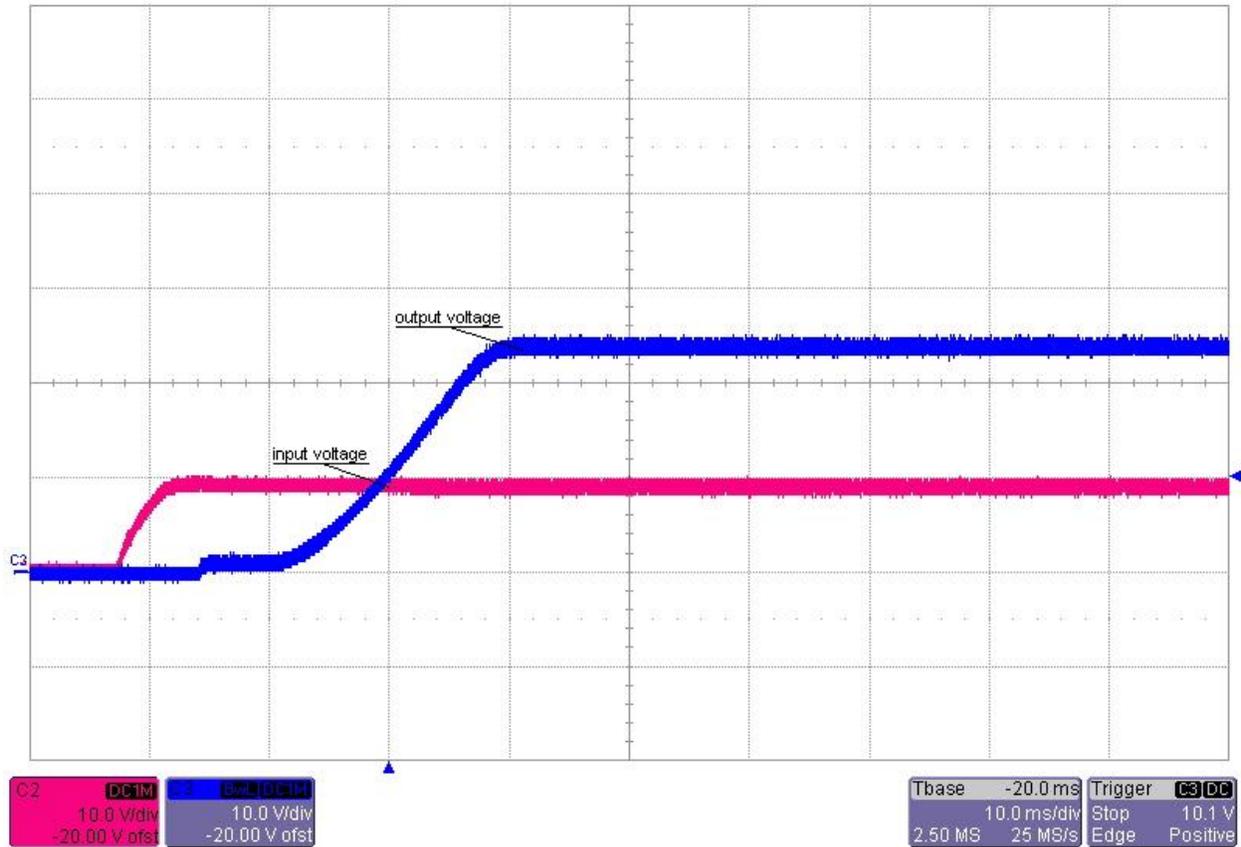


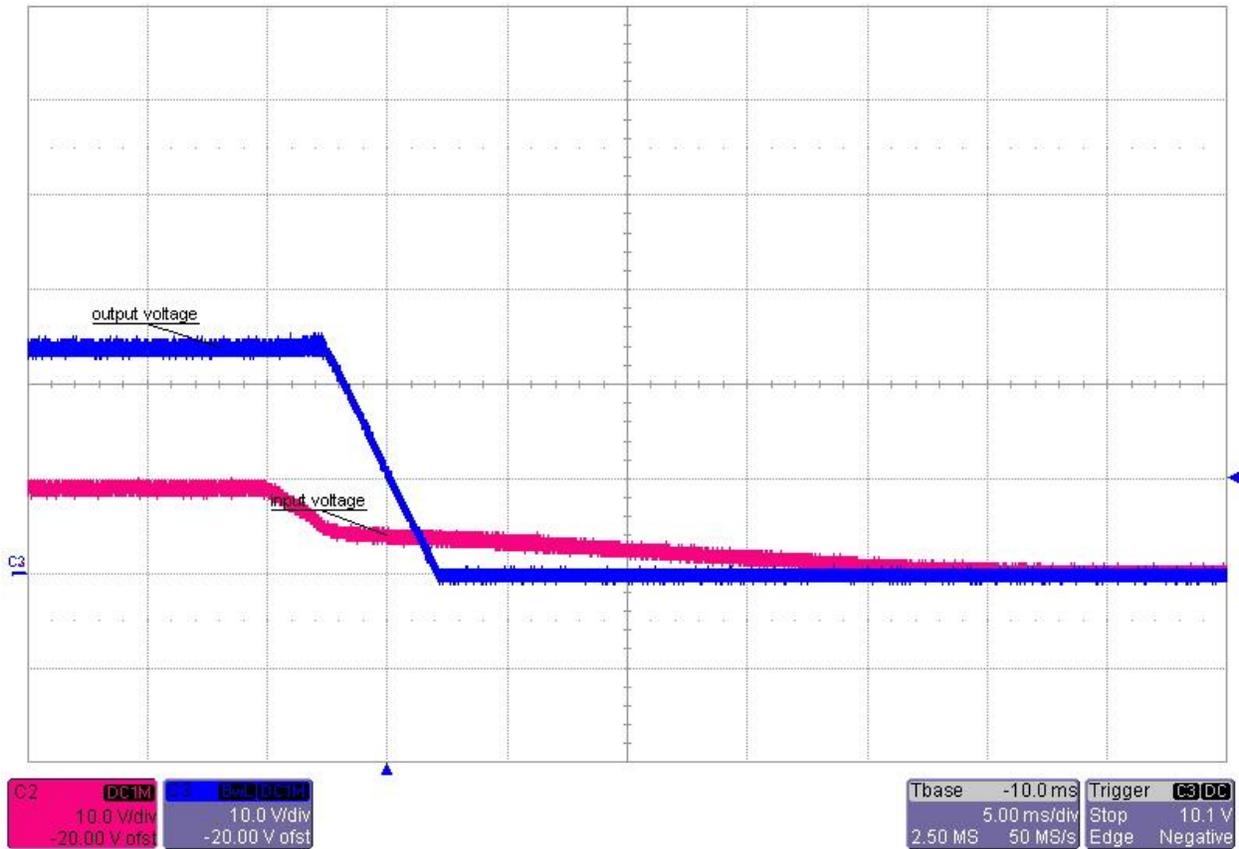
## 1 Startup

Ambient temperature = 22°C  
Input voltage = 9V  
Load current = 0.85A



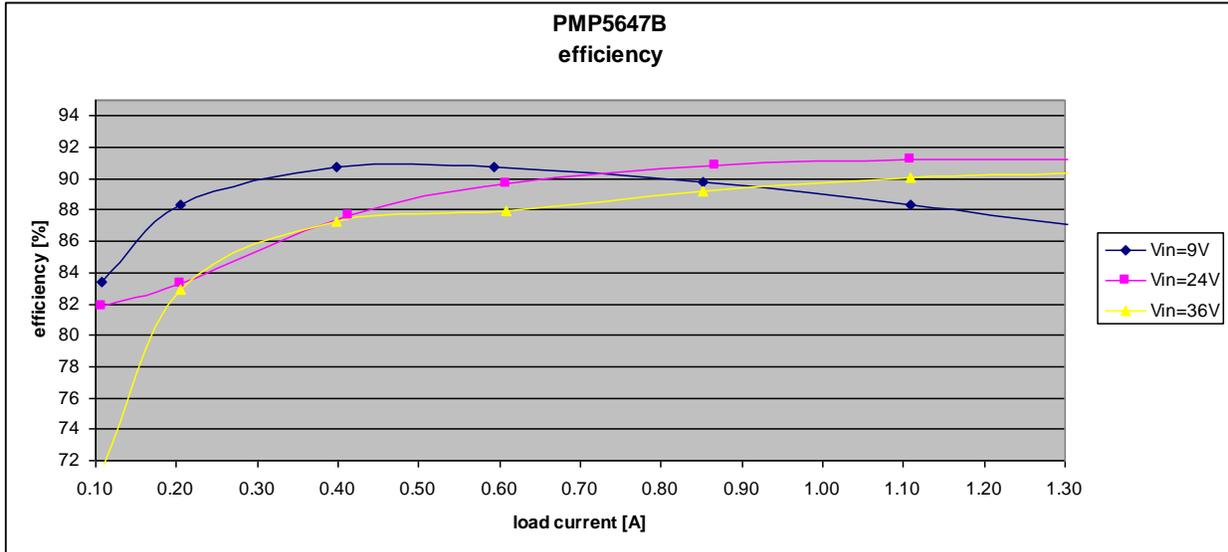
## 2 Shutdown

Ambient temperature = 22°C  
Input voltage = 9V  
Load current = 0.85A



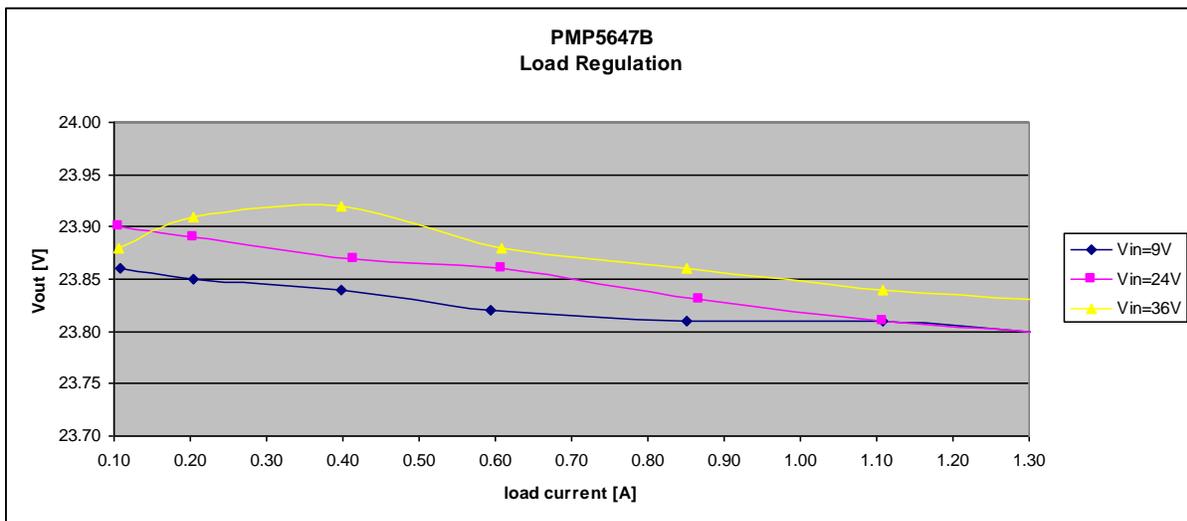
### 3 Efficiency

Ambient temperature = 22°C  
 Input voltage = 9V, 24V and 36V



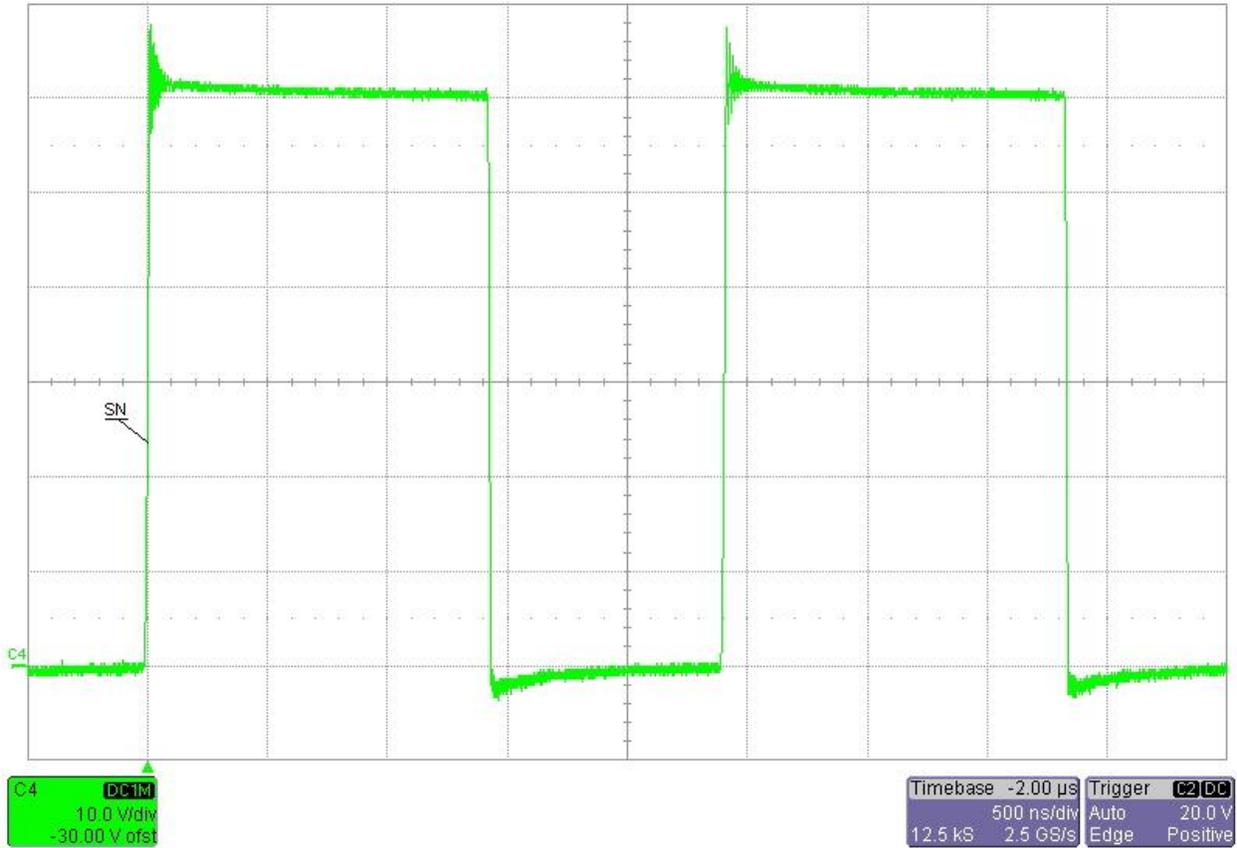
### 4 Load regulation

Ambient temperature = 22°C  
 Input voltage = 9V, 24V and 36V



### 5 Switch-node

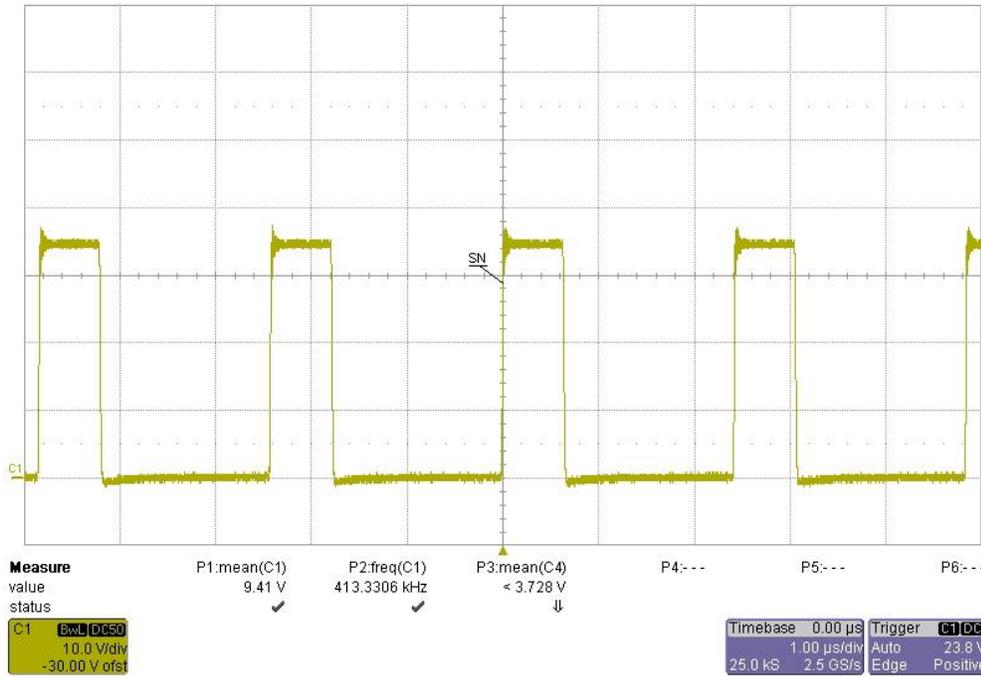
Ambient temperature = 22°C  
Input voltage = 36V  
Load current = 0.85A



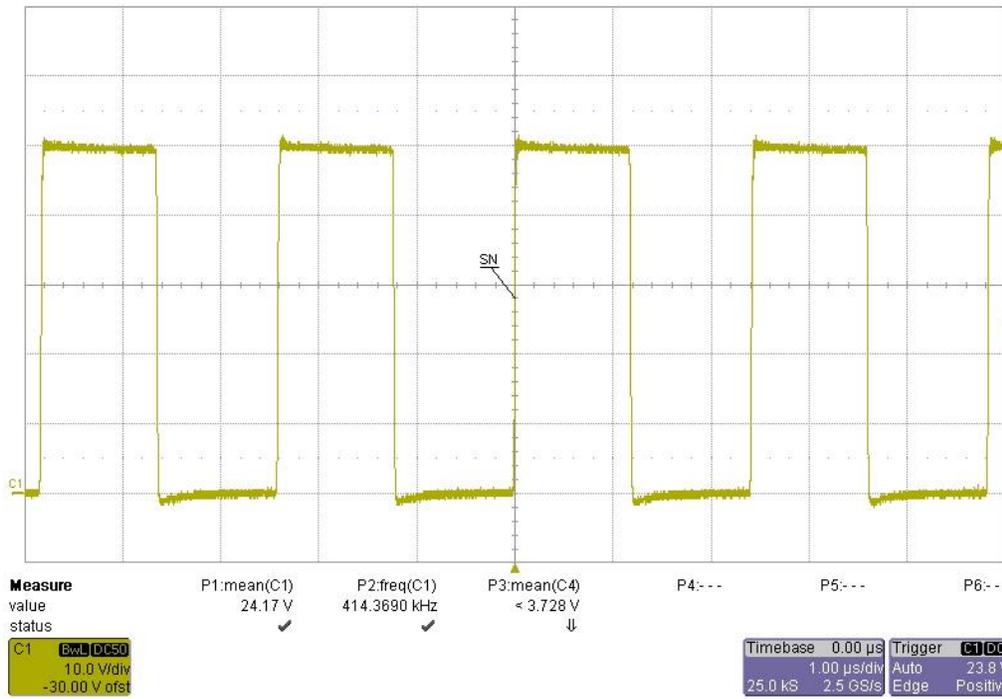
# PMP5647\_RevB Test Results



Ambient temperature = 85°C  
Input voltage = 9V  
Load current = 0.85A

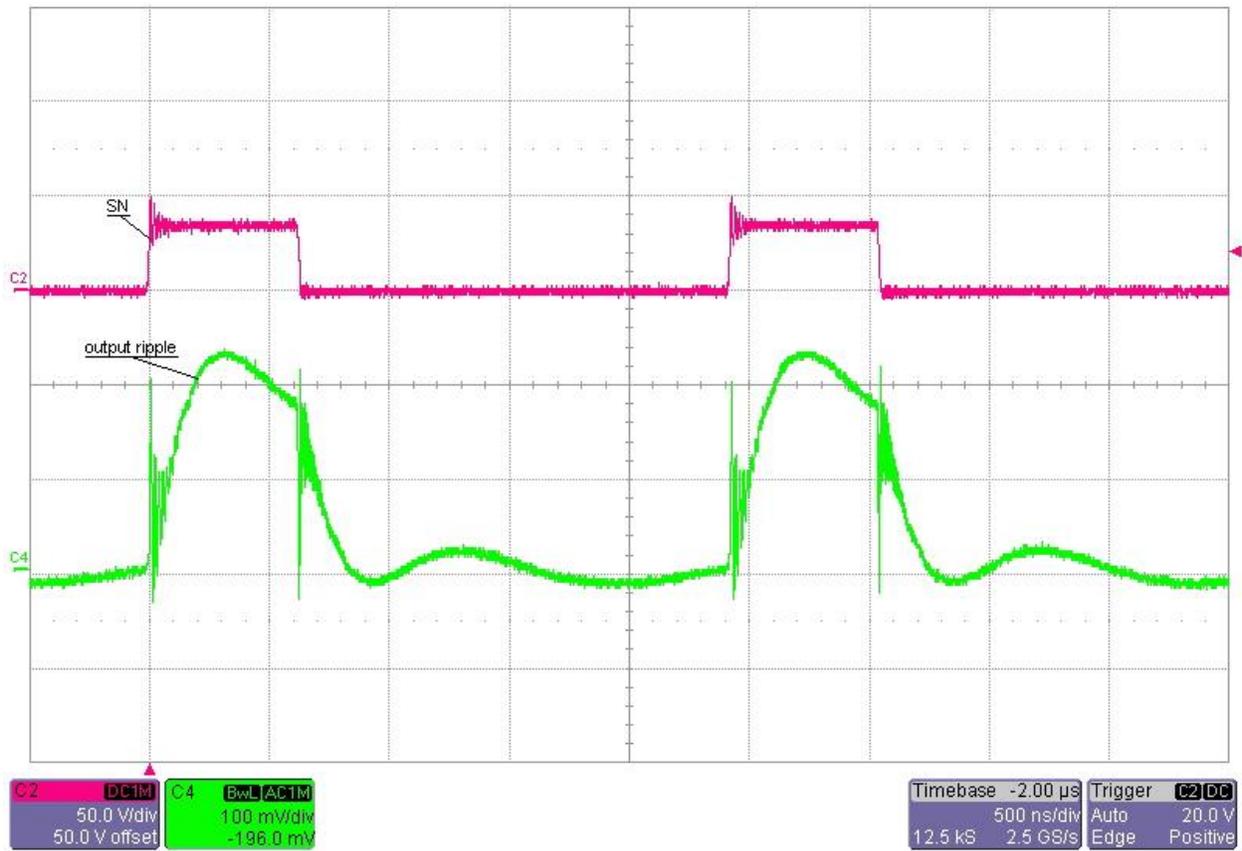


Ambient temperature = 85°C  
Input voltage = 24V  
Load current = 0.85A



## 6 Output ripple

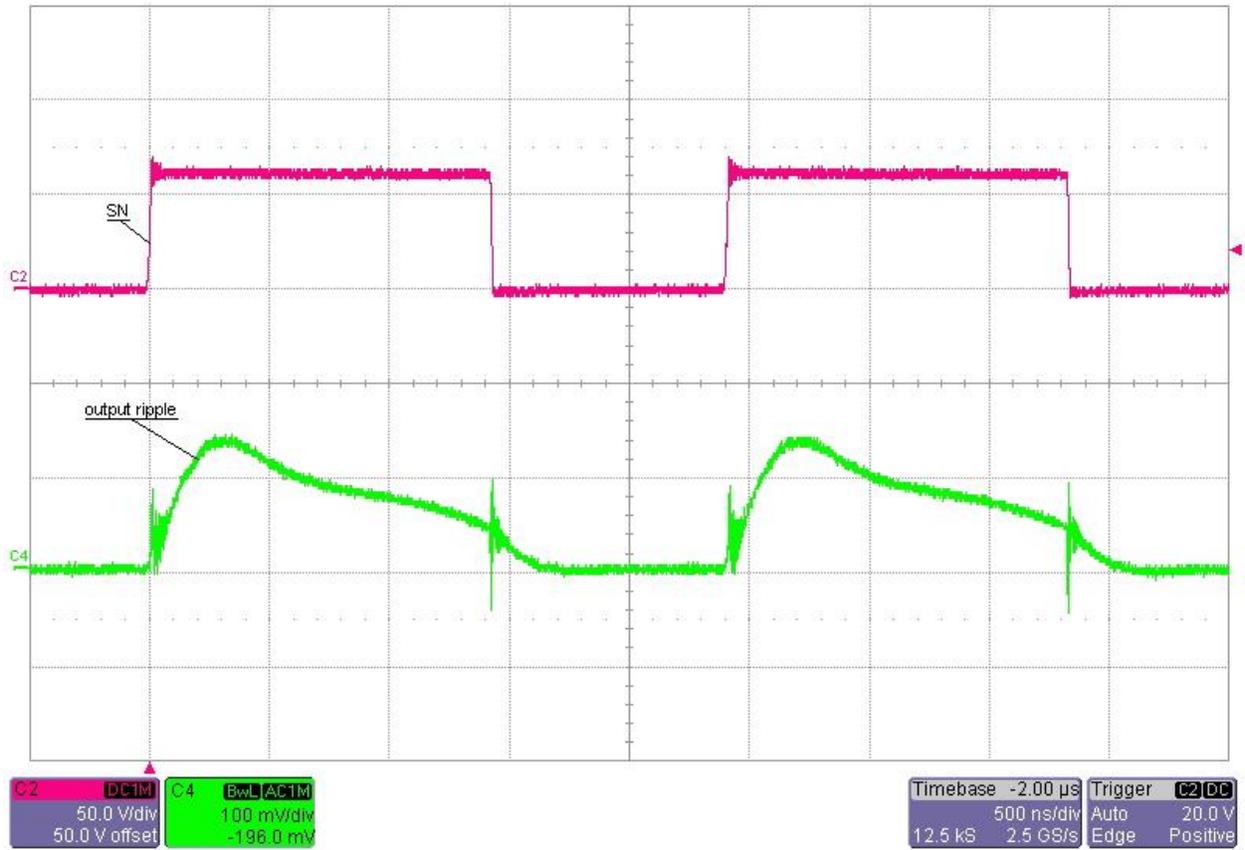
Ambient temperature = 22°C  
Input voltage = 9V  
Load current = 0.85A



# PMP5647\_RevB Test Results

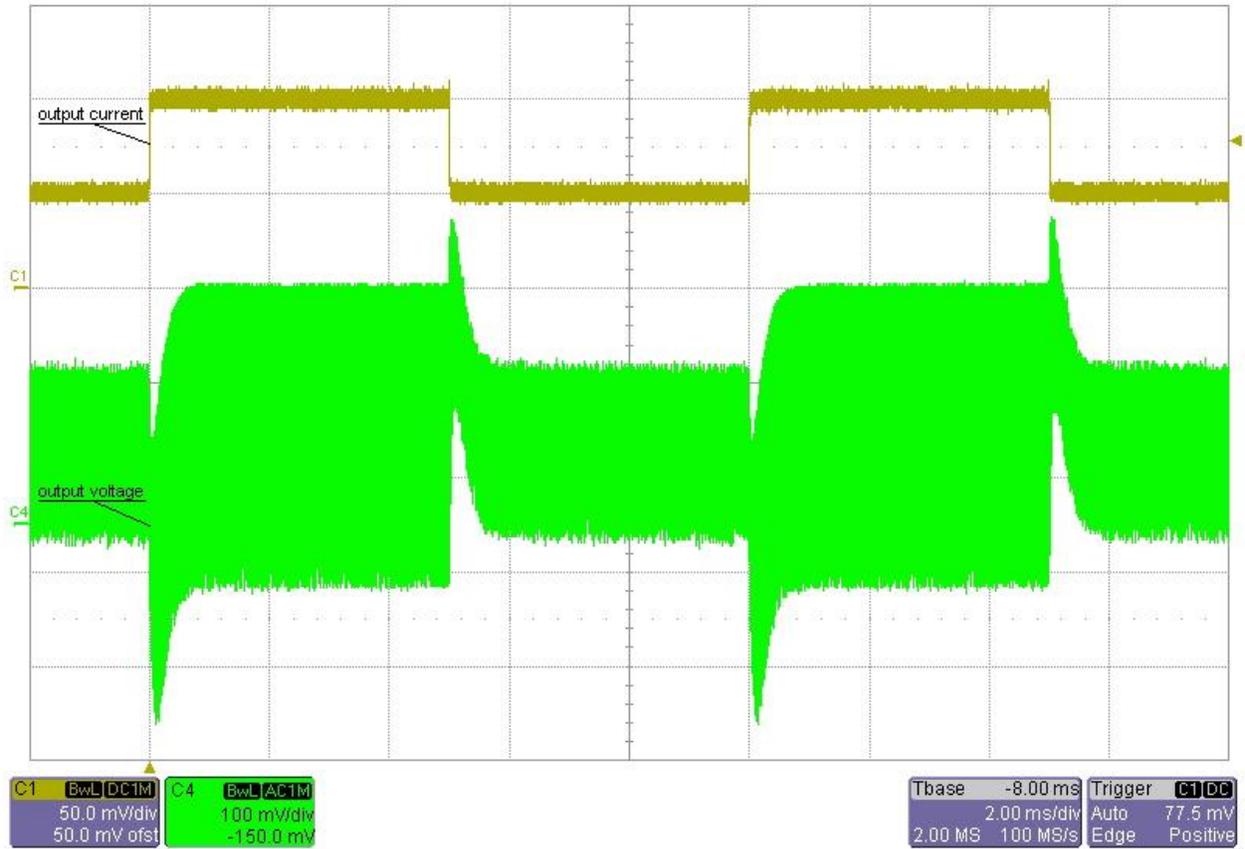


Ambient temperature = 22°C  
Input voltage = 9V  
Load current = 0.85A



## 7 Load Transient

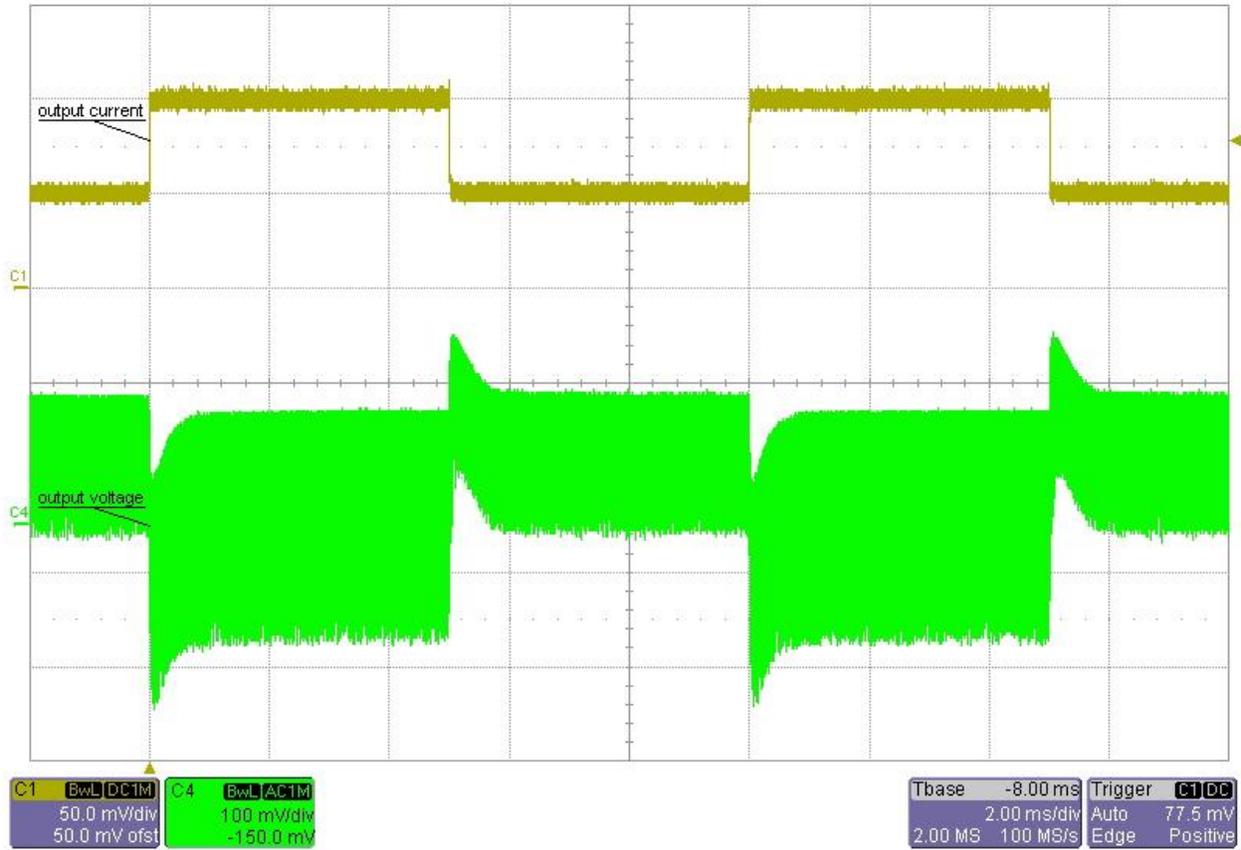
Ambient temperature = 22°C  
Input voltage = 9V  
Load current = 0.5A to 1A



# PMP5647\_RevB Test Results

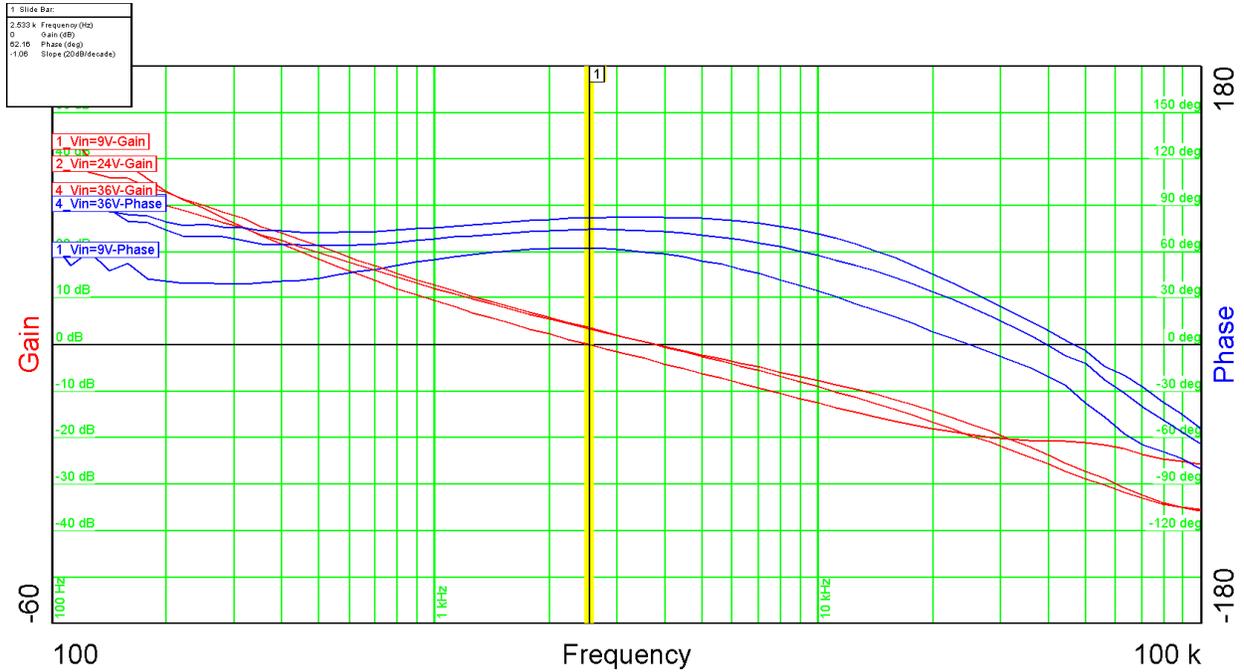


Ambient temperature = 22°C  
Input voltage = 36V  
Load current = 0.5A to 1A



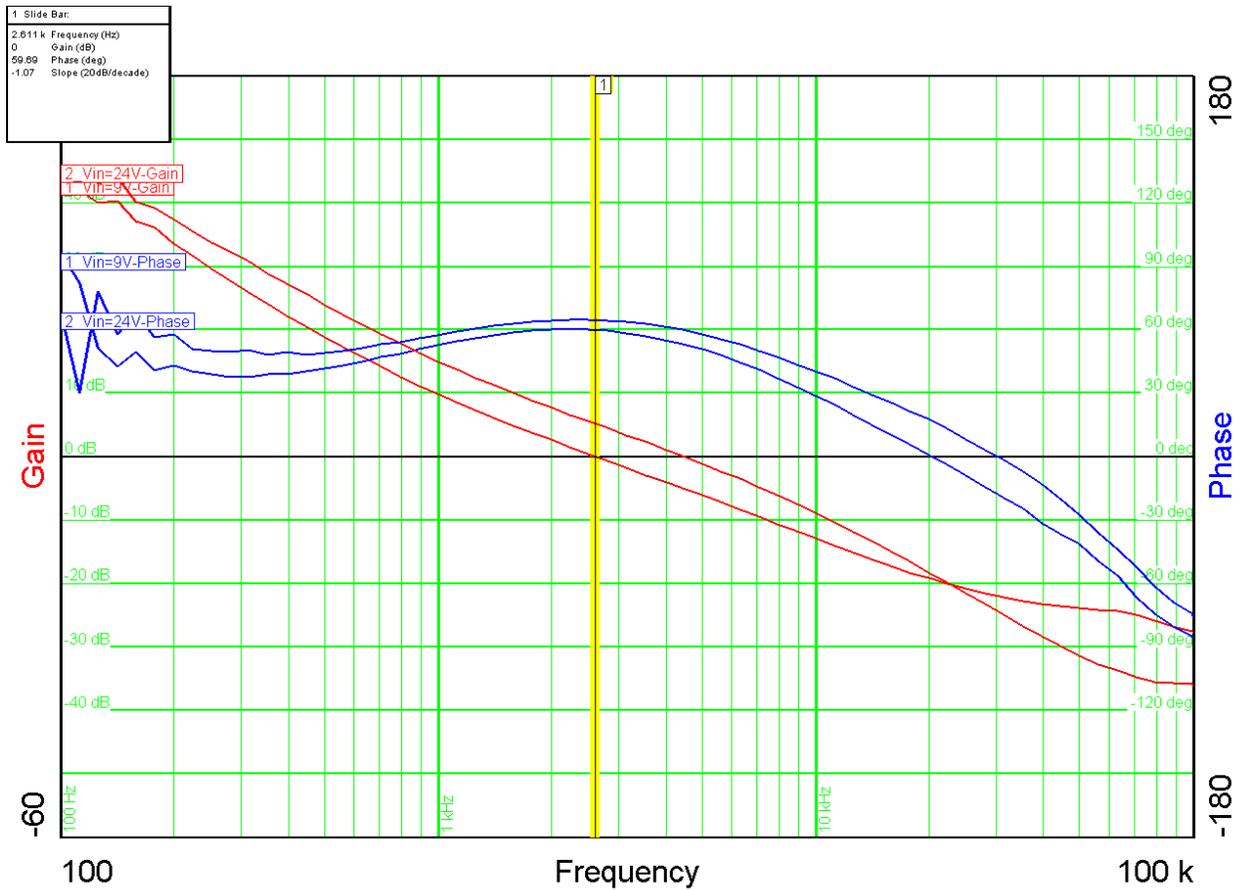
## Loop Response

Ambient temperature = 22°C  
 Input voltage = 9V, 24V, 36V  
 Load current = 0.85A



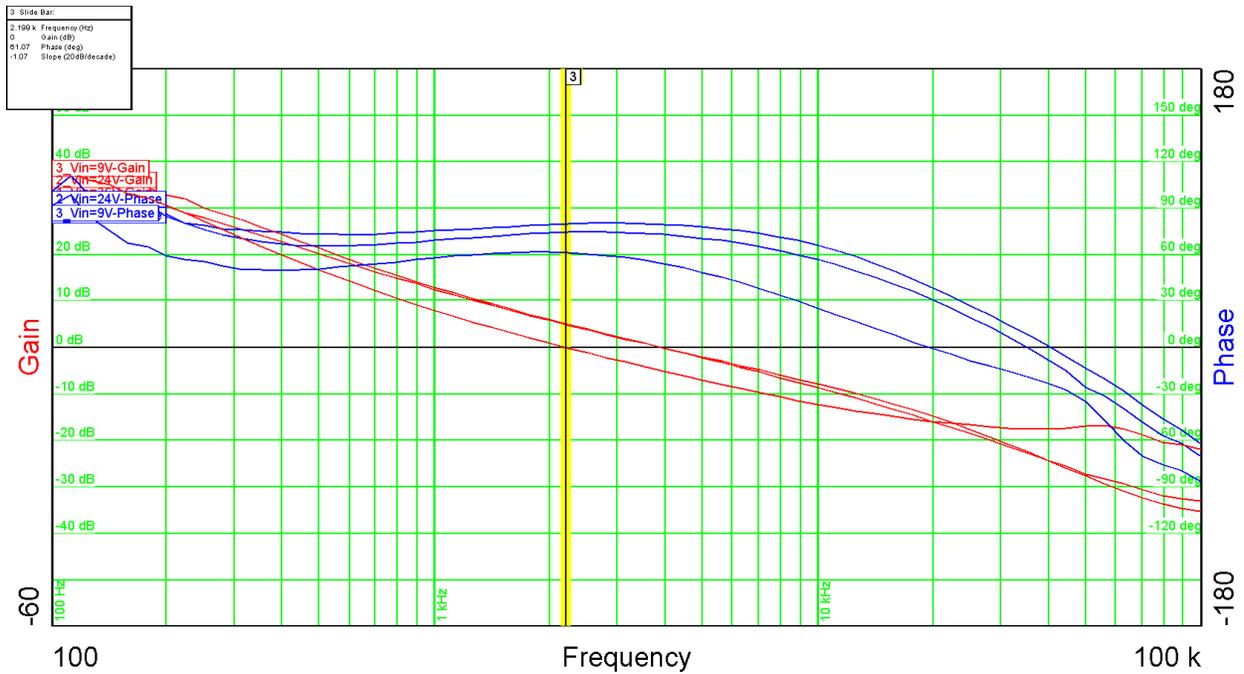
Worst case:  
 Input voltage = 9V  
 Load current = 0.85A  
 Phase = 62.1°  
 Bandwidth = 2.5kHz

Ambient Temperature = 85°C  
 Input voltage = 9V, 24V  
 Load current = 0.85A



Input voltage = 9V  
 Load current = 0.85A  
 Phase = 59.7°  
 Bandwidth = 2.6kHz

Ambient temperature = 22°C  
 Input voltage = 9V, 24V, 36V  
 Load current = 1.3A



Worst case:  
 Input voltage = 9V  
 Load current = 1.3A  
 Phase = 61.1°  
 Bandwidth = 2.2kHz

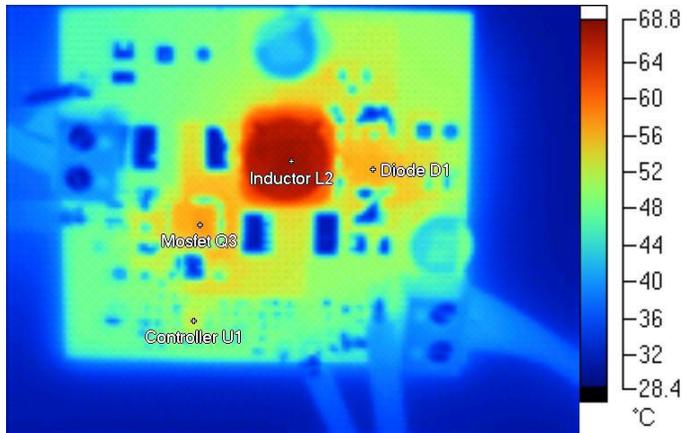
## Thermal Analysis

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

Input voltage = 9V

Load current = 0.85A

Ambient temperature = 22°C



Name	Temperature
Inductor L2	67.8°C
Diode D1	56.1°C
Mosfet Q3	57.4°C
Controller U1	52.5°C

## IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale (<https://www.ti.com/legal/termsofsale.html>) or other applicable terms available either on [ti.com](https://www.ti.com) or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
Copyright © 2021, Texas Instruments Incorporated