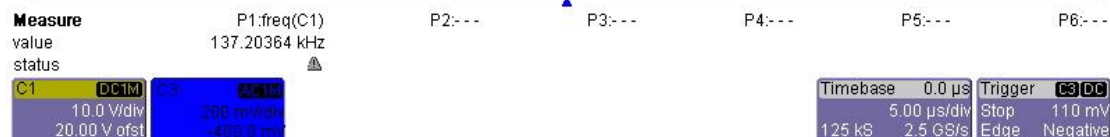
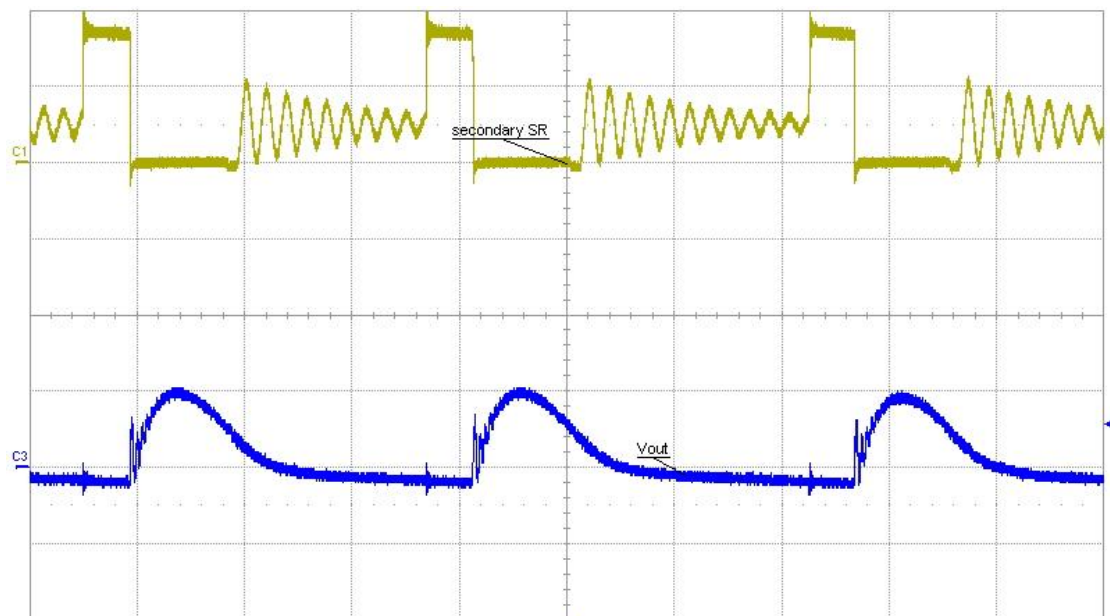
Input voltage = 85VAC

Load current = 1.6A



Input voltage = 135VAC

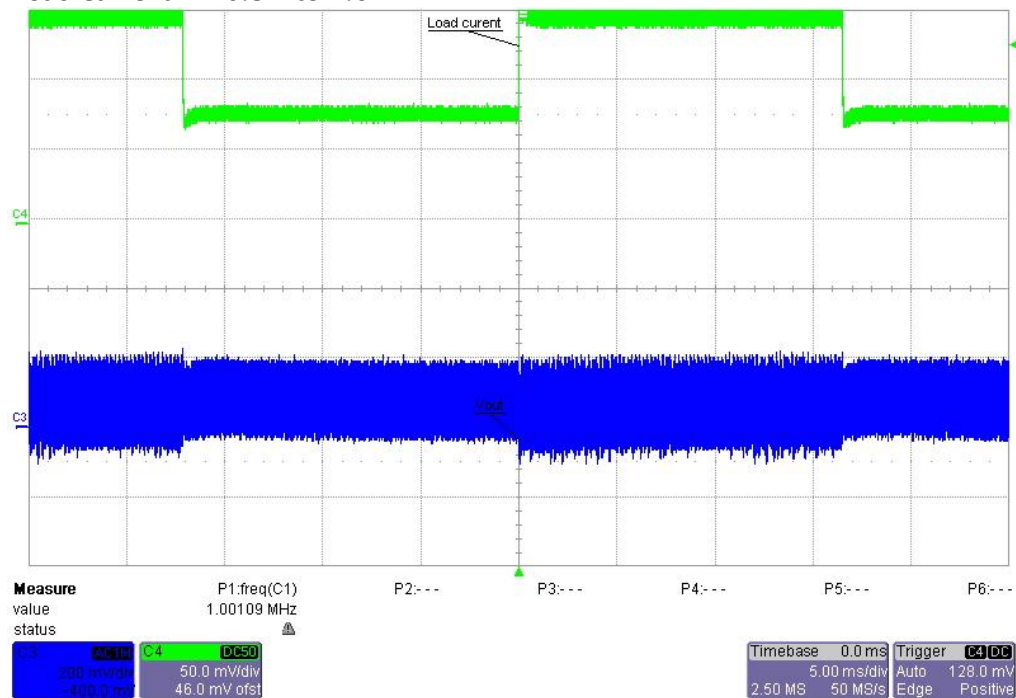
Load current = 1.6A



8 Load Transients

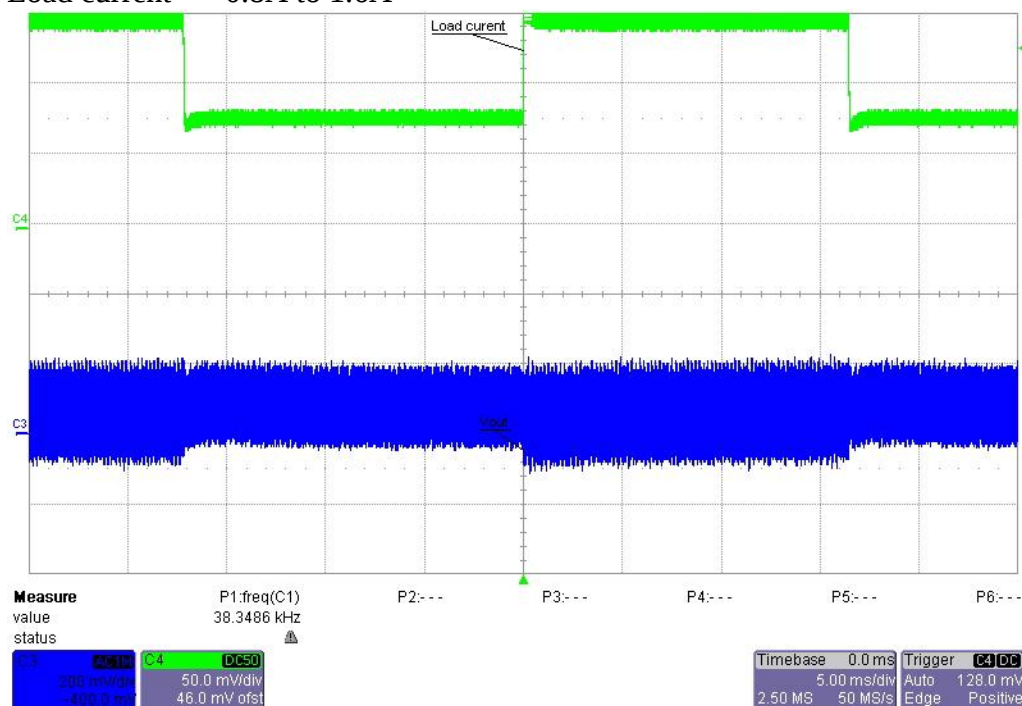
Input voltage = 85VAC

Load current = 0.8A to 1.6A



Input voltage = 135VAC

Load current = 0.8A to 1.6A



9 Thermal Analysis

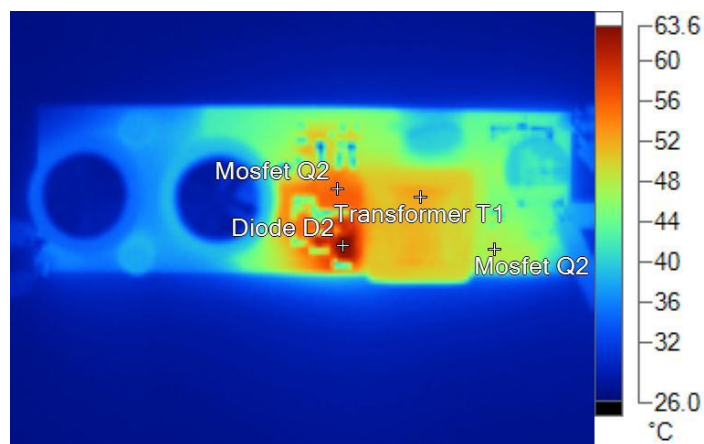
The images below show the infrared images taken from the FlexCam after 15min at full load (8W).

All measurements are done without airflow!

Input voltage = 85VAC

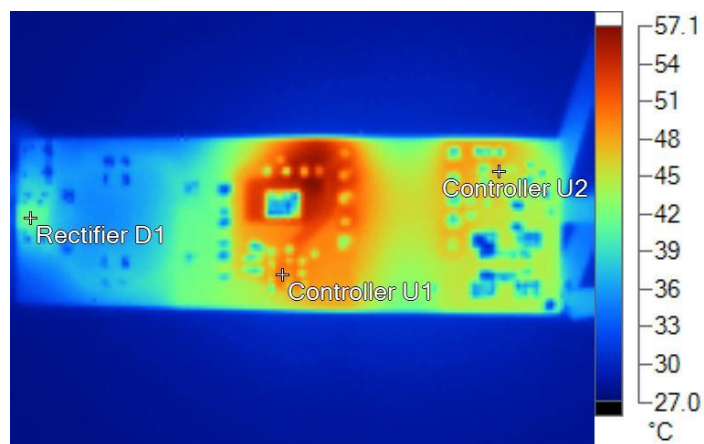
Output power = 8W

Ambient temperature = 25°C:



Name	Temperature	
Diode D2	63.6°C	
Mosfet Q2	55.7°C	
Mosfet Q2	47.8°C	
Transformer T1	52.1°C	

Vin=85VAC I=1.6A Top_0304.is2



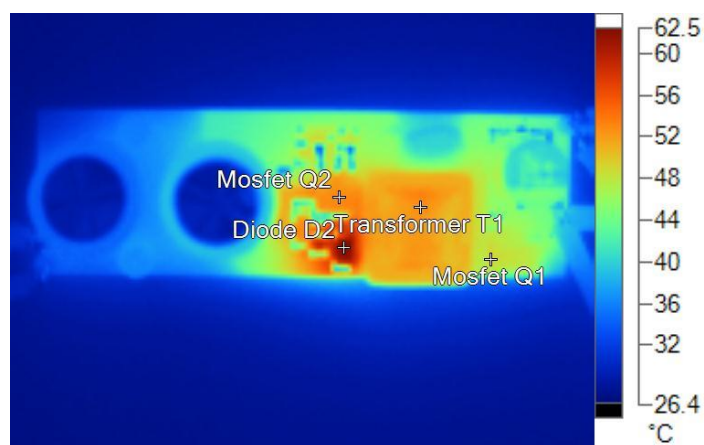
Name	Temperature	
Rectifier D1	41.2°C	
Controller U1	50.0°C	
Controller U2	46.1°C	

Vin=85VAC I=1.6A Bottom_0306.is2

Input voltage = 135VAC

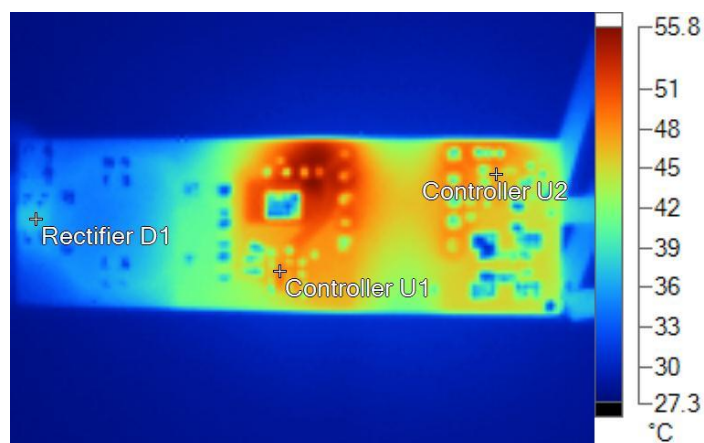
Output power = 8W

Ambient temperature = 25°C:



Vin=135AC I=1.6A Top_0305.is2

Name	Temperature
Diode D2	62.5°C
Mosfet Q2	53.0°C
Transformer T1	52.6°C
Mosfet Q1	48.9°C



Vin=135VAC I=1.6A Bottom_0307.is2

Name	Temperature	
Rectifier D1	37.2°C	
Controller U1	48.7°C	
Controller U2	47.6°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.

Certain Instructions. Exceeding the specified EVM ratings (including but not limited to input and output voltage, current, power, and environmental ranges) may cause property damage, personal injury or death. If there are questions concerning these ratings please contact a TI field representative prior to connecting interface electronics including input power and intended loads. Any loads applied outside of the specified output range may result in unintended and/or inaccurate operation and/or possible permanent damage to the EVM and/or interface electronics. Please consult the EVM User's Guide prior to connecting any load to the EVM output. If there is uncertainty as to the load specification, please contact a TI field representative. During normal operation, some circuit components may have case temperatures greater than 60°C as long as the input and output ranges are maintained at nominal ambient operating temperature. These components include but are not limited to linear regulators, switching transistors, pass transistors, and current sense resistors which can be identified using the EVM schematic located in the EVM User's Guide. When placing measurement probes near these devices during normal operation, please be aware that these devices may be very warm to the touch.

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