

EMC TEST REPORT

Document No.: 29050AA

**ACCELERATION SENSOR
AIS 3520LN-010**

Advanced International Sensors GmbH

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1 General Information

This document shall not be copied in parts. All results refer to the Equipment Under Test (EUT). The results of this report are not applicable to products with different build standard than described in this document.

EQUIPMENT UNDER TEST (EUT)

Subject: Acceleration Sensor AIS 3520 LN-010
Serial number: MS 002
Customer: Advanced International Sensors GmbH
 Ob.-Kroher-Straße 5
 D – 85055 Ingolstadt
Delivery date: 19. May. 2009
Dispatch date: 19. May. 2009
Customer representative: Mrs. Renate Kaysersberg/ Mr. Rüdiger Klette

DATA OF TESTING

Test Laboratory: Serco GmbH
 EMC Center Ottobrunn
 Tel.: +49.89.607.23161
 Fax: +49.89.607.24165
emv@serco.de
Address: Lise-Meitner-Straße 6
 D-85521 Ottobrunn
DAR-Registration Number: DAT-P-029/92-03
Tests according to: MIL-STD-462:1967
Test Period: 19. May 2009

Test Engineer: Sylvia Sellmaier

S. Sellmaier

Approved by: R. Breitsameter


R. Breitsameter

2 Applied Documents

- MIL-STD-462, dated 31 July 1967

3 Abbreviations

| | | |
|----------|---|--|
| CE | : | Conducted Emission |
| CS | : | Conducted Susceptibility |
| EMC | : | Electromagnetic Compatibility |
| EMI | : | Electromagnetic Interference |
| EUT | : | Equipment under Test |
| K-Number | : | Serco internal Calibration Reference for Measurement Equipment |
| LISN | : | Line Impedance Stabilization Network |
| n.a. | : | not applicable |
| PK | : | Peak |
| P/N | : | Part Number |
| RMS | : | Root Mean Square |
| S/N | : | Serial Number |

4 Description of Equipment Under Test

The EUT is an Acceleration Sensor.

The EUT was tested as delivered by the customer (visibly intact).

5 Mode of Operation

The test set-ups were done in accordance with the above mentioned test specification.

The EUT was operated by customers representative. Power supply voltage was 12 VDC.

Before and after each test EUT functional check was performed.

6 Acceptance Criteria

Susceptibility Tests:

- No damage of EUT or failure of components

7 Test Location

The tests were carried out at SERCO`s EMC Center Ottobrunn, shielded enclosure #6, building 1.4.

For detailed information about the location, the EUT, the test set-up and other conditions refer to photos presented in paragraph 10 of this EMC Test Report.

| Photo | Description |
|-------|---|
| 10.1 | EUT Set Up on Ground Plane and routing of cable harness |
| 10.2 | EUT Set Up on Ground Plane and routing of cable harness |
| 10.3 | Decoupling capacitor |
| 10.4 | Coupling Network |

8 Test Result Summary

| Date of Test] | Test | Description | Within Limit? | | Remark |
|---------------|------|--|---------------|------|----------------------|
| | | | Pass | Fail | |
| 19.05.2009 | CS06 | Conducted Susceptibility, Spike, Power Leads, Parallel Injection | X | | Source Impedance 50Ω |

9 Test Results

9.1 CS06, Conducted Susceptibility, Spike, Power Leads

Test method: According to MIL-STD-462, Method CS06

Requirement: According to MIL-STD-462, Method CS06, Paragraph 3

Test Set-up: According to MIL-STD-462, Method CS06, Figure CS06-2

EUT Mode: EUT powered, 12 VDC

Ambient Cond.: Temperature 21 °C Humidity 50 %

Remarks: In deviation to the requirement of MIL-STD-462, the EUT was tested with a Spike Generator source impedance of 50 Ω

All spike voltages were applied with positive polarity. Negative polarity spike voltages were not tested (due to presence of over voltage suppression diode)

Test Equipment:

| Measurement Device | Manufacturer | Type | K-Number |
|----------------------|--------------|------------------|----------|
| LISN | Heine | LN-DO160/200 | 560 |
| LISN | Heine | LN-DO160/200 | 562 |
| Termination 50Ω | Suhner | 6515.01.A | 239 |
| Termination 50Ω | Suhner | 6515.01.A | 240 |
| Transient generator | Solar | 7054-1 | 1014 |
| Decoupling capacitor | Solar | 6512-106R | 529 |
| Coupling Network | MBB | 22.2.24 | 558 |
| Oscilloscope | LeCroy | WaveRunner 104Xi | 1311 |
| Voltage Probe | Tektronix | P5100 | 1737 |
| DVM | Fluke | 77 | 1532 |

Test Sequence:

| Photo | Diagram | Remark | Test Result |
|-------|---------|---------------------|-------------|
| - | 11.1 | Calibration, +300V | n.a. |
| - | 11.2 | Calibration, +600 V | n.a. |
| - | 11.3 | Measurement +100 V | pass |
| - | 11.4 | Measurement +200 V | pass |
| - | 11.5 | Measurement +300 V | pass |
| - | 11.6 | Measurement +400 V | pass |
| - | 11.7 | Measurement +500 V | pass |
| - | 11.8 | Measurement +600 V | pass |

Test results: Acceptance criteria **passed**

10 Photo Documentation



Photo 10.1

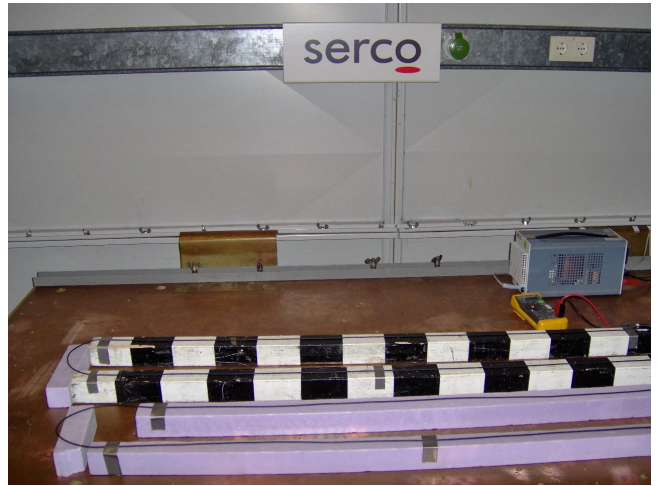


Photo 10.2



Photo 10.3

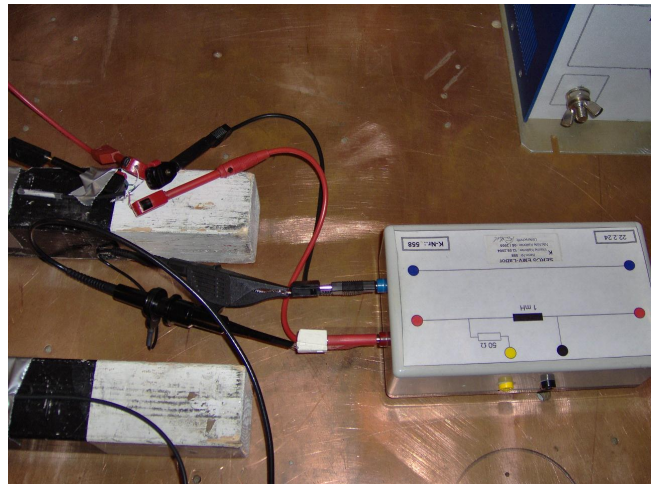


Photo 10.4

11 Test Records

11.1 CS06, Conducted Susceptibility, Spike, Power Leads

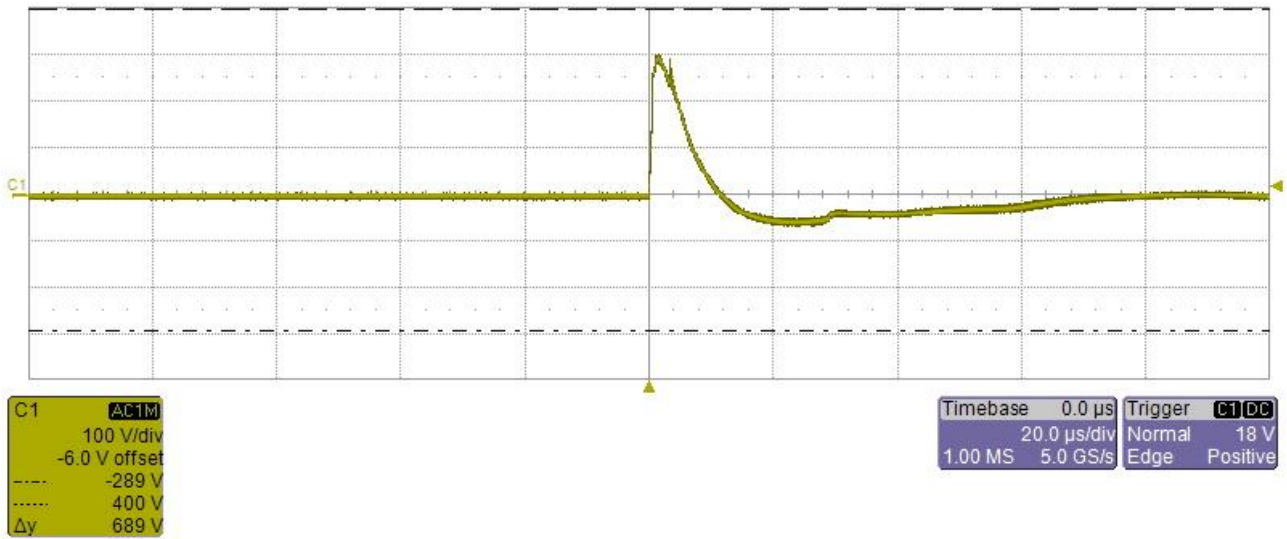


Diagram 11.1

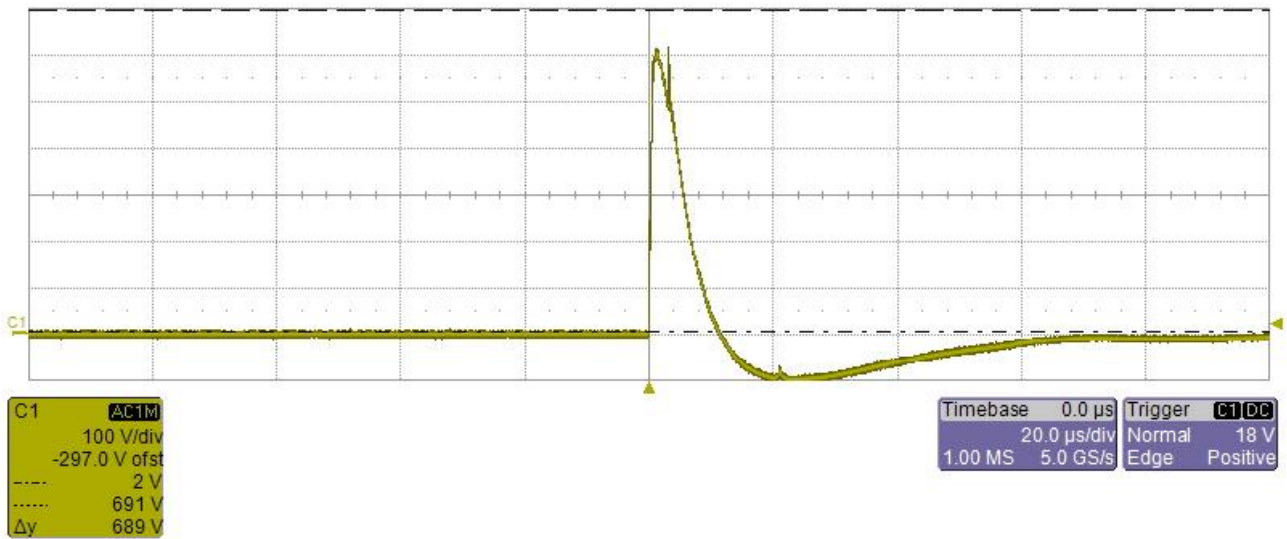


Diagram 11.2

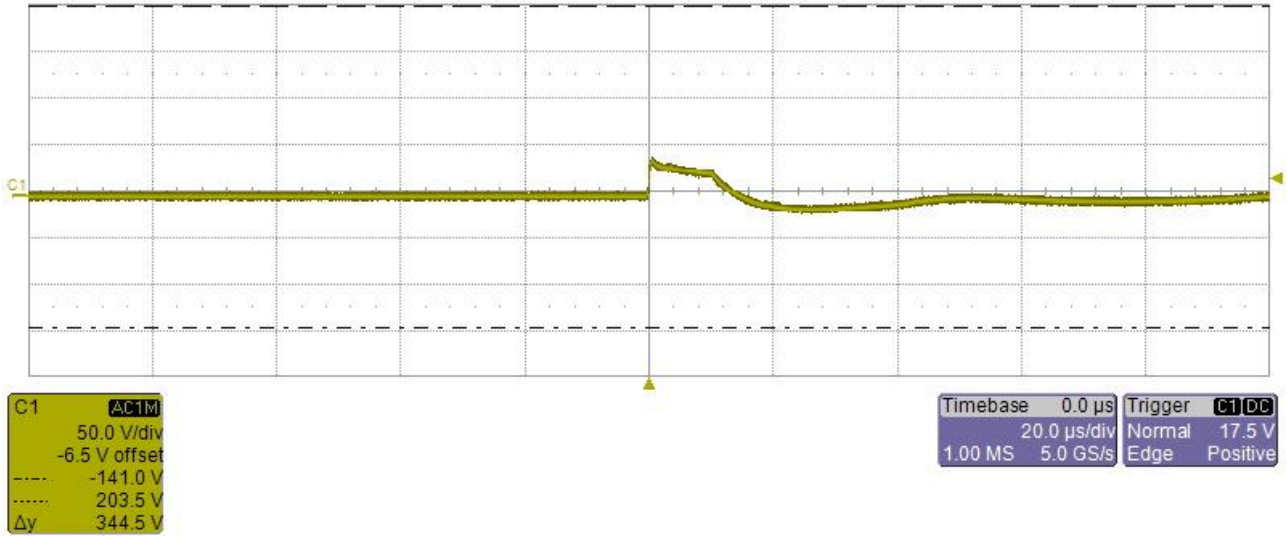


Diagram 11.3

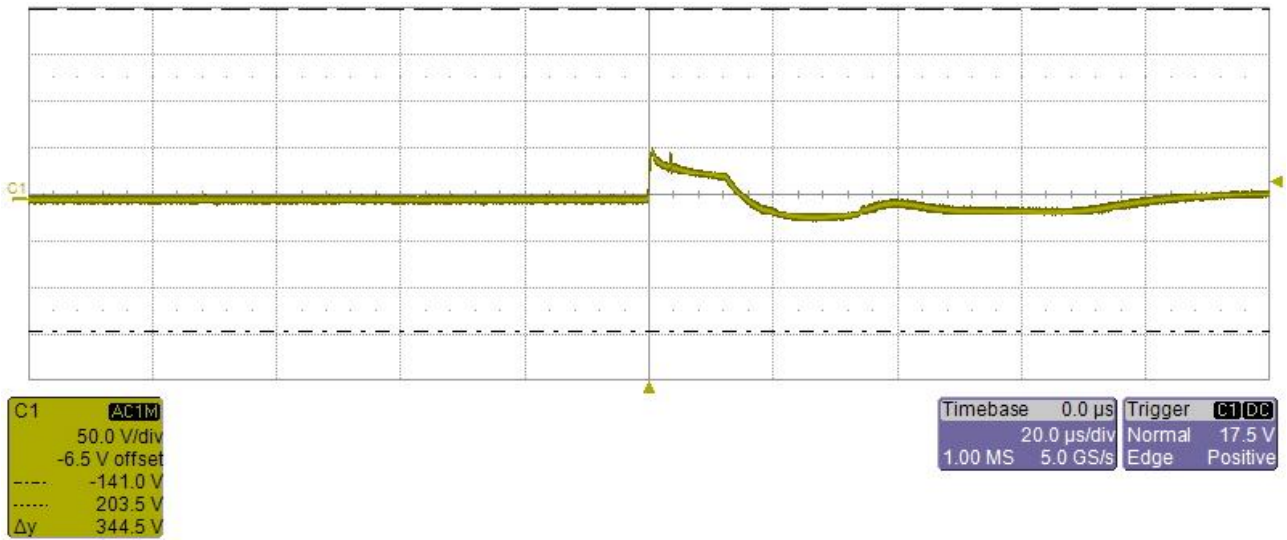


Diagram 11.4

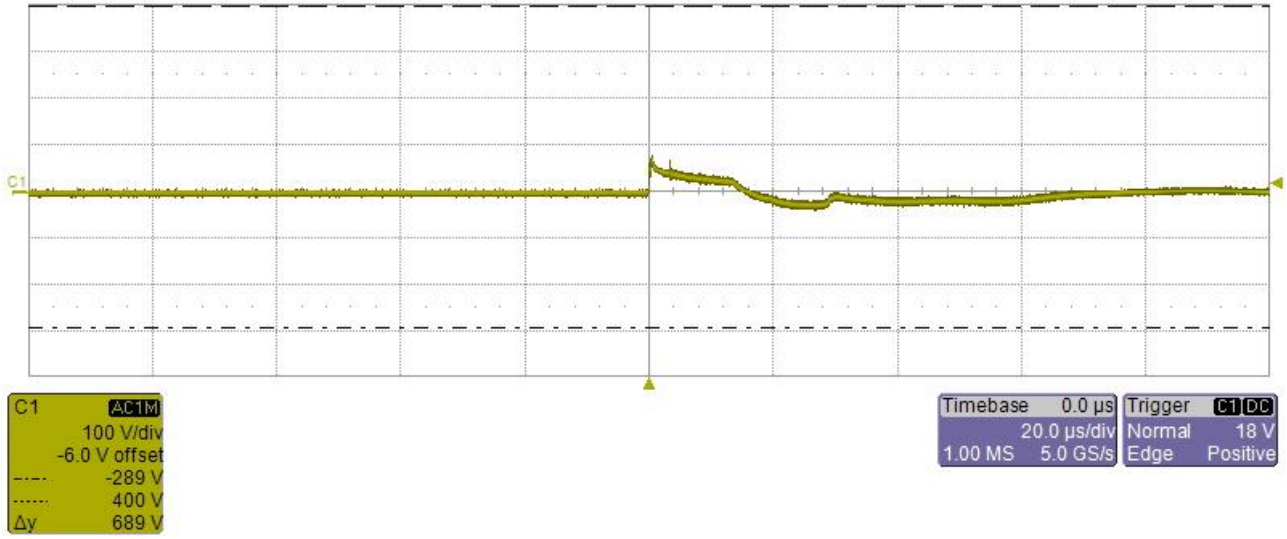


Diagram 11.5

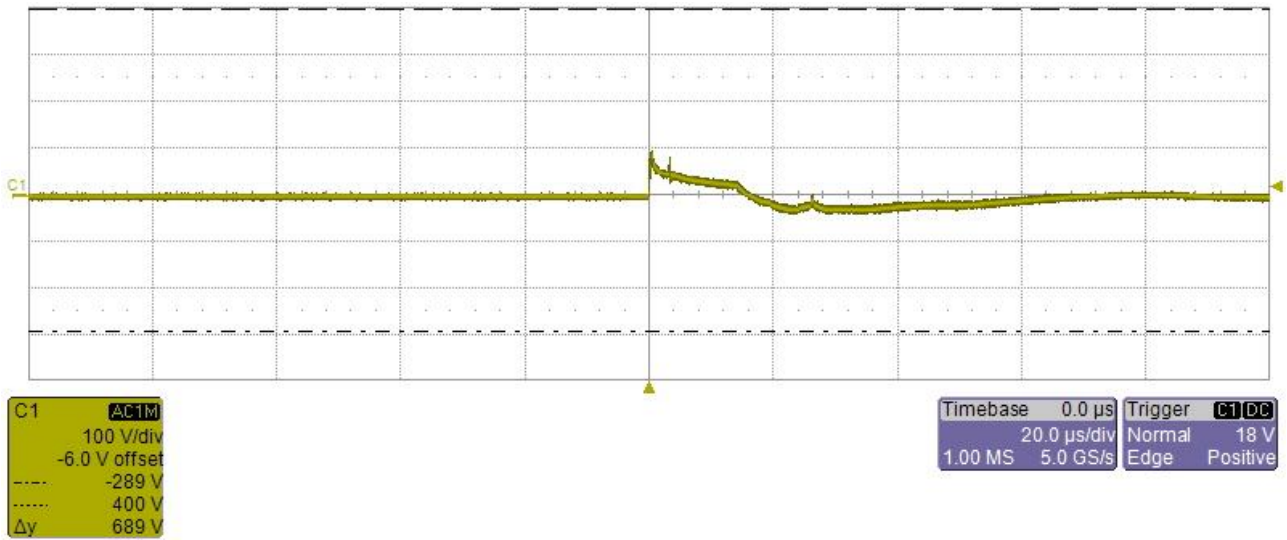


Diagram 11.6

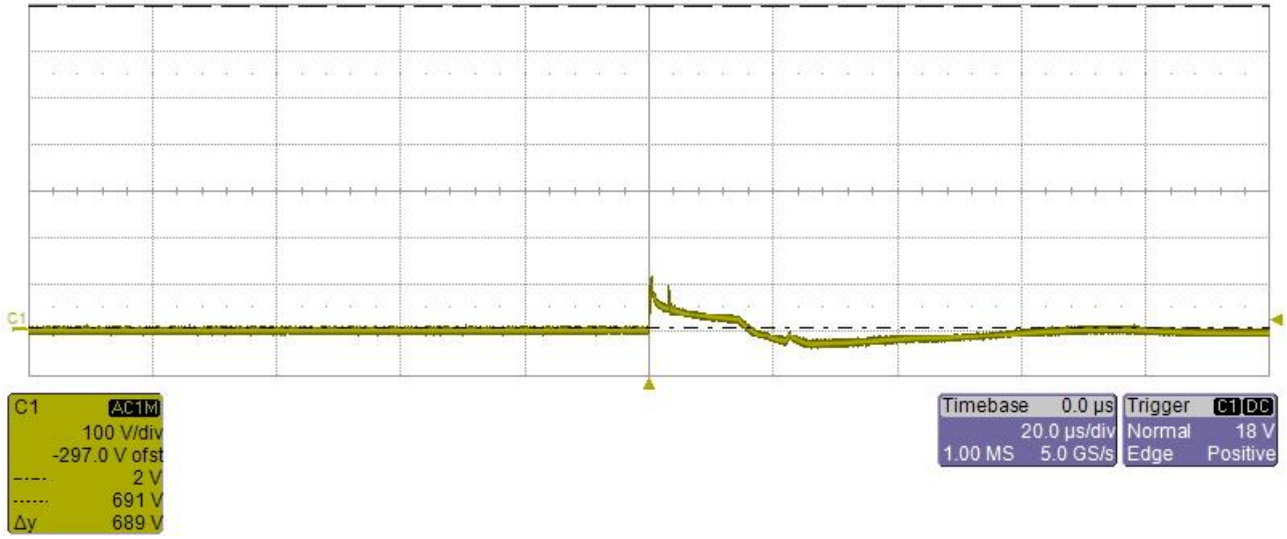


Diagram 11.7

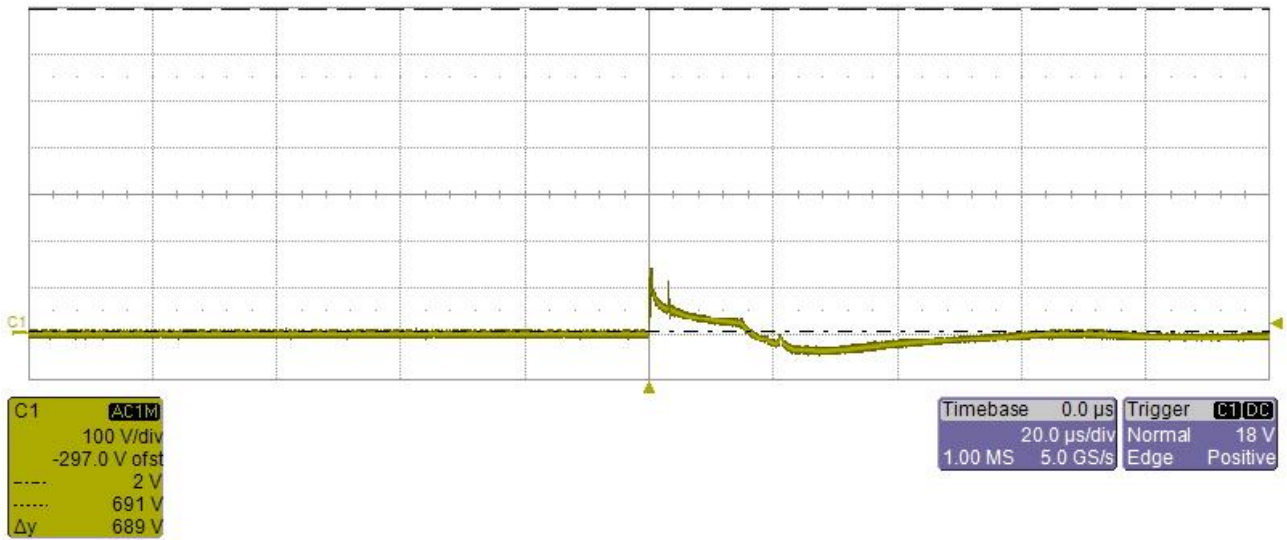


Diagram 11.8