

—
SINGLE SURGE TEST REPORT

Select™ — SL3™ Series SPD

Part number SL3-050-208-3Y-MDT-MO-F



Single surge test report

Test date: October 28, 2011

The purpose of this test report is to validate the marketed single surge rating for this product. Test results herein validate the specified surge protective device (SPD) meets its single surge nameplate rating.

Validation process:

- Product samples tested by Mersen, a third-party independent laboratory.
- Pre-test: VPR (6 kV/3 kA) clamping values recorded for each mode tested.
- Oscilloscope screen shots of this test contained in this report.
- Calibration shot used by lab to determine the amount of voltage required to achieve desired surge rating.
- Oscilloscope screen shots for the calibration shots contained in this report.
- Post-test: VPR (6 kV/3 kA) clamping values recorded for each mode tested.
- Pre- and post-test VPR clamping values must not deviate by $\pm 10\%$ for unit to pass.
- Table on page 5 contains the model tested, modes tested, pre-VPR clamping levels, test voltage required for the calibration shot to achieve desired kA value, actual kA value applied during test, post VPR values and the percent difference.

Note: Most SPD manufacturers simply add up the components used in the construction of their SPDs to provide customers and engineers with the surge capacity of the unit. Many competitive SPD products do not withstand a single surge test at their marketed values.



TRANSIENT IMPULSE TEST REPORT

Prepared for

***Thomas and Betts Power Solutions, LLC**

Prepared by: *Craig McKenzie*
Craig McKenzie, Test Labs Supervisor

Reviewed by: *Jim Marshall*
Jim Marshall, Electro-Mechanical Engineer

Report Number: 10-28-11



Test Laboratory: Mersen
374 Merrimac St.
Newburyport, MA 01950

Test Location: Mersen
374 Merrimac St.
Newburyport, MA 01950

***Customer:** T&B Power Solutions, LLC
5900 Eastport Blvd,
Richmond VA 23231

Date of Sample Receipt: October 28, 2011

Date of Test: October 30, 2011

Test Conditions: 22°C
45% Humidity

Description of Test Sample(s): SL3-050-208-3Y-MDT-M0-F

***Manufacturer:** Current Technology, Inc
5900 Eastport BLVD
Richmond, VA 23231

Test Methods: IEEE C62.41-1991
Test Procedure: 8x20uS waveform, 6kV/3kA Pre-Measured
Limiting Voltage and Post-Measured Limiting Voltage
(MLV), 50kA test strike

Test Personnel Craig McKenzie
Test Labs Supervisor

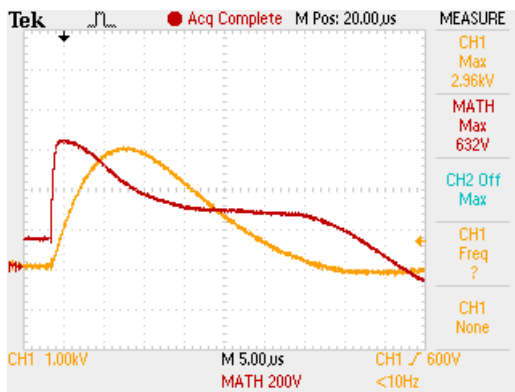
Customer Representative Corey Leavitt



Test Results

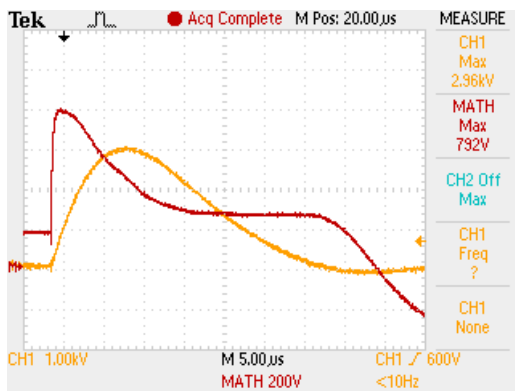
Sample Model Numbers	Sample #	Test	Mode	Pre MLV	Test kA	Test Voltage	Actual kA	Post MLV	% Diff
SL3-050-208-3Y-MDT-M0-F	4	3	A-N	632	50	10.2kV	42.8	640	1%
	6	4	A-G	792	50	10.2kV	41.2	784	-1%

Pre VPR Surge Test #1 A-N



ID 9
COMMENT SL3-050-208-3Y-MDT-M0-F
 Sample #4
EVENT A-N Pre Measured Limiting Voltage (MLV)
 6kV/3kA 1.2/50uS - 8/20uS Combination
 Wave
GRAPHIC FILENAME S:\nb_eng\cmckenzi\T&B Surge Test October 2011\TEK0008.BMP

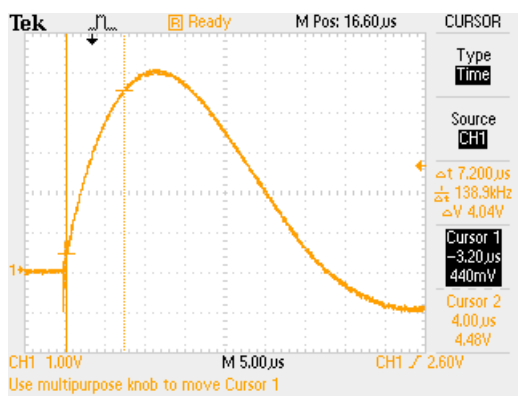
Pre VPR Surge Test #2 A-G



ID 15
COMMENT SL3-050-208-3Y-MDT-M0-F
 Sample #6
EVENT A-G Pre Measured Limiting Voltage (MLV)
 6kV/3kA 1.2/50uS - 8/20uS Combination
 Wave
GRAPHIC FILENAME S:\nb_eng\cmckenzi\T&B Surge Test October 2011\TEK0014.BMP



Single Surge Calibration Shot



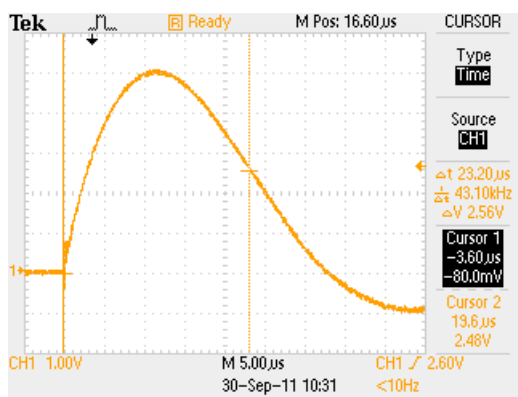
ID
COMMENT

17
10.2kV/50kA 8/20uS Calibration
Rise Time = 9uS
Pearson Current Monitor Ratio = 10,000:1

EVENT
GRAPHIC
FILENAME

S:\nb_eng\cmckenzi\T&B Surge Test October 2011\TEK0016.BMP

Single Surge Calibration Shot



ID
COMMENT

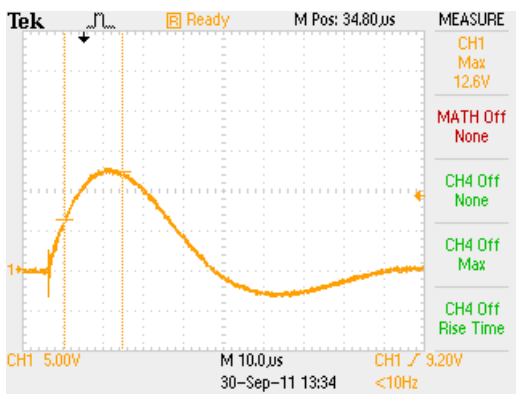
18
10.2kV/50kA 8/20uS Calibration
Duration=23.2uS
Pearson Current Monitor Ratio = 10,000:1

EVENT
GRAPHIC
FILENAME

S:\nb_eng\cmckenzi\T&B Surge Test October 2011\TEK0017.BMP



Single Surge Test #1 A-N



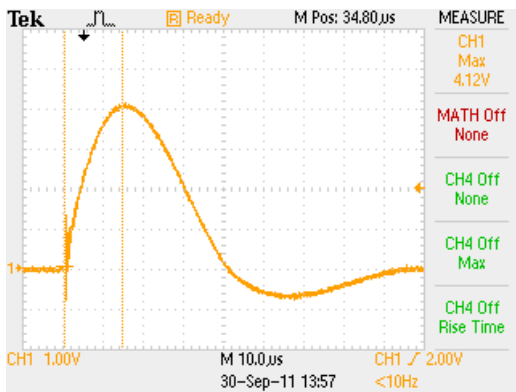
ID
COMMENT

36
SL3-050-208-3Y-MDT-M0-F
Sample #4
A-N 10.2kV/50kA 8/20uS

EVENT
GRAPHIC
FILENAME

S:\nb_eng\cmckenzi\T&B Surge Test October
2011\TEK0035.BMP

Single Surge Test #2 A-G



ID
COMMENT

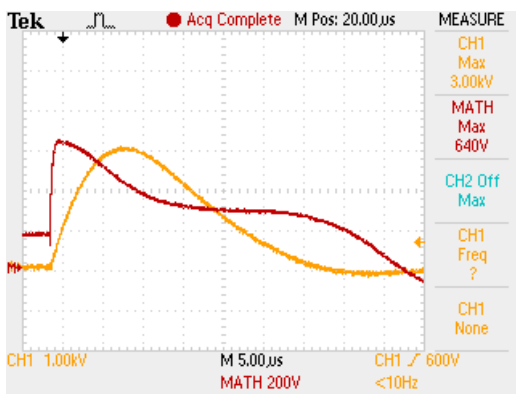
41
SL3-050-208-3Y-MDT-M0-F
Sample #6
A-G 10.2kV/50kA 8/20uS

EVENT
GRAPHIC
FILENAME

S:\nb_eng\cmckenzi\T&B Surge Test October
2011\TEK0040.BMP



Post VPR Surge Test #1 A-N



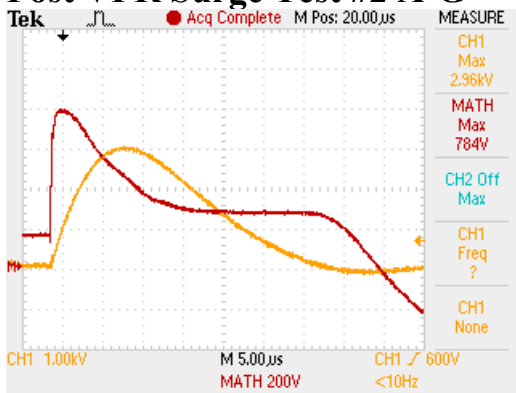
ID
COMMENT

59
SL3-050-208-3Y-MDT-M0-F
Sample #4
A-N Post Measured Limiting Voltage (MLV)

EVENT
GRAPHIC
FILENAME

S:\nb_eng\cmckenzi\T&B Surge Test October 2011\TEK0058.BMP

Post VPR Surge Test #2 A-G



ID
COMMENT

66
SL3-050-208-3Y-MDT-M0-F
Sample #6
A-G Post Measured Limiting Voltage (MLV)

EVENT
GRAPHIC
FILENAME

S:\nb_eng\cmckenzi\T&B Surge Test October 2011\TEK0065.BMP



Test and Measurement Equipment

Inst. ID No.	Manufacturer/Model/Serial No	Instrument Type	Function/Range	Last Cal. Date	Next Cal. Date
EC-632	Pearson/1423/86484	Current Monitor	0-200kA	2010-11-30	2011-11-30
EC-698	Tektronix/P6015A/B04 9886	Volt Probe	0-40kA	2011-03-24	2012-03-24
EC-641	Tektronix/P6015A/B04 5787	Volt Probe	0-40kA	2011-03-24	2012-03-24
EC-629	Cole Palmer/99760-00/NA	Temp/Hum		2010-10-22	2011-10-22
EC-640	Tektronix/TDS2024B/C035952	Oscilloscope	0-120V	2011-03-23	2012-03-23
EC-691	Tektronix/TDS2024B/C045448	Oscilloscope	0-120V	2010-10-26	2011-10-26
EC-654	Pearson/1423/106996	Current Monitor	0-200kA	2010-10-27	2011-10-27
EC-604	Fluke/23III/76571027	DMM	1000VAC	2010-11-19	2011-11-19

No reproduction of this test report without permission from the Mersen High Power Test Lab.

The results relate to the items tested in this report.

Appendix

*Thomas and Betts (T&B) Power Solutions, LLC and Current Technology, Inc were not a part of the ABB Inc. product portfolio at the time of this report. In 2012, ABB Inc. acquired Thomas and Betts (T&B) Power Solutions and the Current Technology brand. Current Technology is now a product line under the ABB brand.



USA
ABB Inc.
5900 Eastport Blvd.
Richmond, VA 23231-4453
(888) 385-1221

**[electrification.us.abb.com/
products/surge-protective-devices](https://www.electrification.us.abb.com/products/surge-protective-devices)**

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB Inc. does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB Inc. Copyright© 2023 ABB. All rights reserved.