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EMC TEST REPORT

Document No.: 29050AA

ACCELERATION SENSOR
AIS 3520LN-010

Advanced International Sensors GmbH

22 May 2009

Table of Content

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
Approved by:	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

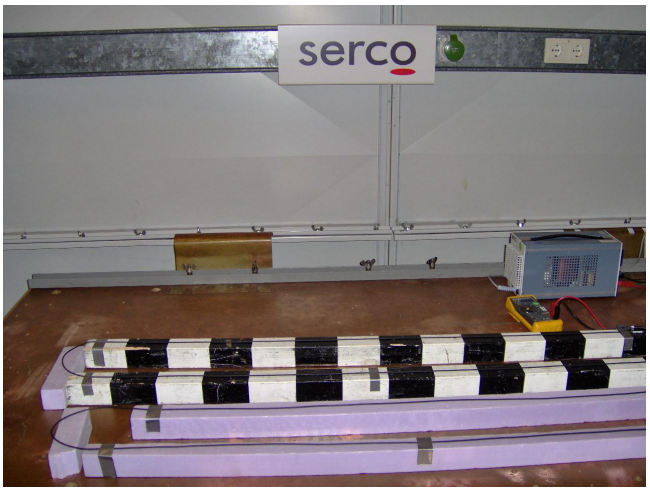

Photo 10.2

Photo 10.3

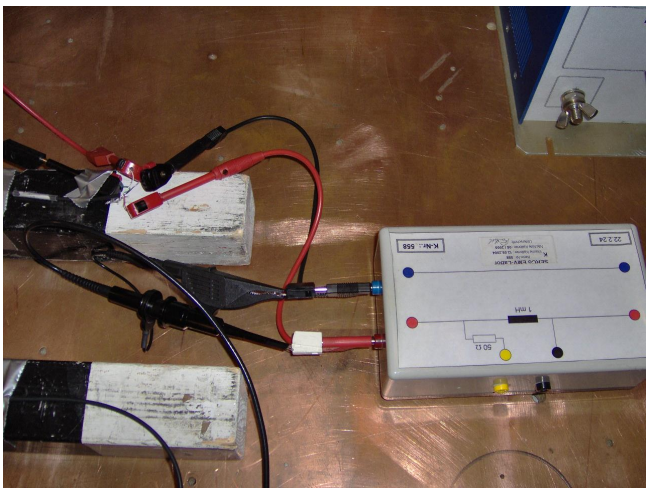

Photo 10.4

11 Test Records

11.1 CS06, Conducted Susceptibility, Spike, Power Leads

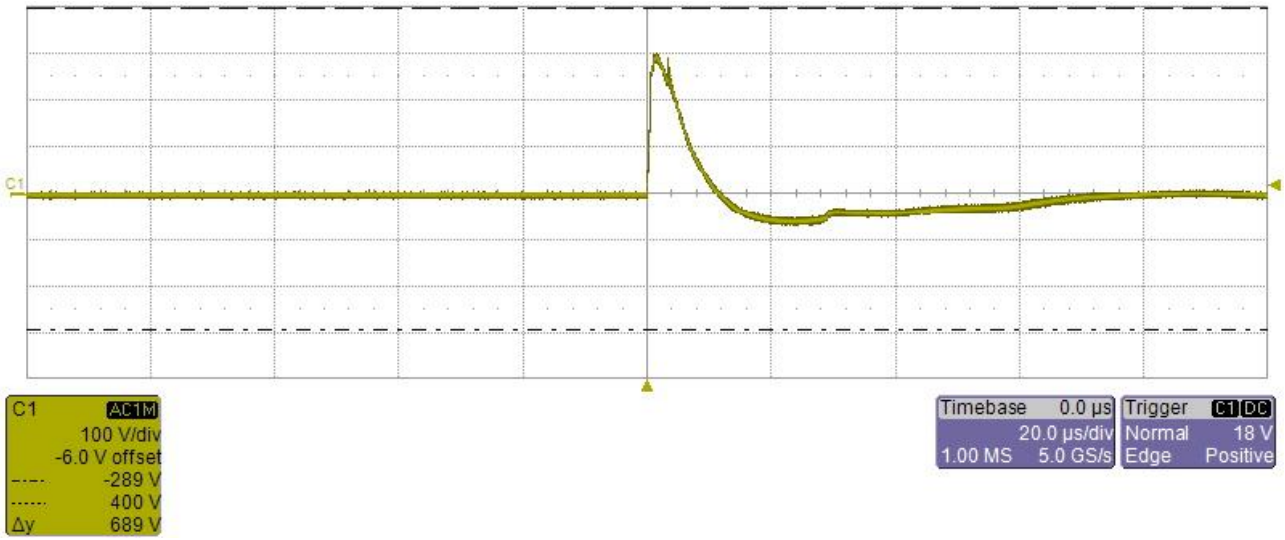

Diagram 11.1

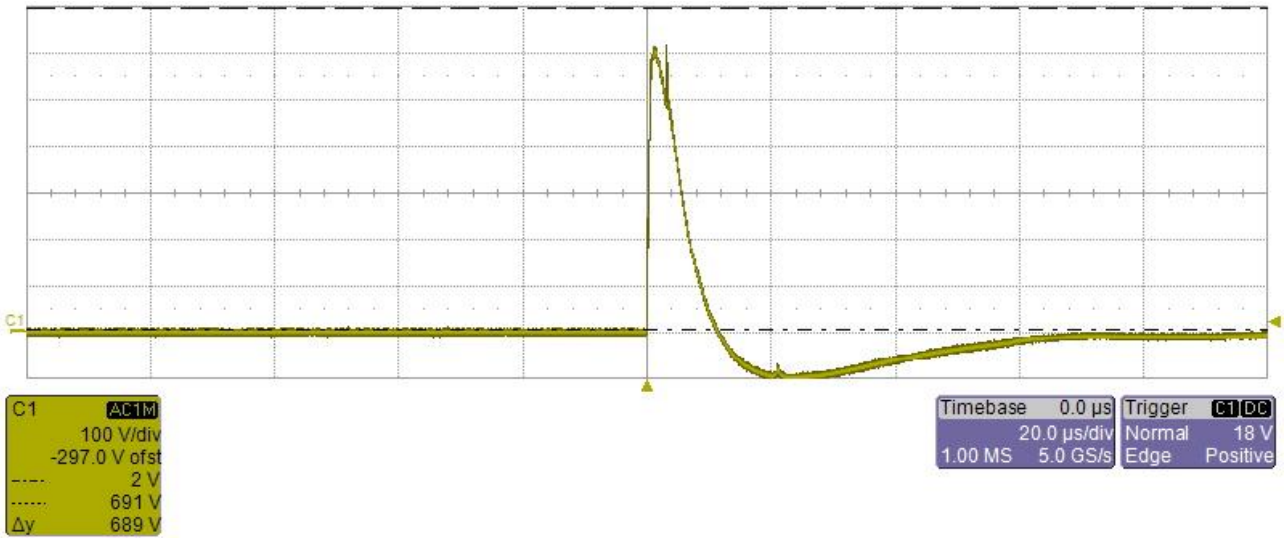

Diagram 11.2

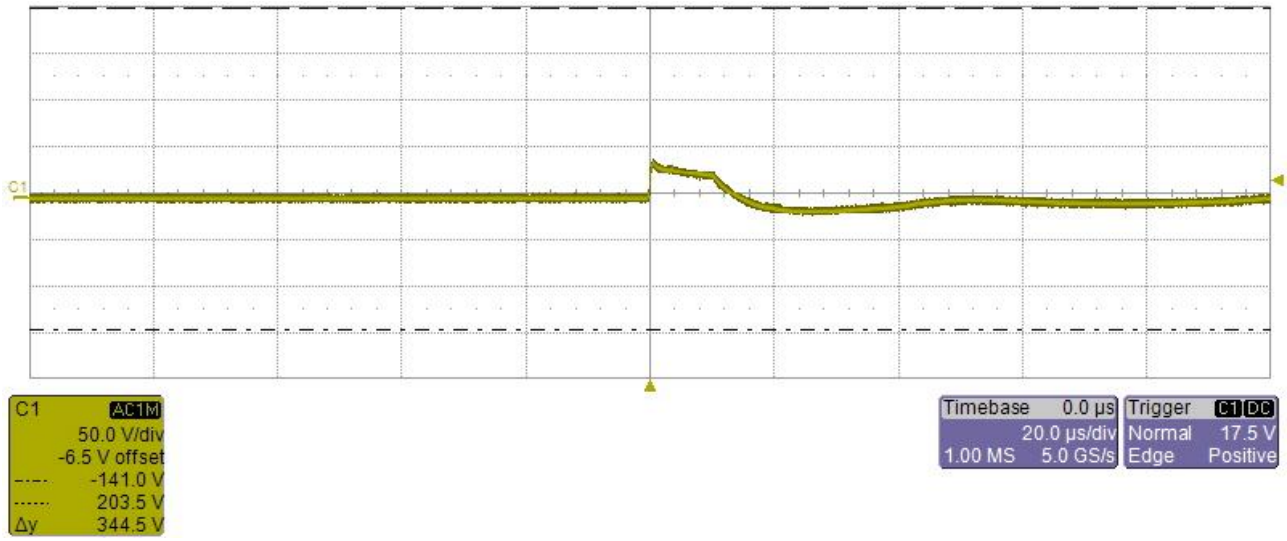

Diagram 11.3

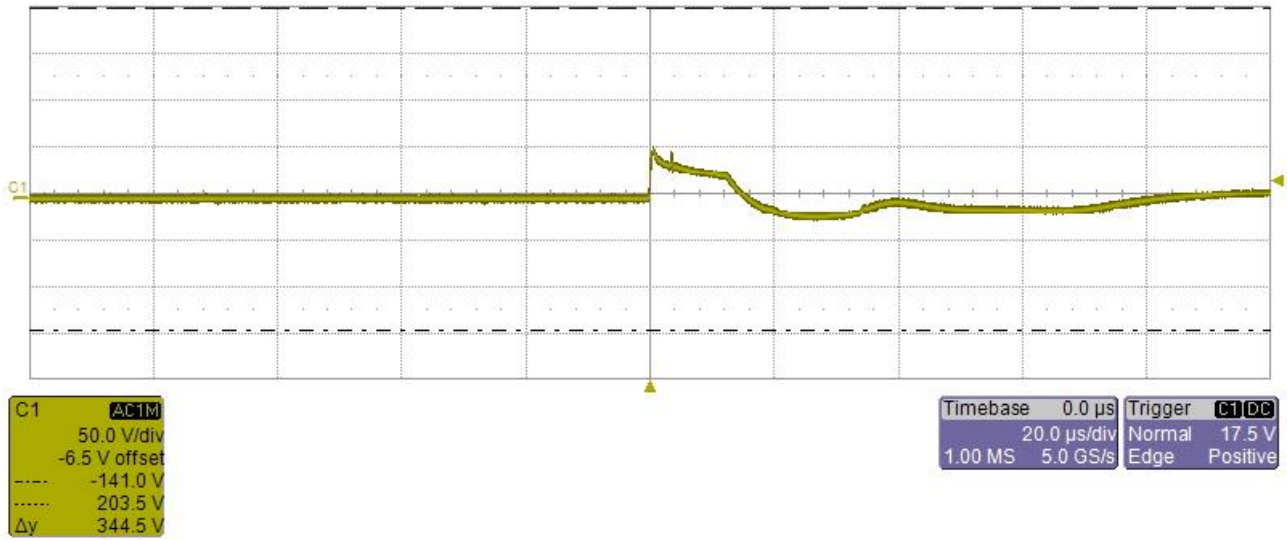

Diagram 11.4

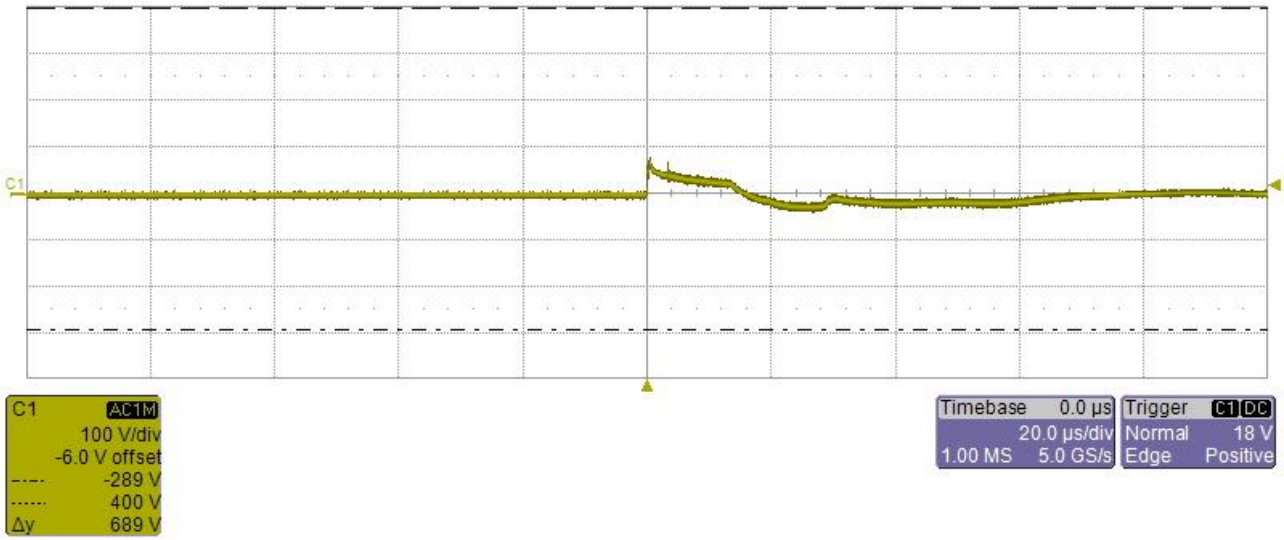

Diagram 11.5

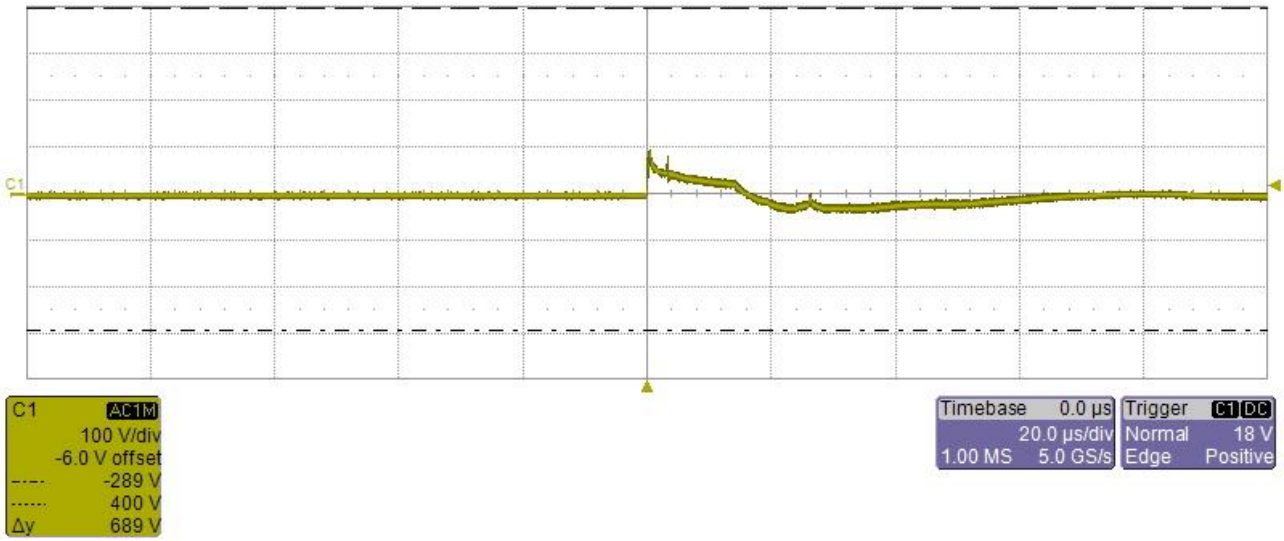

Diagram 11.6

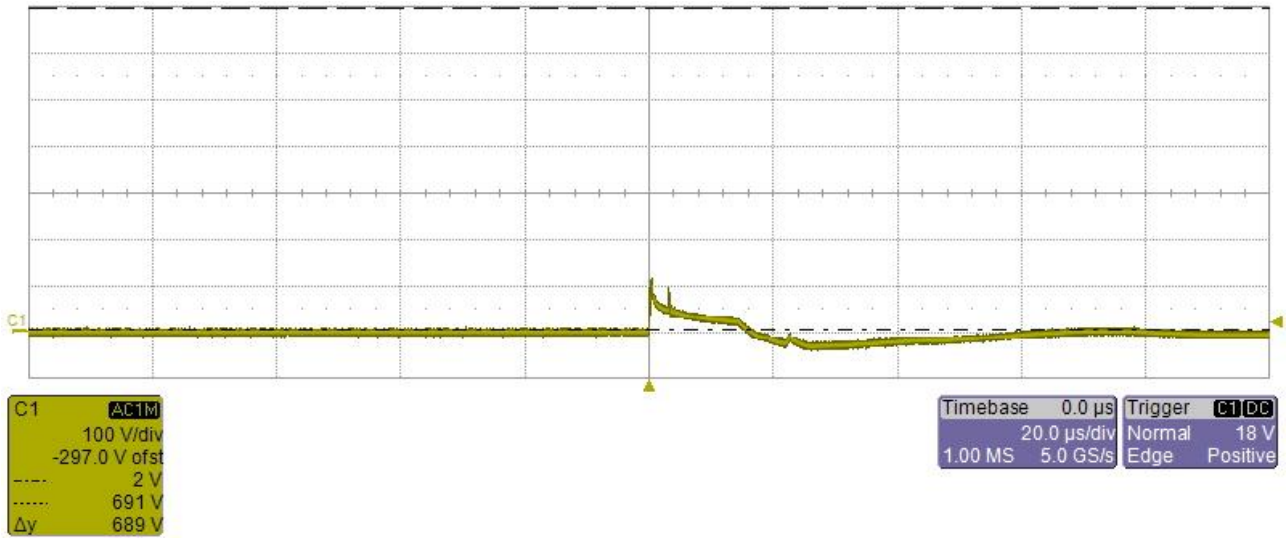

Diagram 11.7

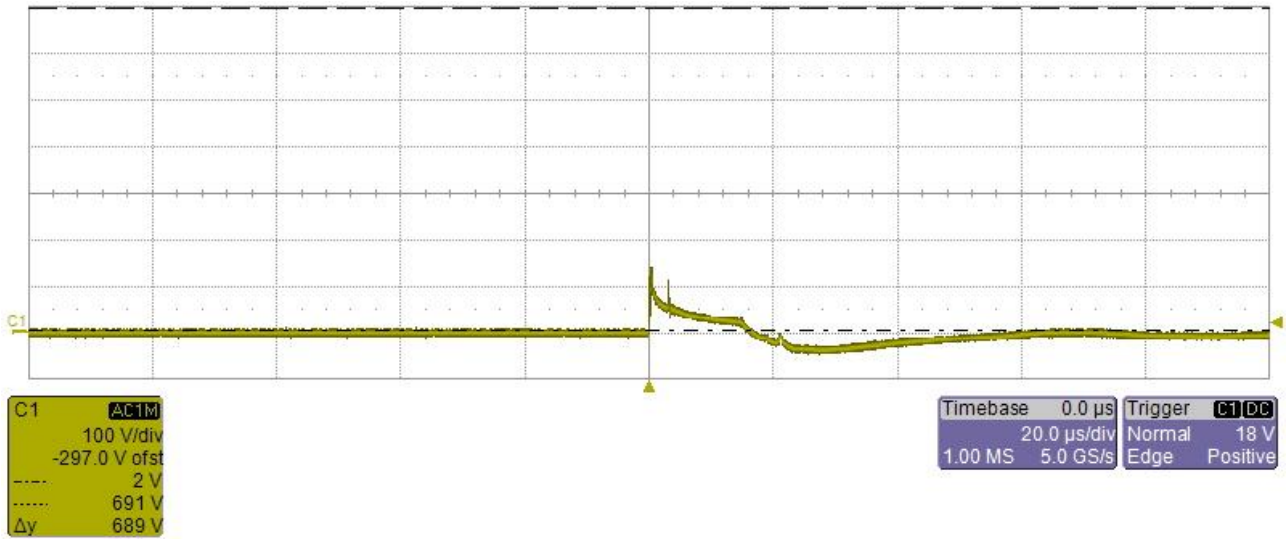

Diagram 11.8