

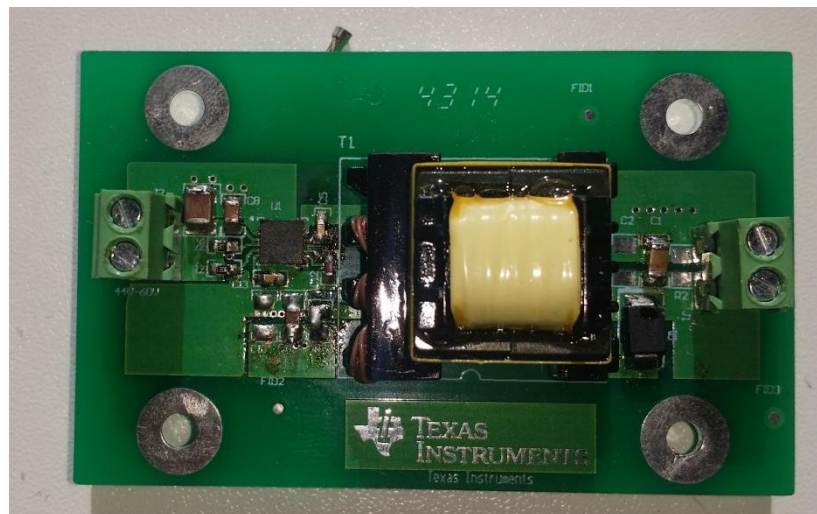
**Test Data  
For PMP10563  
5/4/2015**



# Context

- 1. Board Picture ..... 2
- 2. Design Specifications ..... 3
- 3. TYPICAL PERFORMANCE ..... 3
  - 3.1 EFFICIENCY ..... 3
  - 3.2 Load regulation ..... 4
  - 3.3 Load Transient Response: ..... 4
  - 3.4 Power up and Power down..... 8
  - 3.5 Ripple ..... 16
  - 3.6 SW and Diode Stress ..... 19
  - 3.7 Short..... 21
  - 3.8 Thermal-test in the room temp: ..... 23

## 1. Board Picture



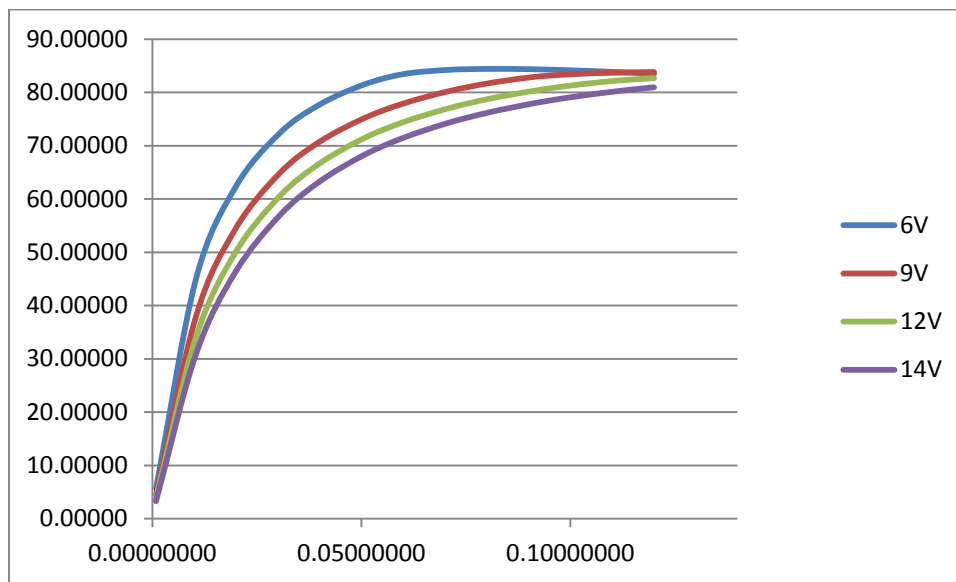
Board Picture

## 2. Design Specifications

<b>Vin Min.</b>	<b>6Vdc</b>
<b>Vin Max.</b>	<b>14Vdc</b>
<b>Vout</b>	<b>5.5Vdc</b>
<b>Iout</b>	<b>0.12A</b>
<b>Isolation voltage</b>	<b>4000Vac</b>

## 3. TYPICAL PERFORMANCE

### 3.1 EFFICIENCY



**Fig1 Efficiency Curve**

### 3.2 Load regulation

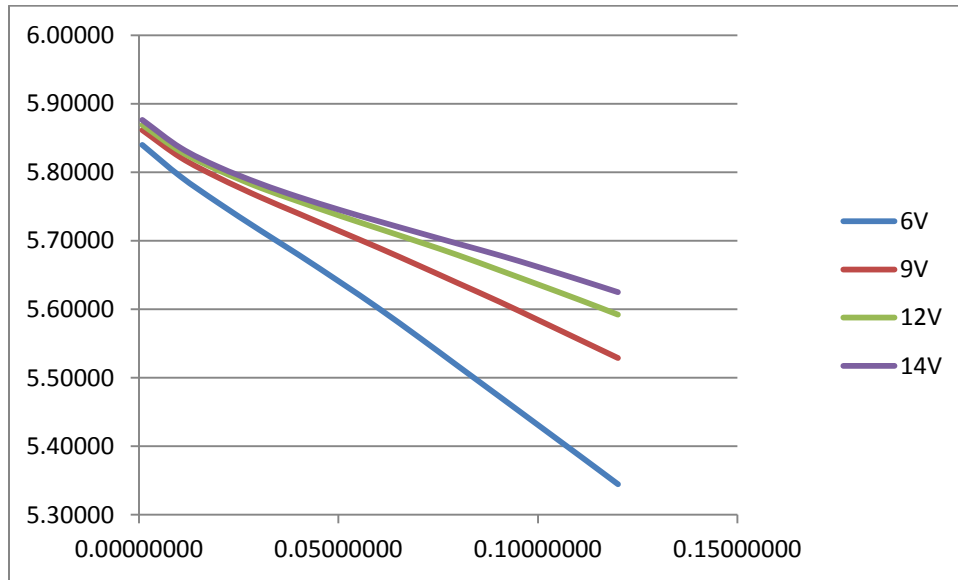


Fig2 Load regulation Curve

### 3.3 Load Transient Response:

Ch2=Vo\_ac(200mV/DIV), CH4=Io(0.1A/DIV)

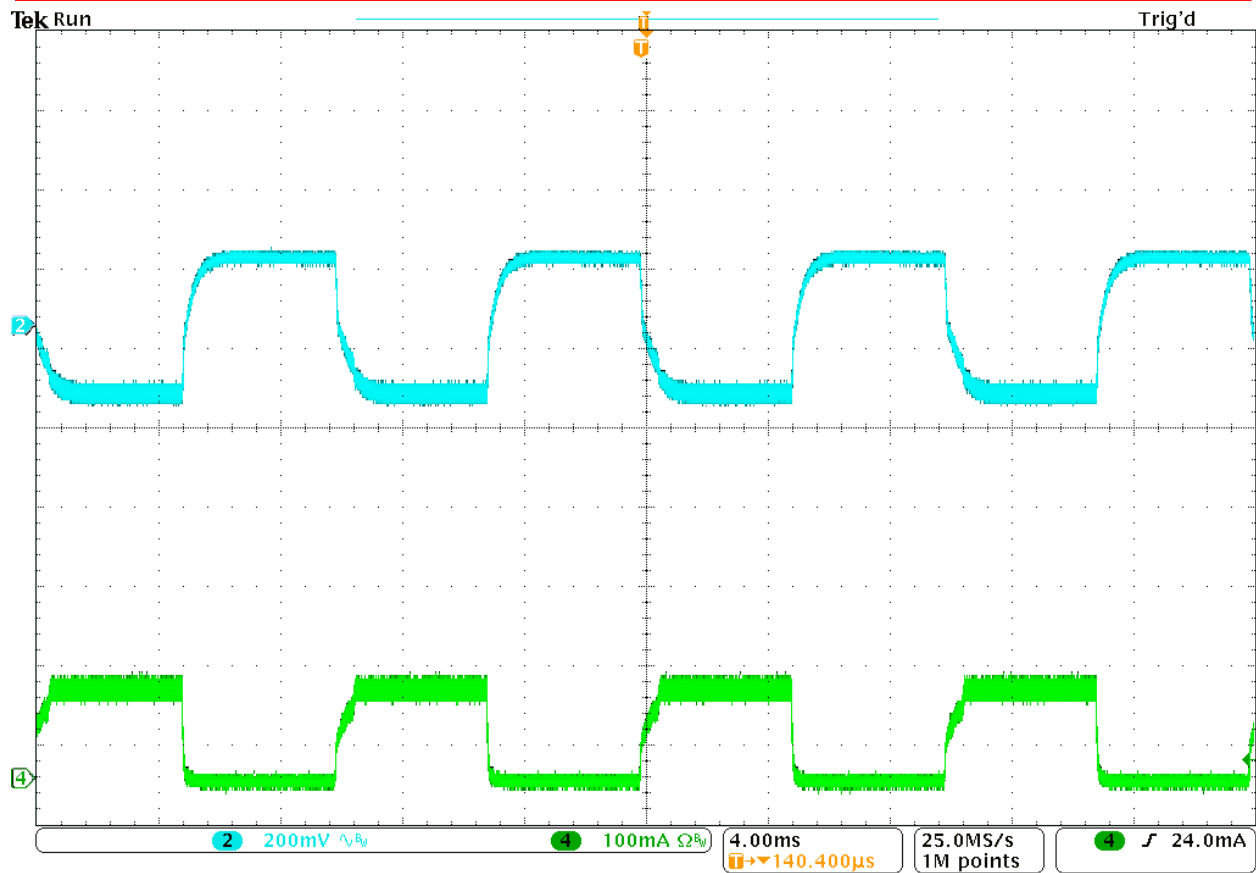


Fig3 Transient Response, Vin=6V DC Io=0-100%

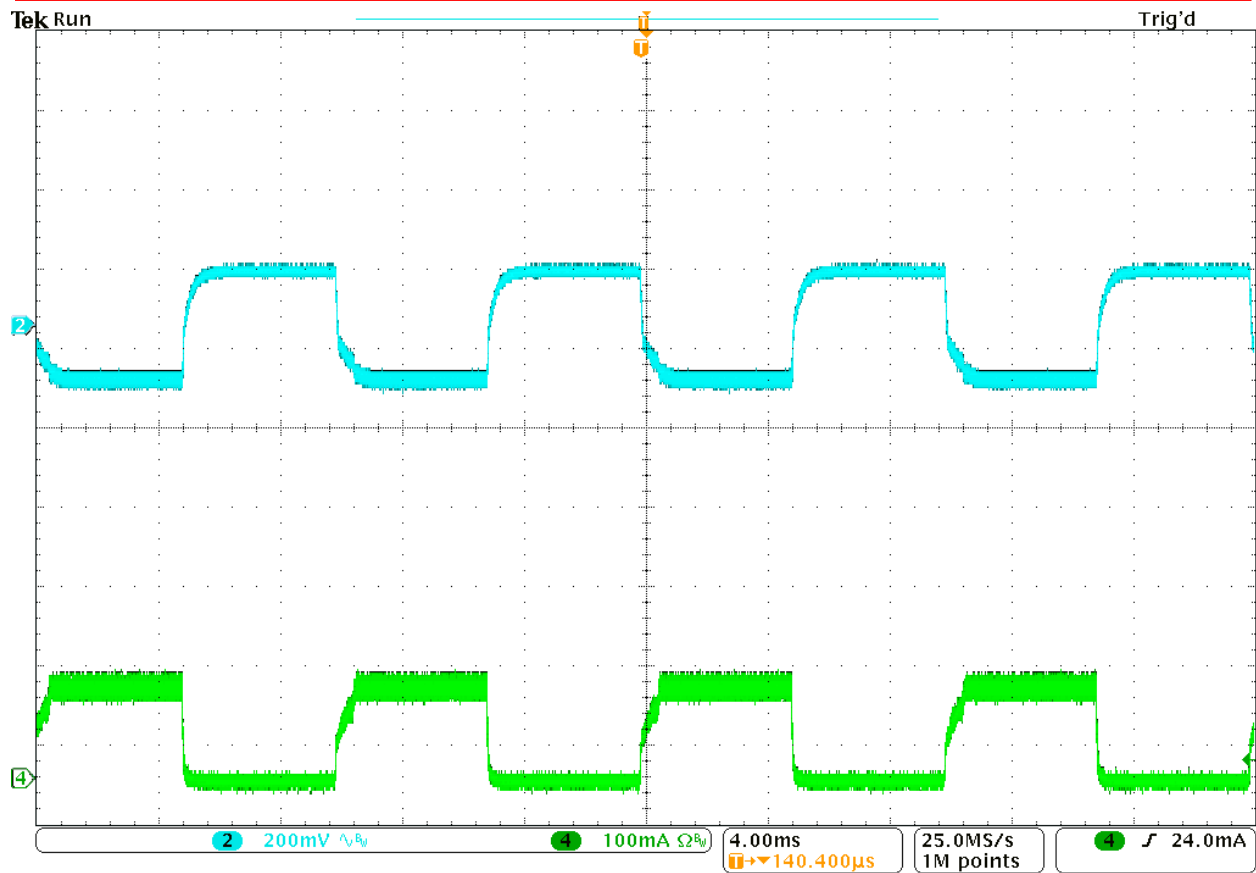


Fig 4 Transient Response,  $V_{in}=9V$  DC  $I_o=0-100\%$



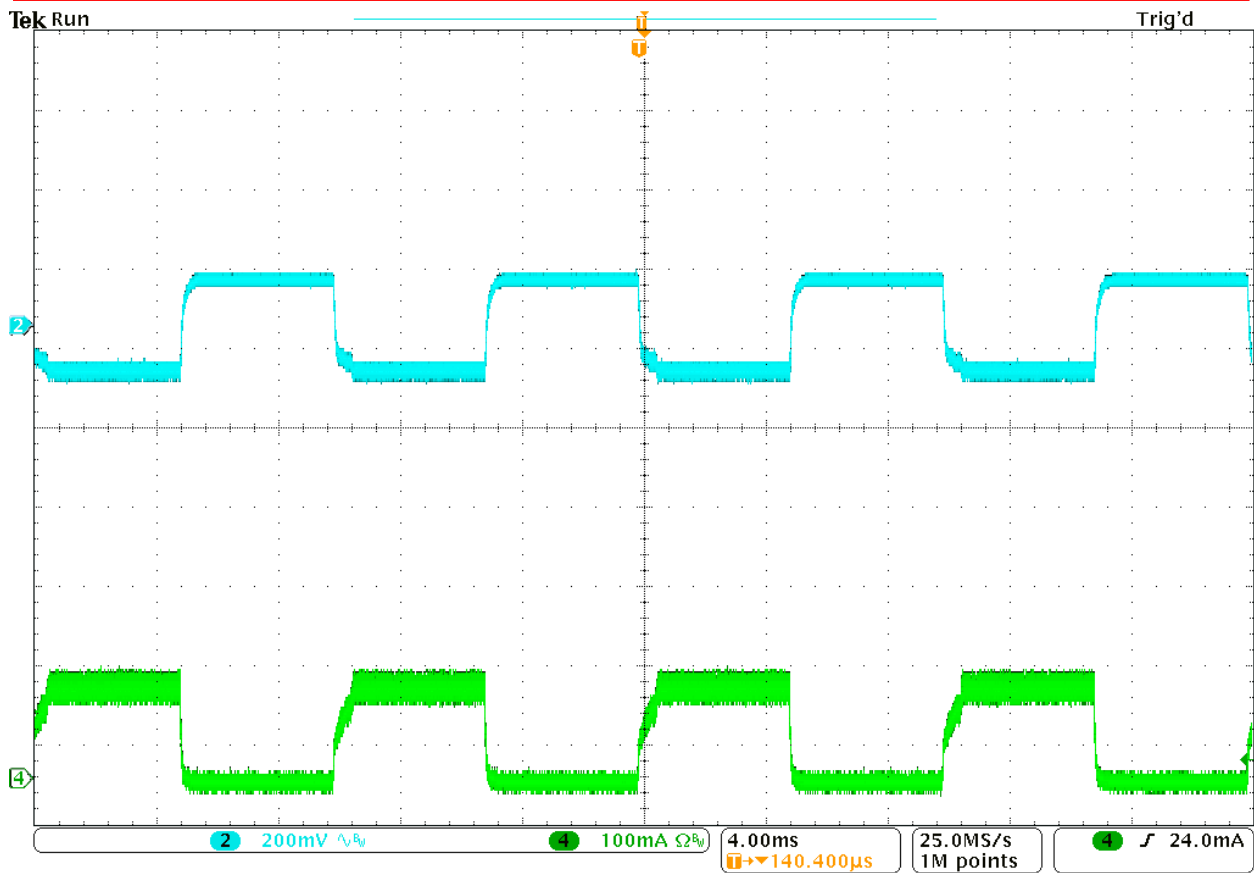


Fig 6 Transient Response,  $V_{in}=14V$  DC  $I_o=0-100\%$

### 3.4 Power up and Power down

Ch1= $I_o(0.1A/DIV)$ , Ch3= $V_{in}(5V/DIV)$ , CH4= $V_o(2V/div)$



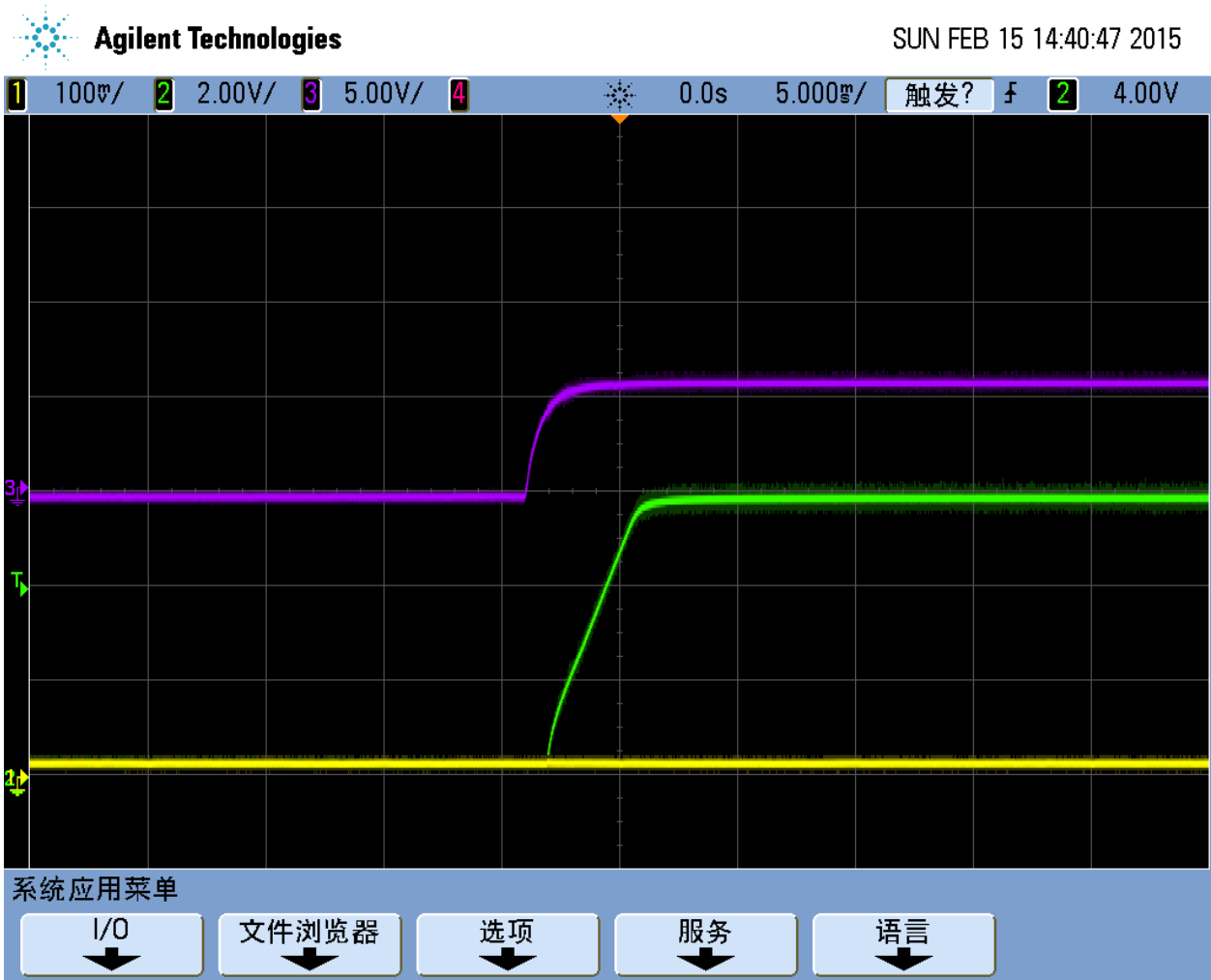


Fig 7 Vin=6V Io=0A Power up

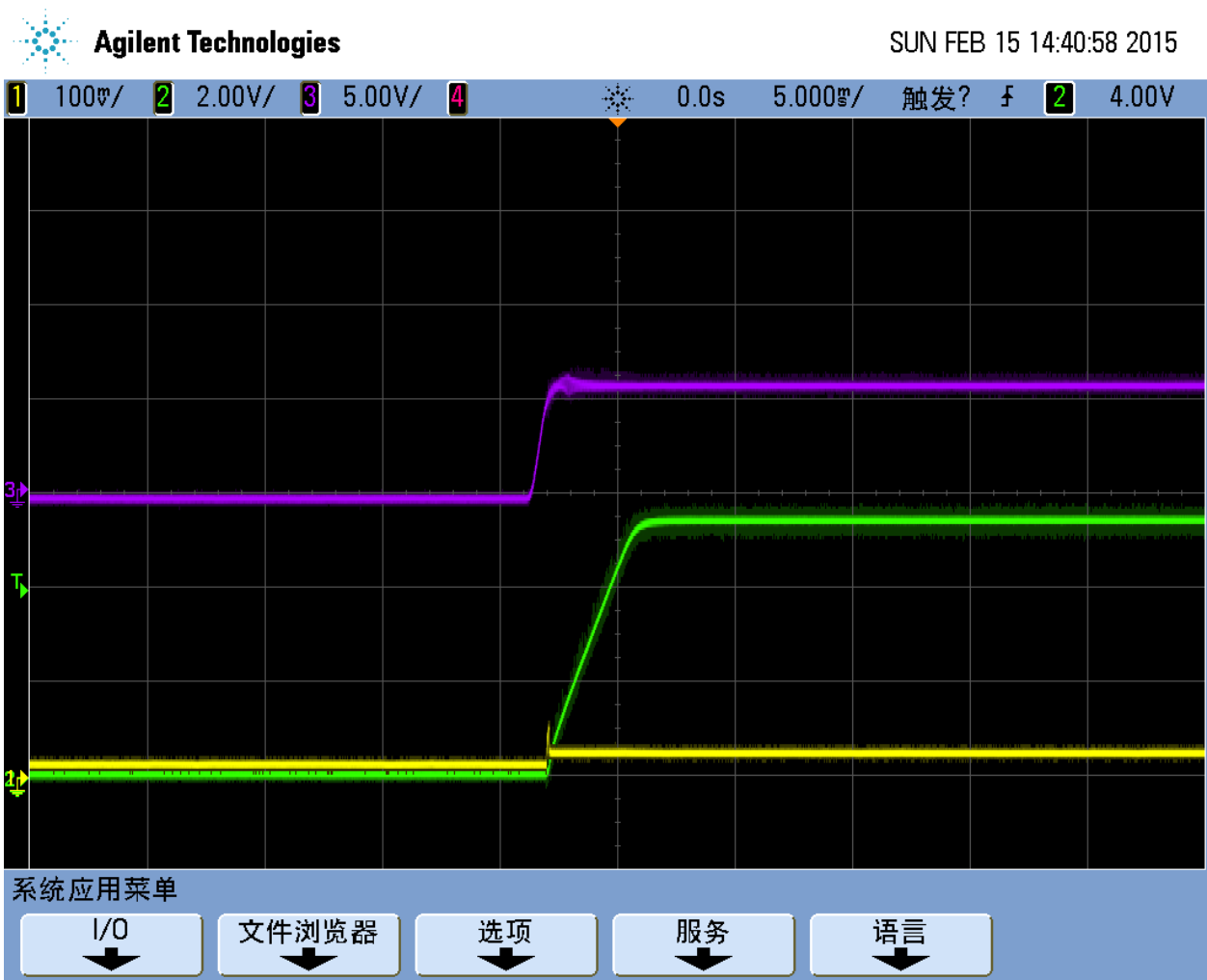


Fig 8 Vin=6V Io=0.12A Power up



Fig 9 Vin=9V Io=0A Power up

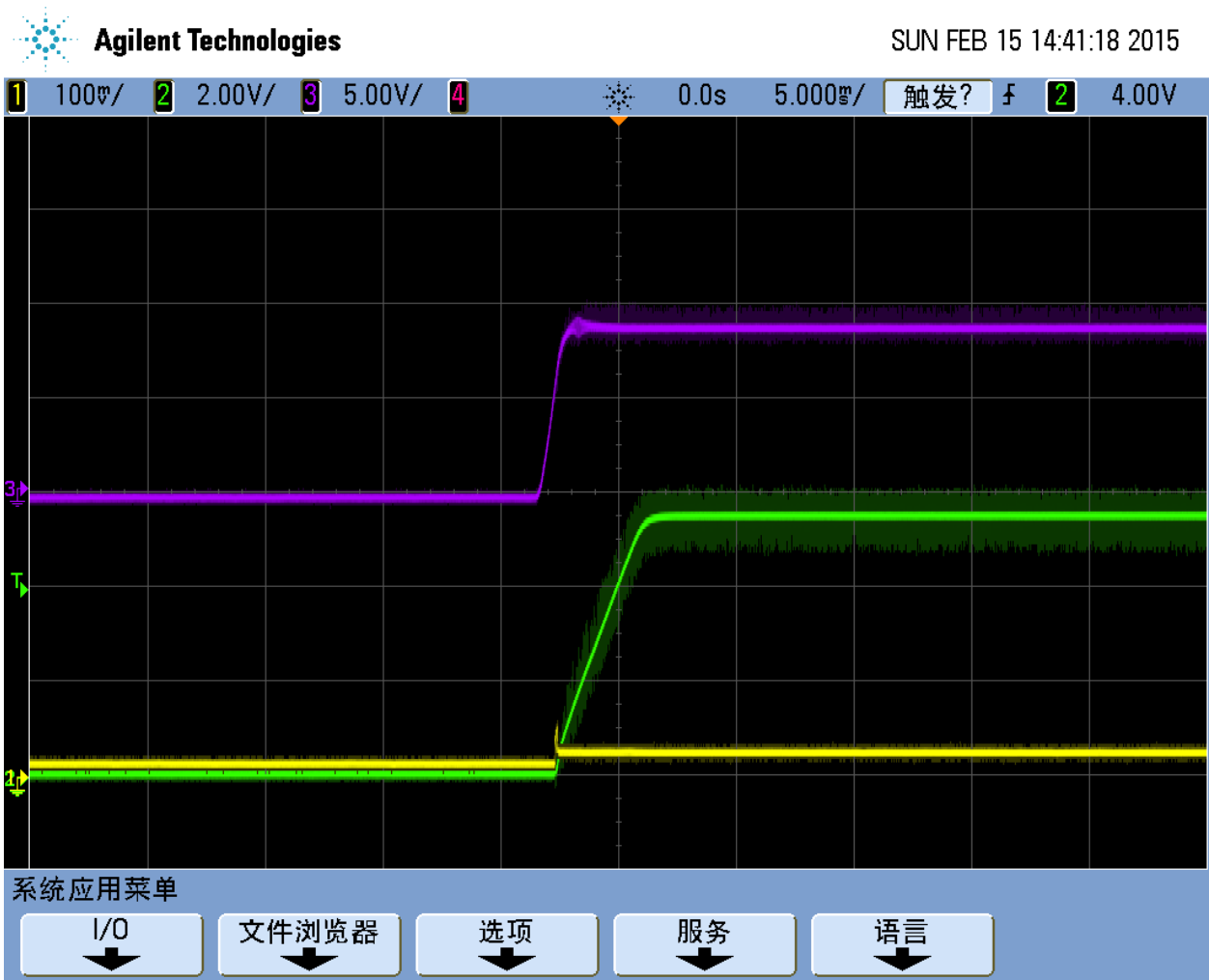


Fig 10 Vin=9V Io=0.12A Power Up

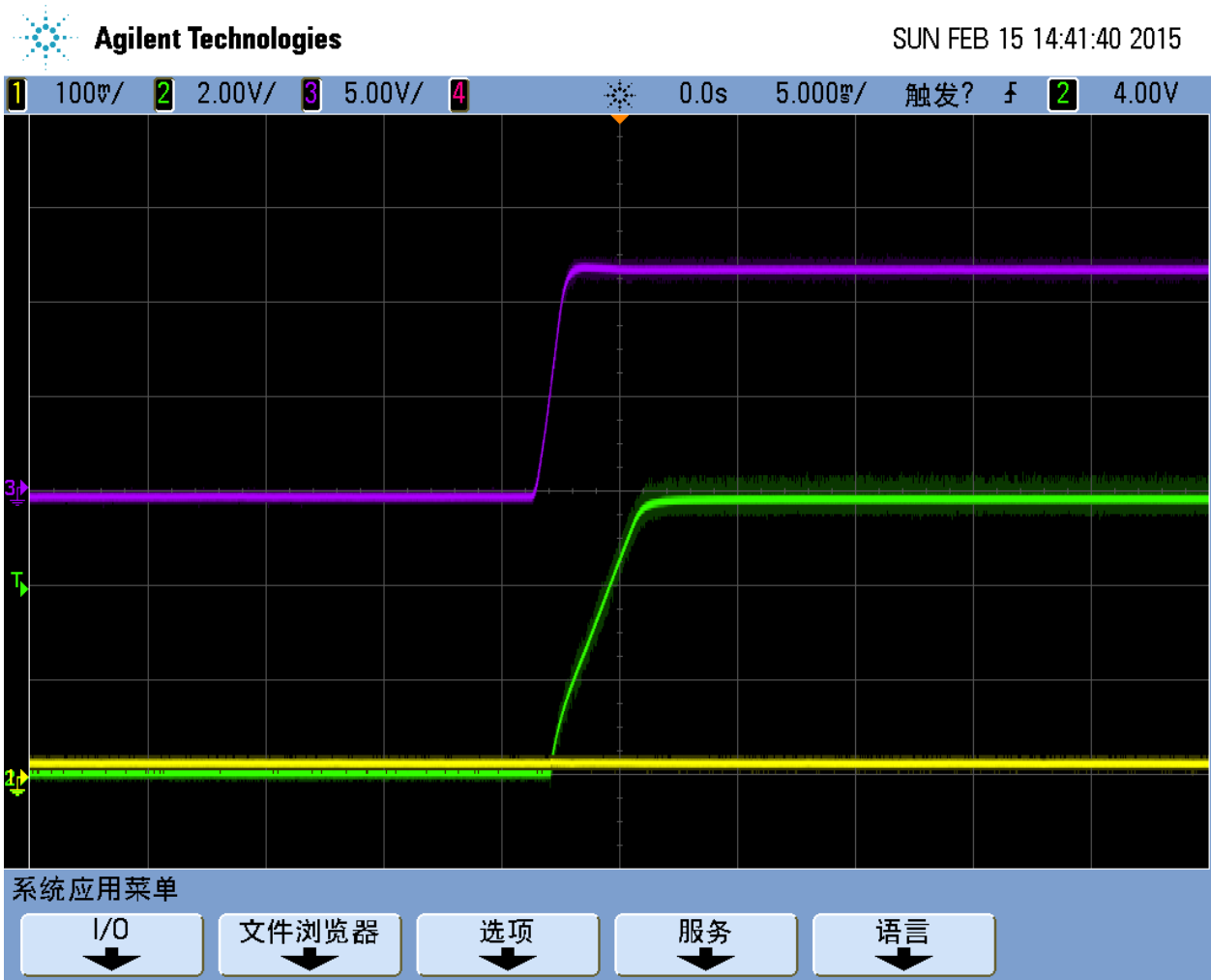


Fig 11 Vin=12V Io=0.0A Power up

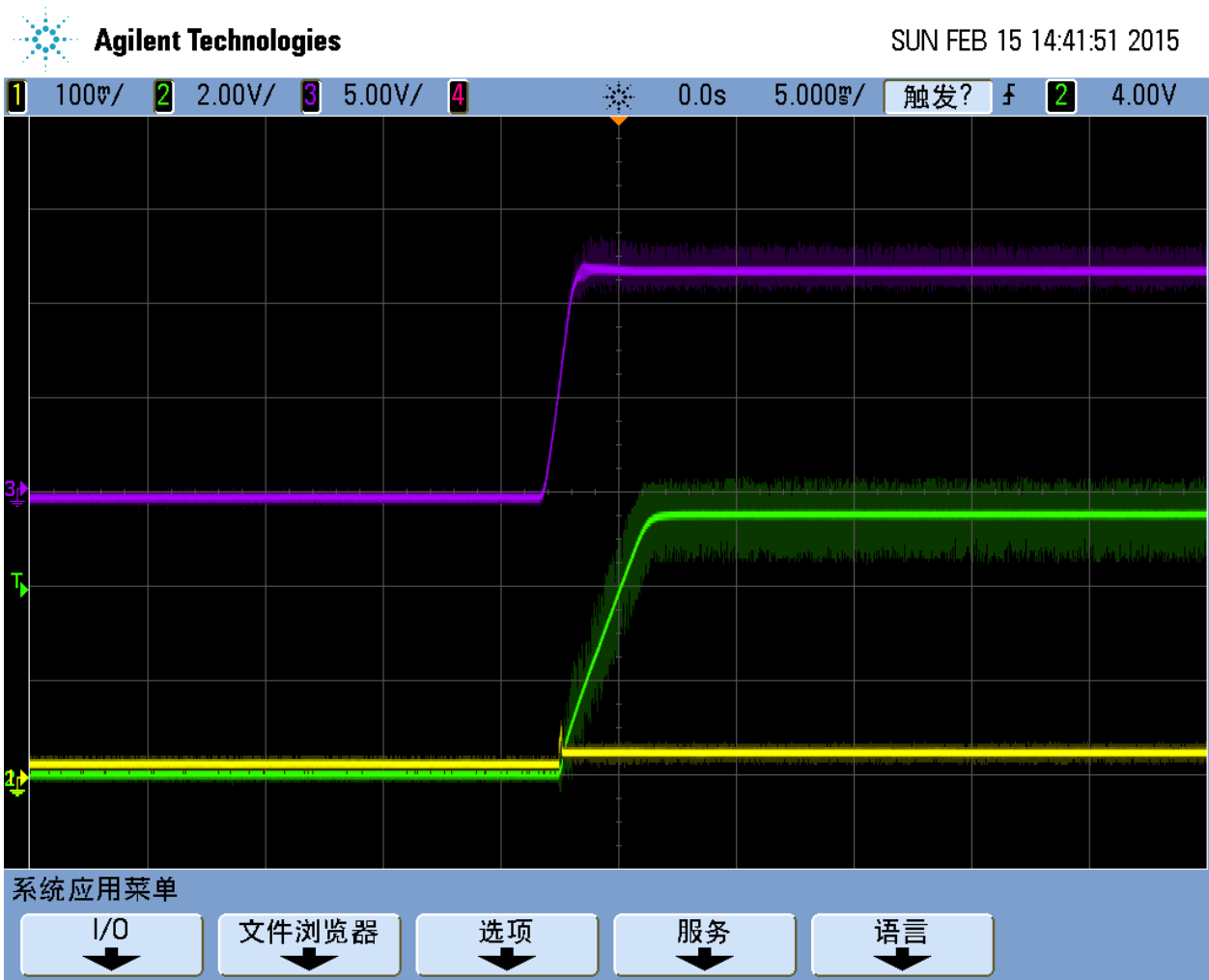


Fig 12 Vin=12V Io=0.12A Power up



Fig 13 Vin=12V Io=0A Power down



Fig 14  $V_{in}=12V$   $I_o=0.12A$  Power down

### 3.5 Ripple

Ch1= $V_{o\_ac}$  (50mV/DIV) with 20 MHz Bandwidth



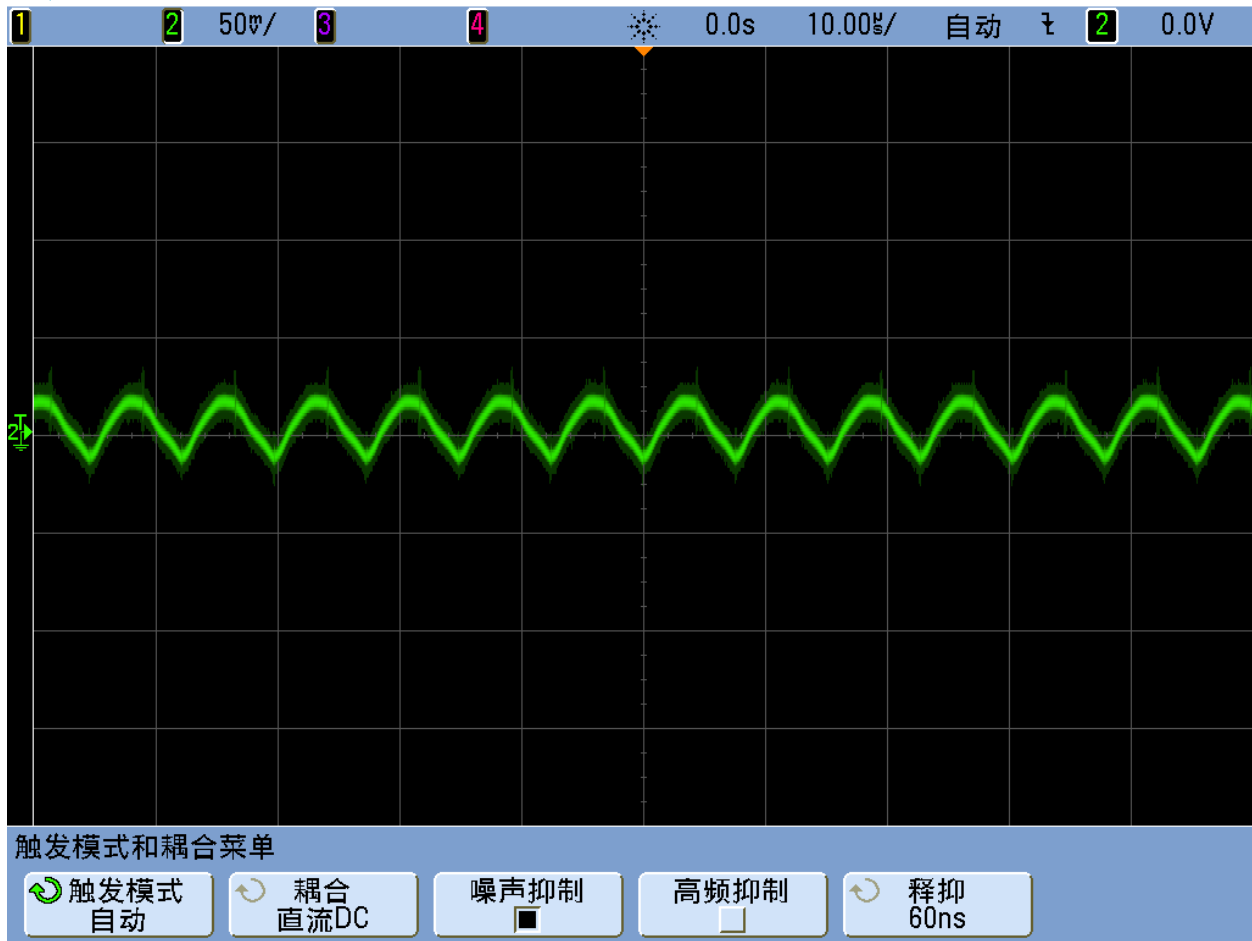


Fig 15 VIN=6V, Io=0.12A,

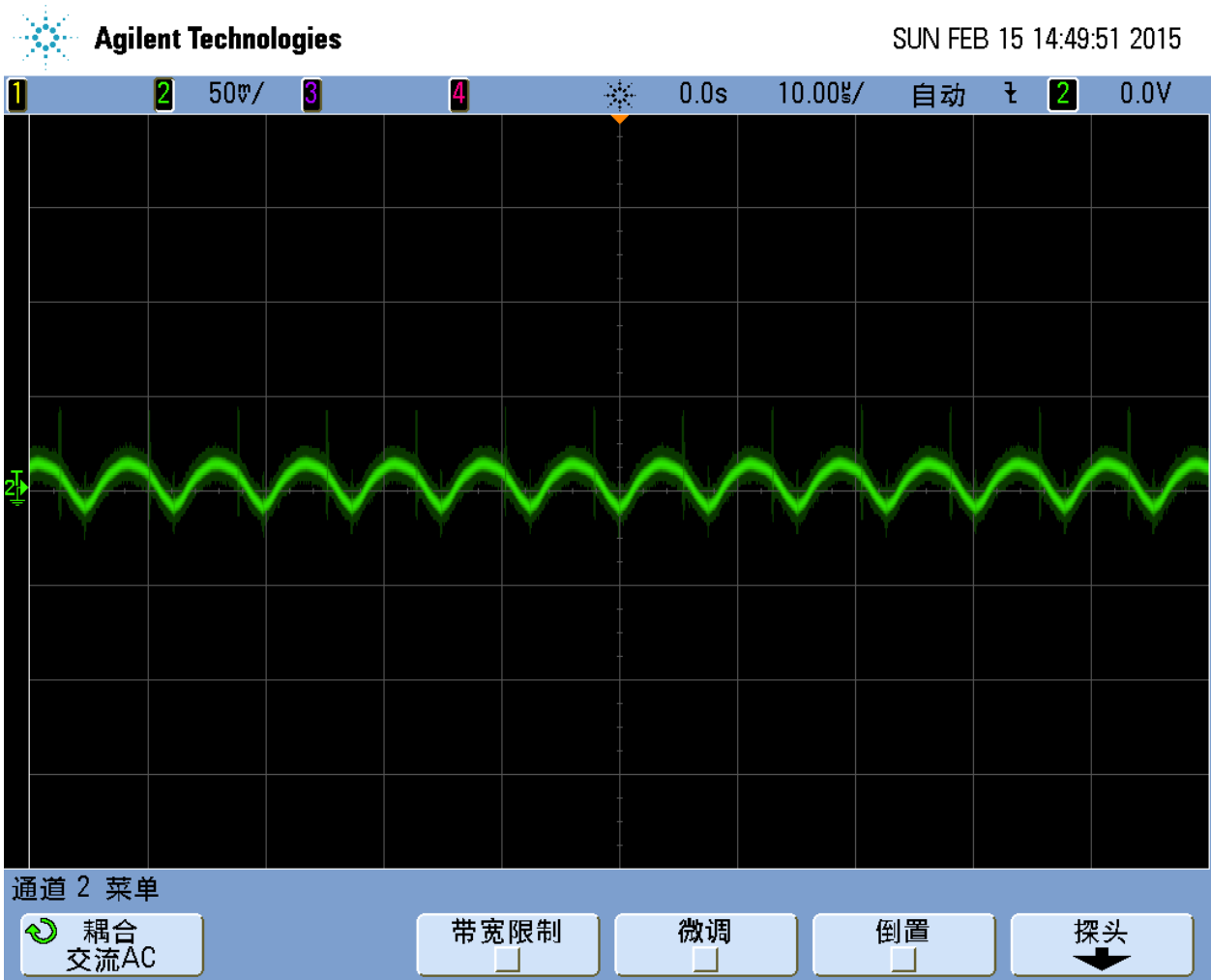


Fig 16 VIN=9V, Io=0.12A,

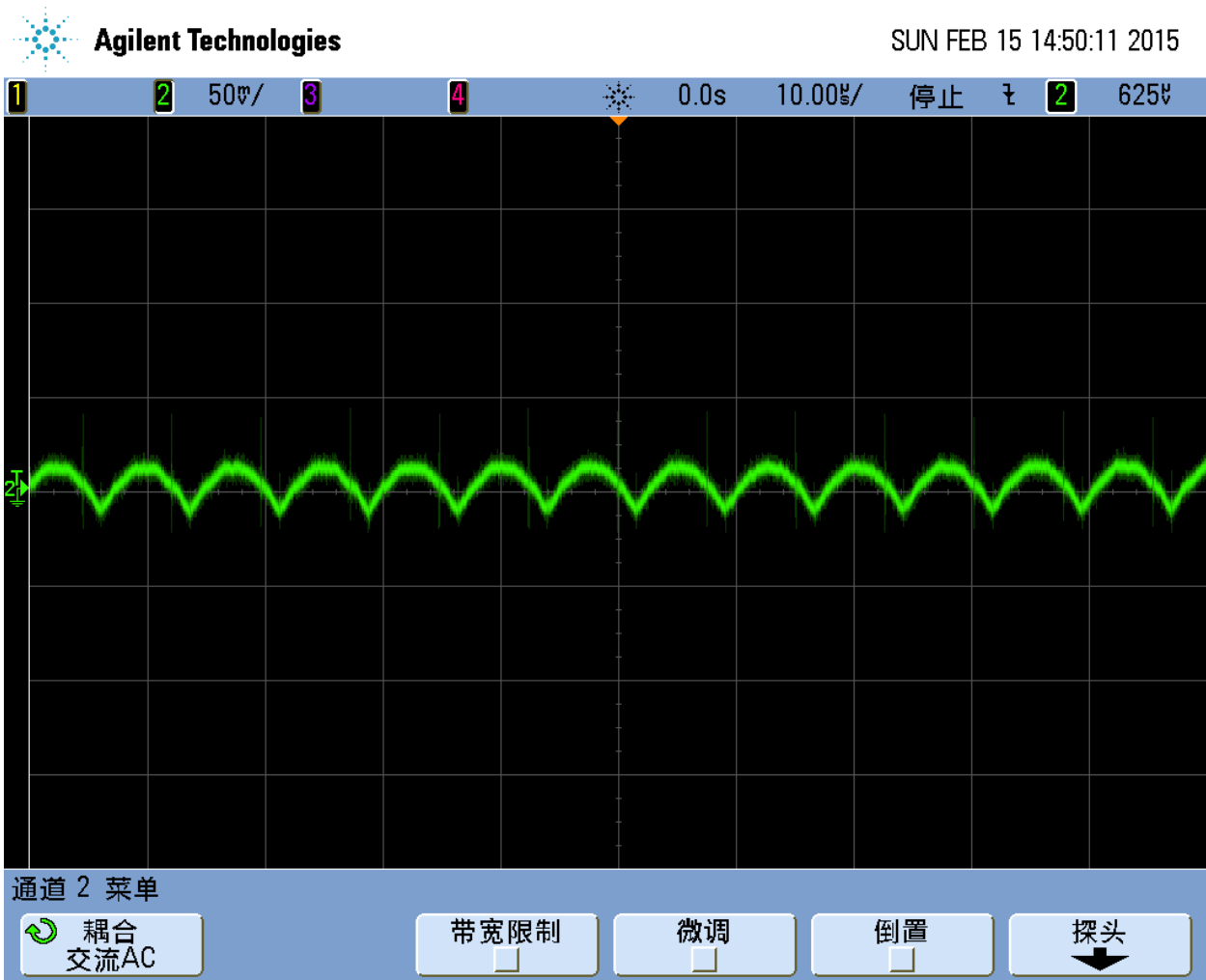


Fig 17 VIN=12VDC, Io=0.12A,

### 3.6 SW and Diode Stress

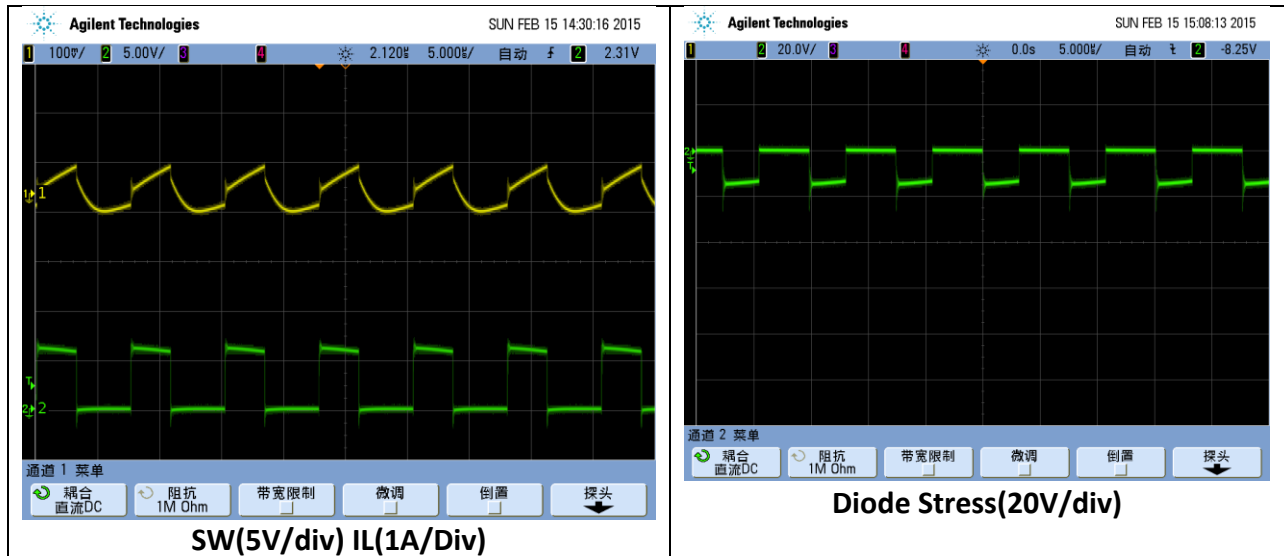


Fig 18 VIN=6VDC, Io=0.12A

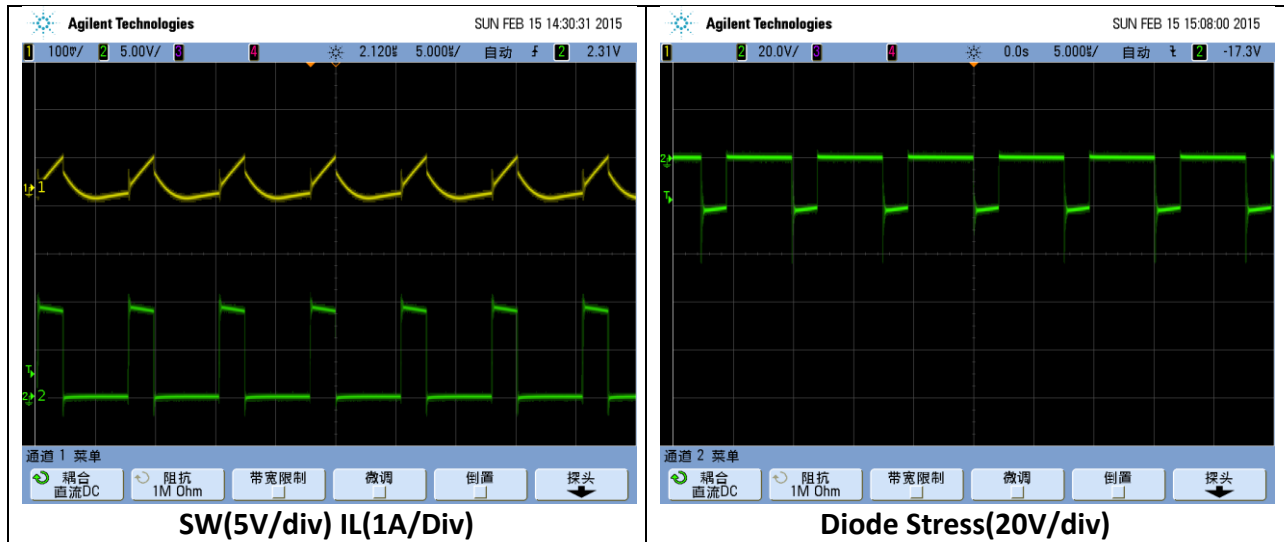


Fig 19 VIN=9VDC, Io=0.12A

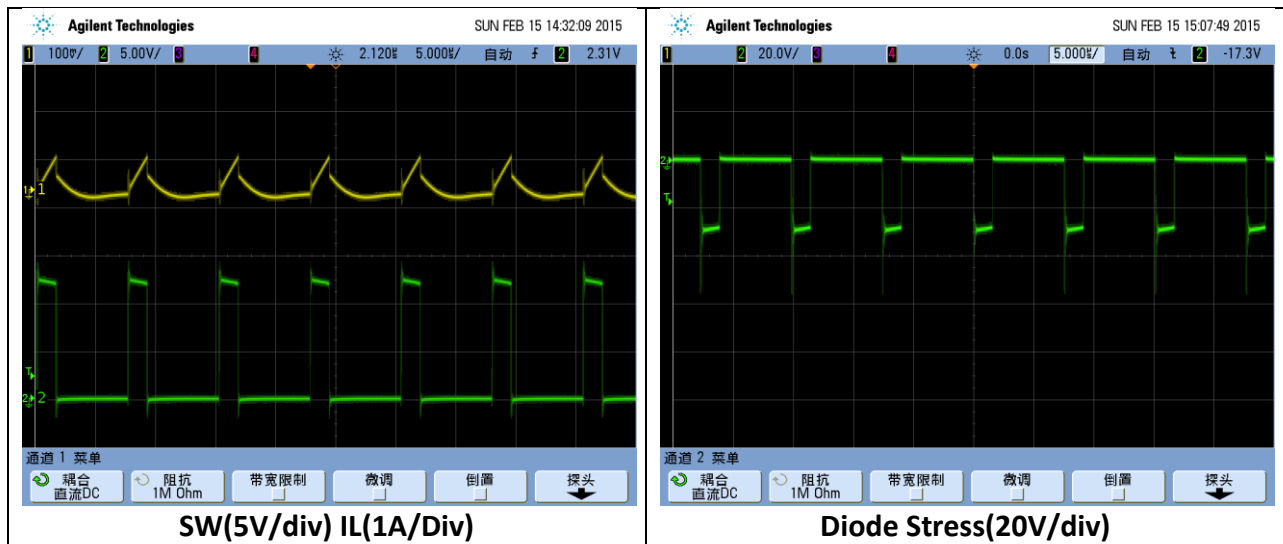


Fig 20 VIN=12VDC, Io=0.12A

### 3.7 Short

Ch2=Vo(2V/DIV), Ch4=Io(10A/DIV)

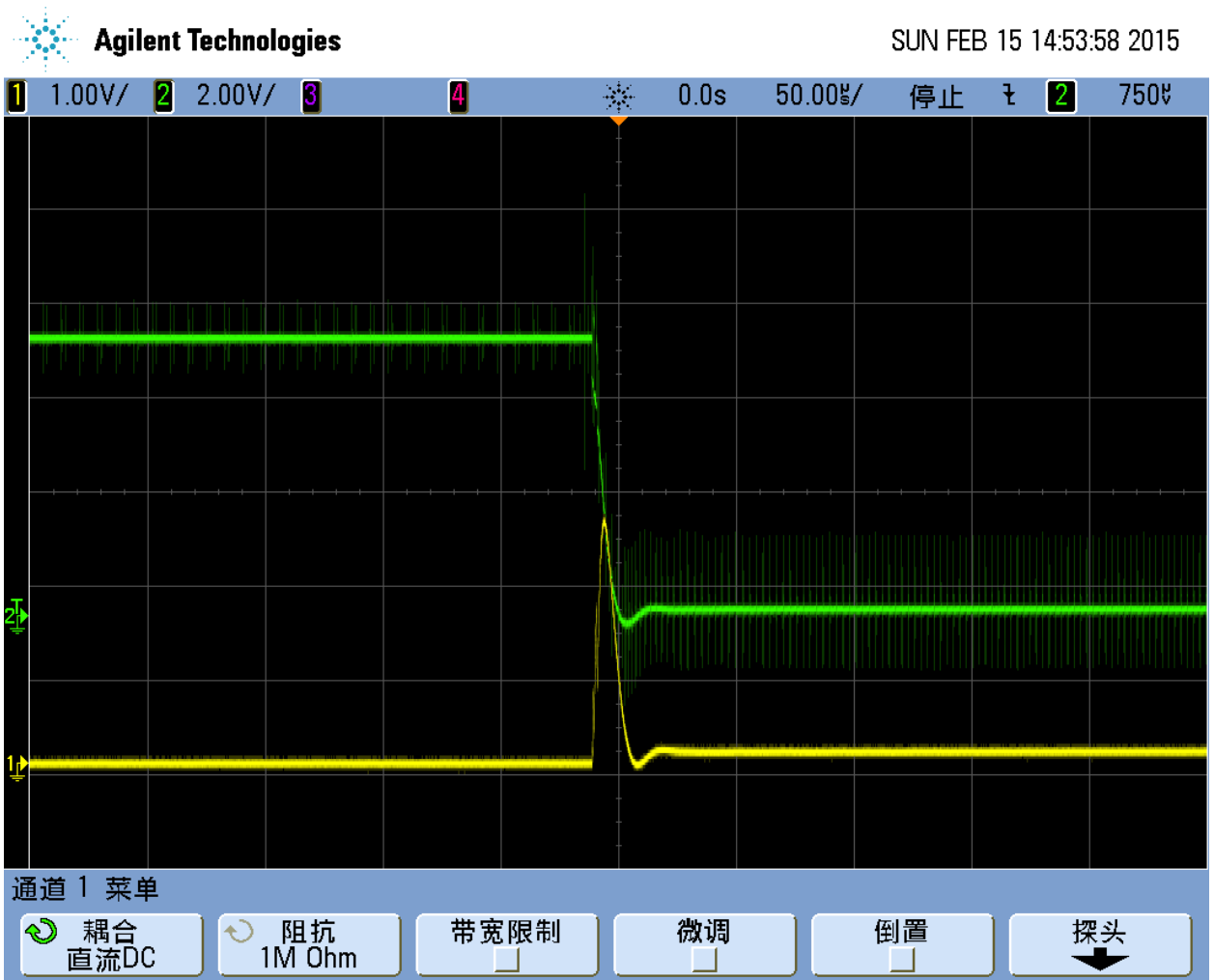


Fig 21 Vin=12V Short from No Load

3.8 Thermal-test in the room temp:

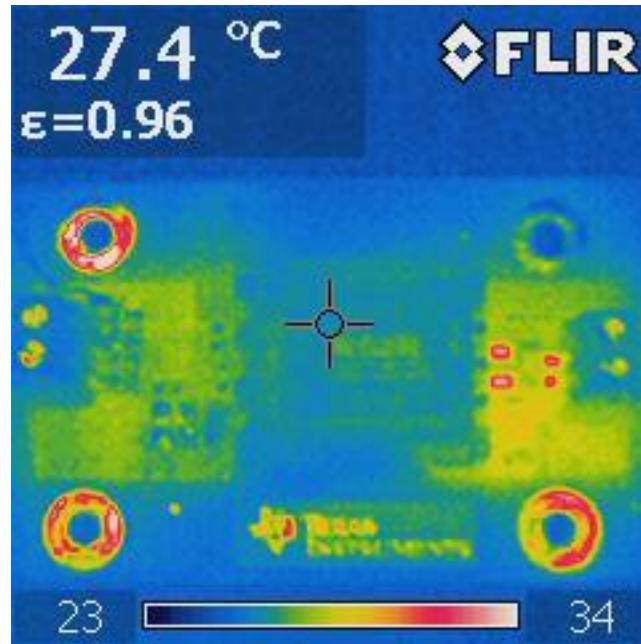


Figure 22 Vin=12V Io=0.12A

## 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