

## 2W DC-DC Flyback Converter Using MAX17596

### MAXREFDES1132

## Design Verification Testing

### Introduction

The MAXREFDES1132 is a synchronous, isolated opto-flyback DC-DC converter using the MAX17596 and is demonstrated to deliver up to 0.4A at 5V. The design has been tested and verified to meet the design requirements at ambient room temperature.

### Test Equipment Used

The following equipment was used for design verification:

- GPC 3030D DC Power Supply
- Maynuo M9711 DC Programmable Load
- Tektronics MDO3024 Oscilloscope
- TENMA 72-7730A Multimeters

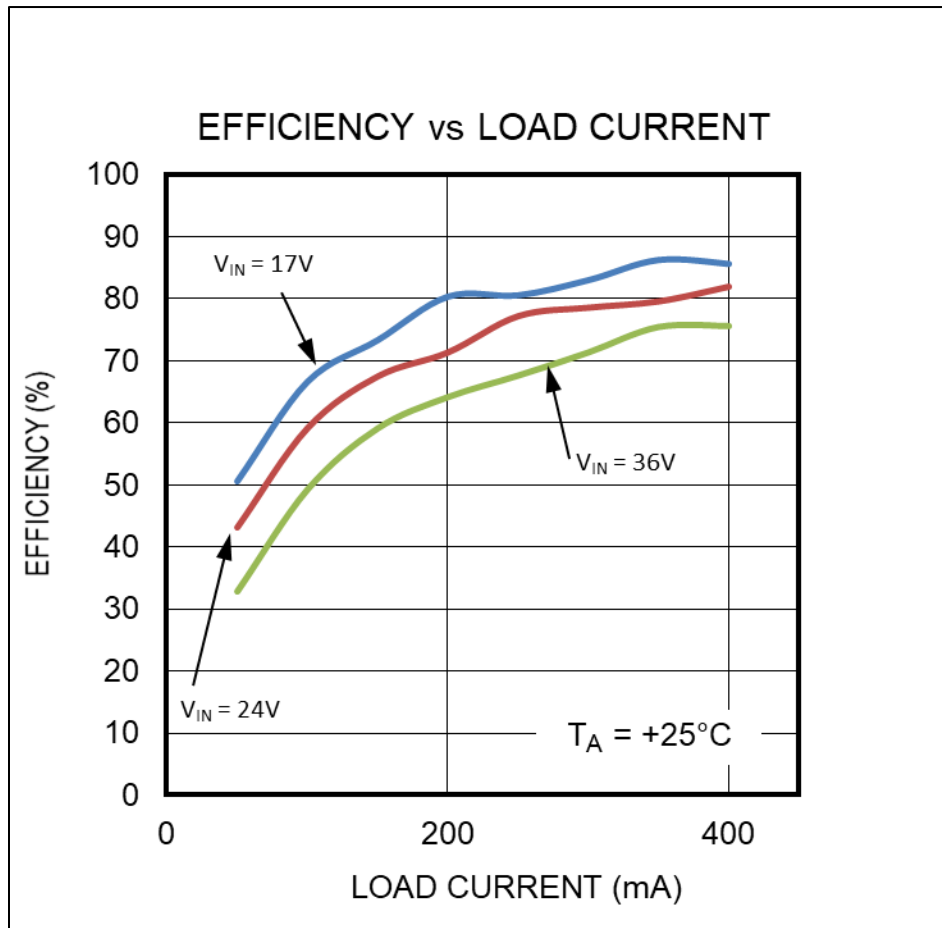
### Tests Conducted

The tests listed below were completed on the MAXREFDES1132 and the results follow:

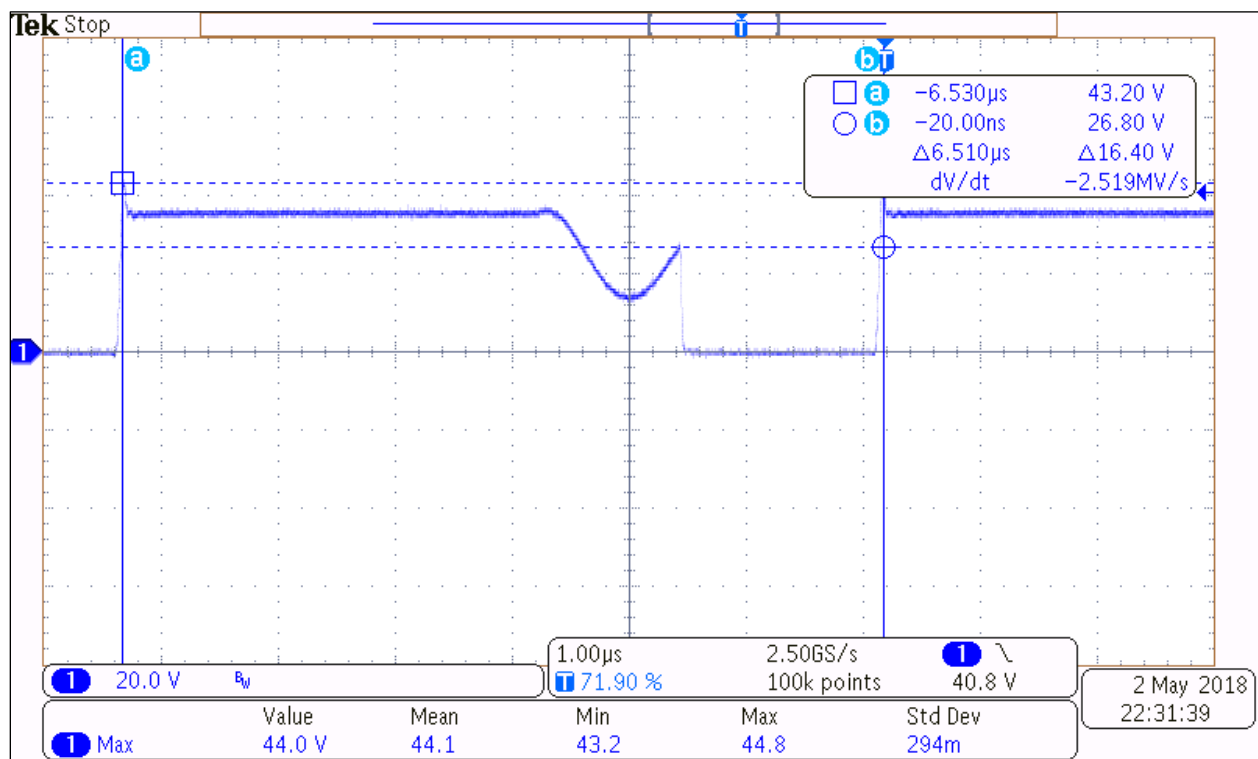
1. Efficiency versus Load Current
2. Primary MOSFET  $V_{DS}$
3. Output Voltage Ripple at Full Load and  $V_{IN\_MIN}$
4. Output Voltage Ripple at Full Load and  $V_{IN\_NOM}$
5. Output Voltage Ripple at Full Load and  $V_{IN\_MAX}$
6. Output Voltage Response to 50% Transient Load at  $V_{IN\_MIN}$
7. Output Voltage Response to 50% Transient Load at  $V_{IN\_NOM}$
8. Output Voltage Response to 50% Transient Load at  $V_{IN\_MAX}$

## Test Results

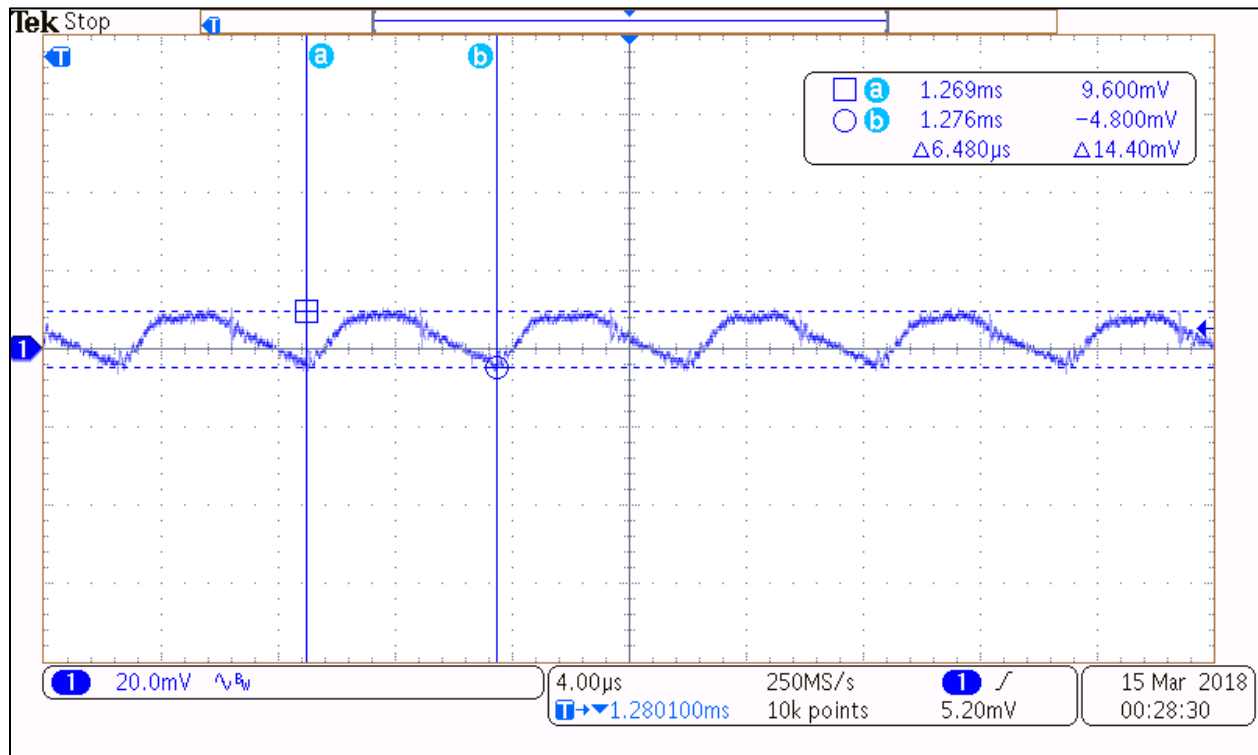
### 1. Efficiency versus Load Current



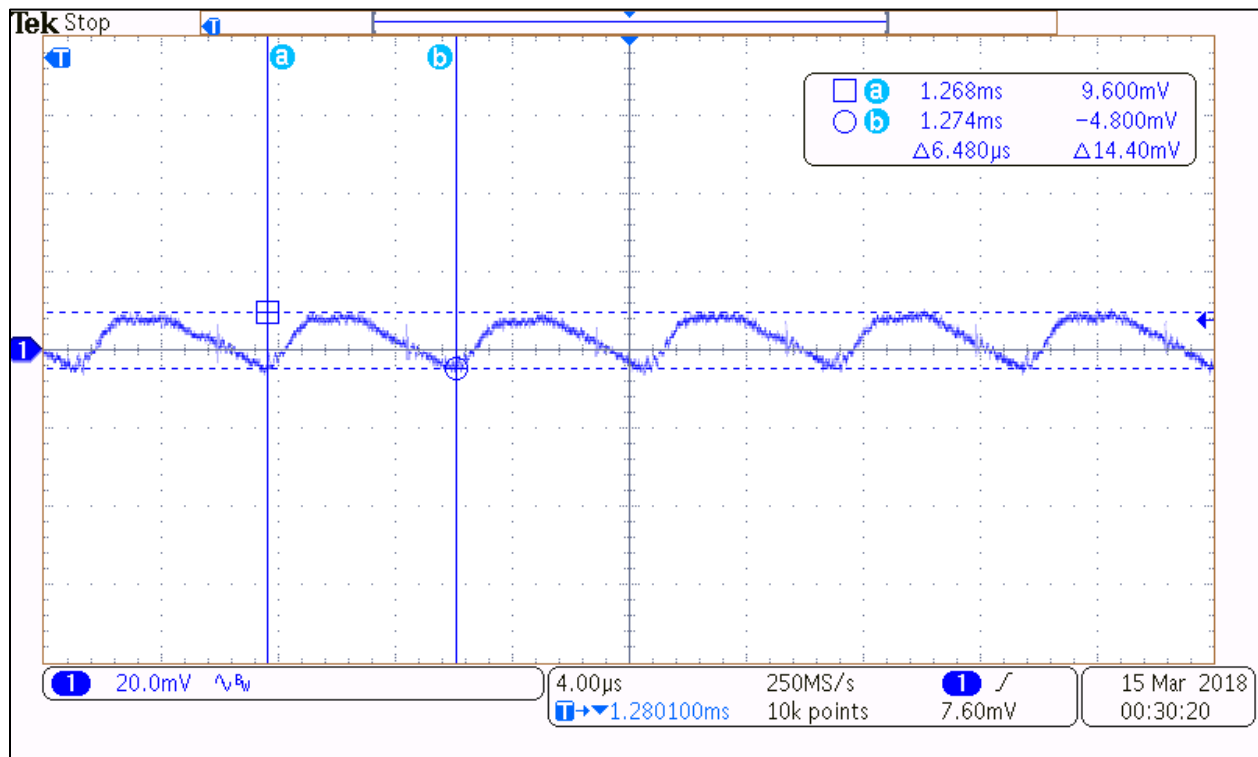
## 2. Primary MOSFET $V_{DS}$



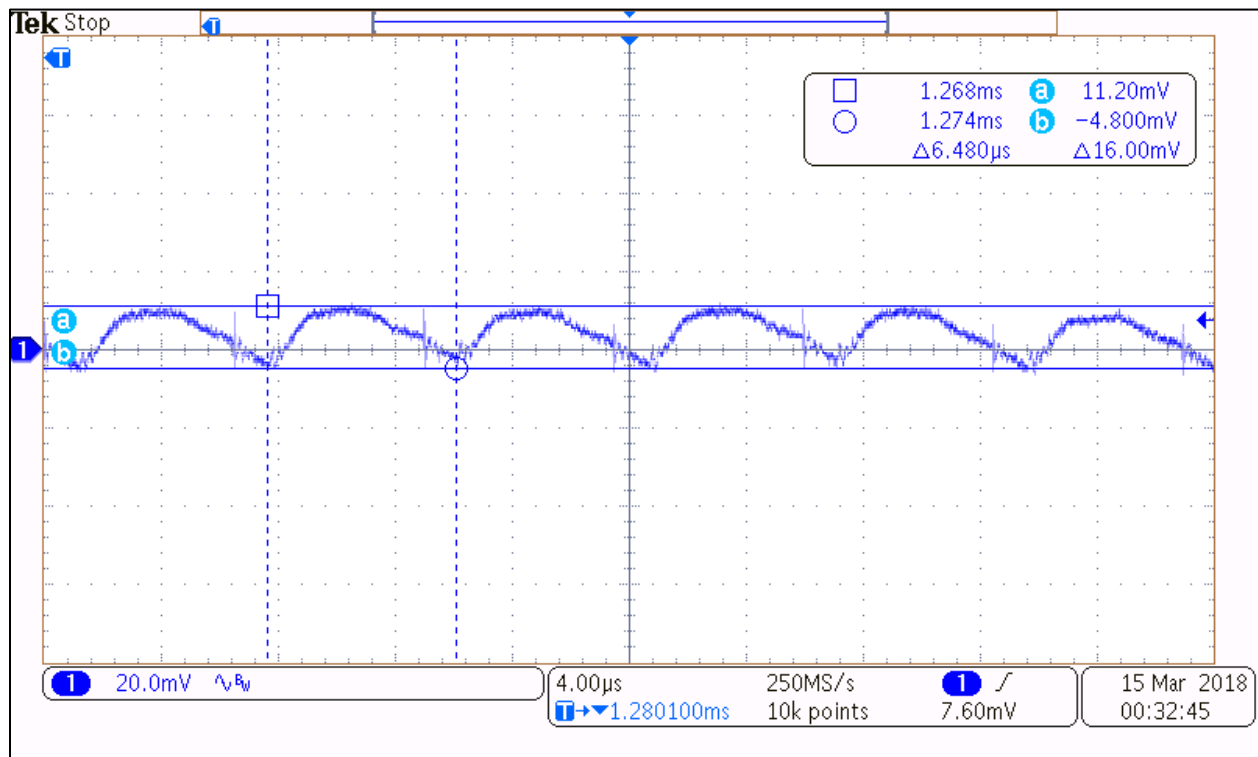
### 3. Output Voltage Ripple at Full Load and $V_{IN\_MIN}$



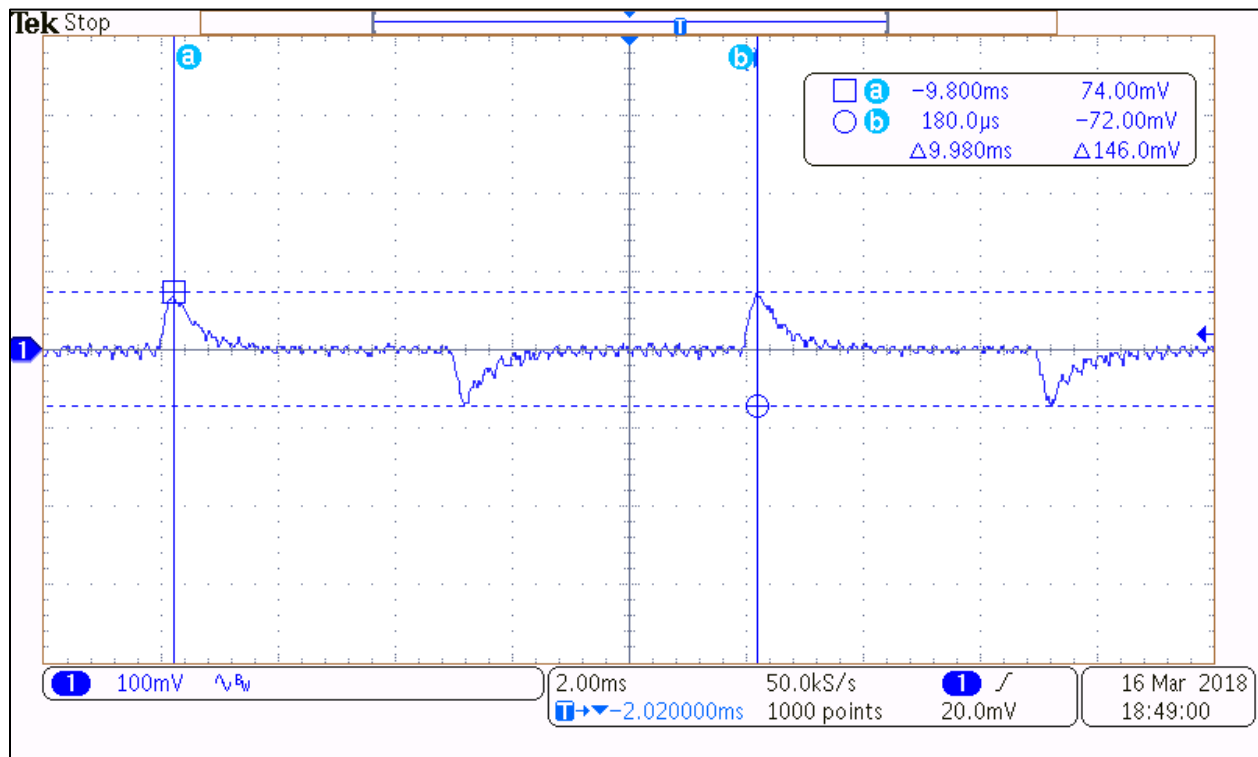
#### 4. Output Voltage Ripple at Full Load and $V_{IN\_NOM}$



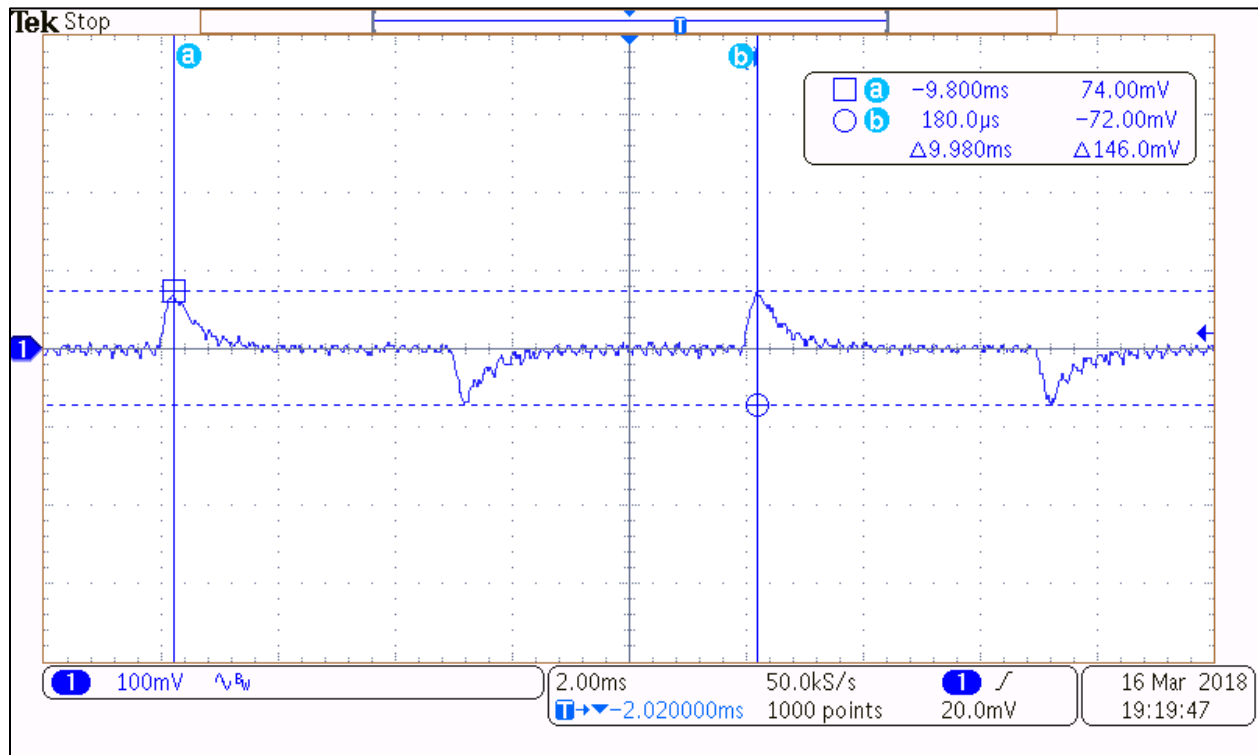
## 5. Output Voltage Ripple at Full Load and $V_{IN\_MAX}$



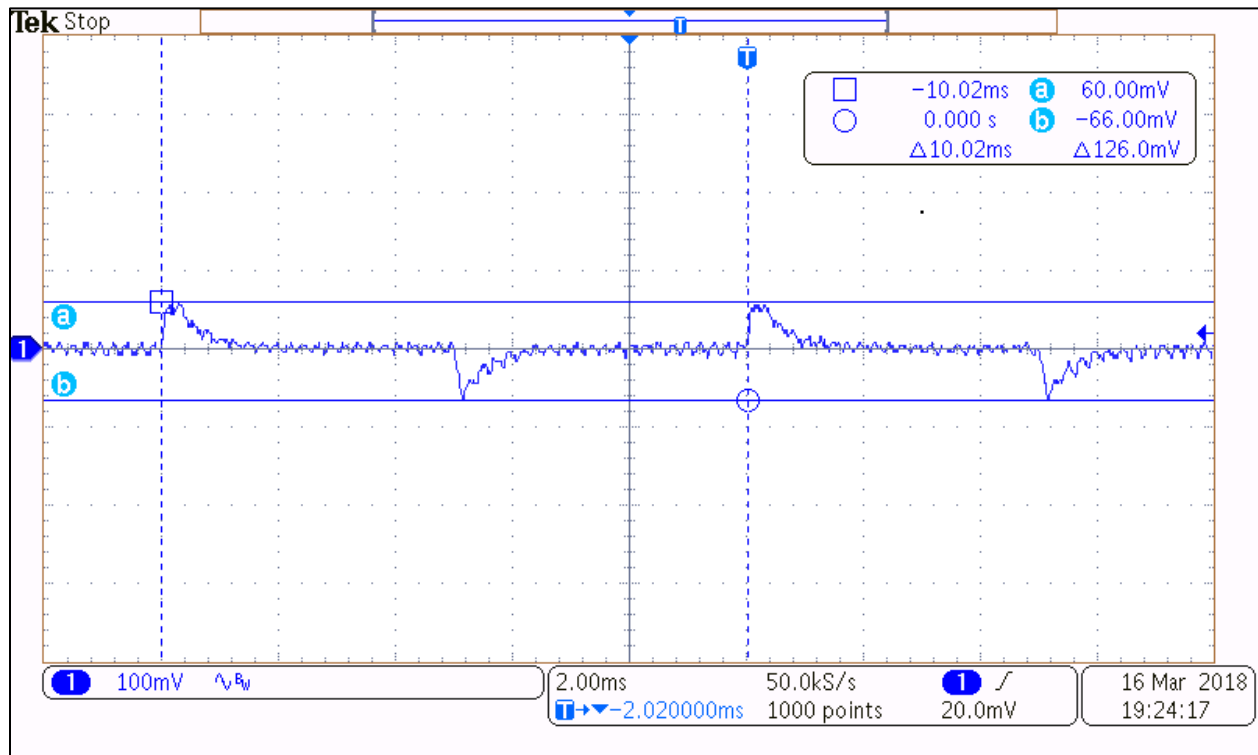
## 6. Output Voltage Response to 50% Transient Load at $V_{IN\_MIN}$



## 7. Output Voltage Response to 50% Transient Load at $V_{IN\_NOM}$



## 8. Output Voltage Response to 50% Transient Load at $V_{IN\_MAX}$



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