

—  
SINGLE SURGE TEST REPORT

# Select™ — SL3™ Series SPD

Part number SL3-100-208-3Y-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):** SL3-100-208-3Y-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), 100kA test strike

**Test Personnel** Craig McKenzie  
Test Labs Supervisor

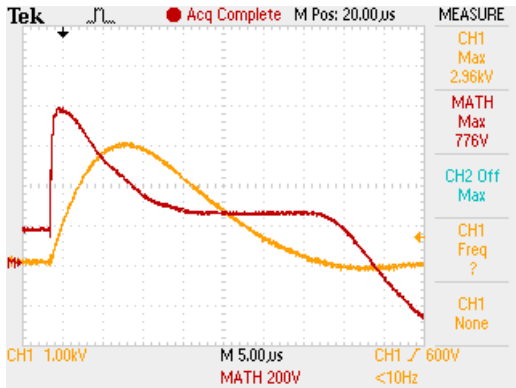
**Customer Representative** Corey Leavitt



**Test Results**

Sample Model Numbers	Sample #	Test	Mode	Pre MLV	Test kA	Test Voltage	Actual kA	Post MLV	% Diff
SL3-100-208-3Y-MDT-M0-F	5	8	A-G	776	100	20.46kV	83.2	784	1%
	6	7	B-N	656	100	20.46kV	84.8	696	6%

**Pre VPR Surge Test #1 A-G**



**ID COMMENT**

12  
SL3-100-208-3Y-MDT-M0-F  
Sample #5

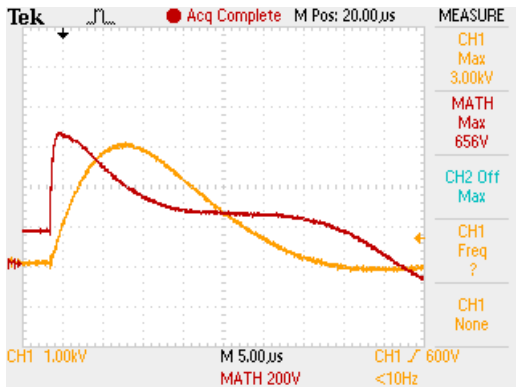
**EVENT**

A-G Pre Measured Limiting Voltage (MLV)  
6kV/3kA 1.2/50µS - 8/20µS Combination  
Wave

**GRAPHIC FILENAME**

S:\nb\_eng\cmckenzi\T&B Surge Test October  
2011\TEK0011.BMP

**Pre VPR Surge Test #2 B-N**



**ID COMMENT**

16  
SL3-100-208-3Y-MDT-M0-F  
Sample #6

**EVENT**

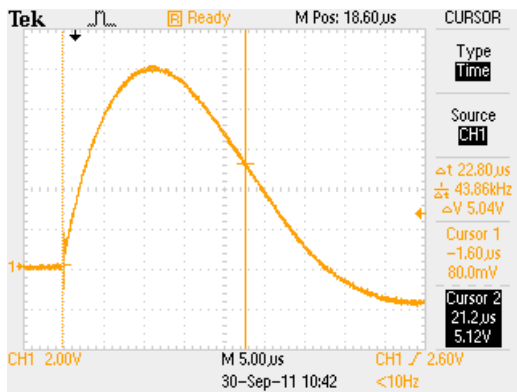
B-N Pre Measured Limiting Voltage (MLV)  
6kV/3kA 1.2/50µS - 8/20µS Combination  
Wave

**GRAPHIC FILENAME**

S:\nb\_eng\cmckenzi\T&B Surge Test October  
2011\TEK0015.BMP



### Single Surge Calibration Shot



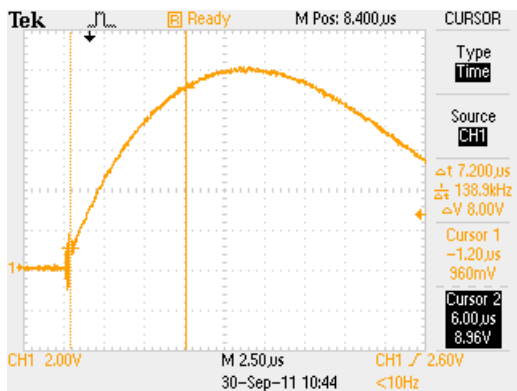
**ID**  
**COMMENT**

20  
20.5kV/100kA 8/20uS Calibration  
Duration = 22.8uS  
Pearson Current Monitor Ratio = 10,000:1

**EVENT**  
**GRAPHIC**  
**FILENAME**

S:\nb\_eng\cmckenzi\T&B Surge Test October 2011\TEK0019.BMP

### Single Surge Calibration Shot



**ID**  
**COMMENT**

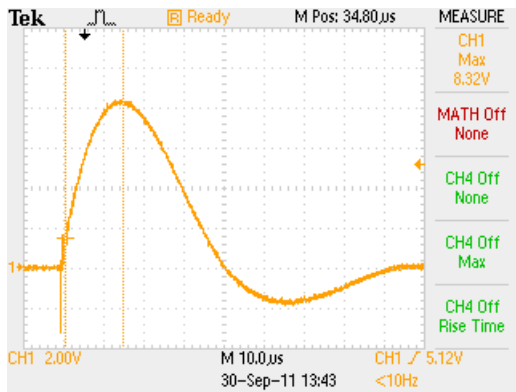
21  
20.5kV/100kA 8/20uS Calibration  
Rise Time = 9uS  
Pearson Current Monitor Ratio = 10,000:1

**EVENT**  
**GRAPHIC**  
**FILENAME**

S:\nb\_eng\cmckenzi\T&B Surge Test October 2011\TEK0020.BMP



### Single Surge Test #1 A-G



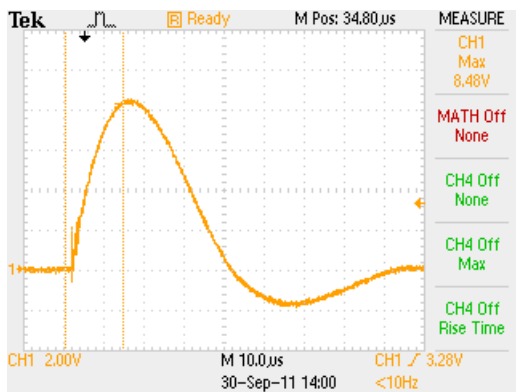
**ID**  
**COMMENT**

38  
SL3-100-208-3Y-MDT-M0-F  
Sample #5  
A-G 20.5kV/100kA 8/20uS

**EVENT**  
**GRAPHIC**  
**FILENAME**

S:\nb\_eng\cmckenzi\T&B Surge Test October 2011\TEK0037.BMP

### Single Surge Test #2 B-N



**ID**  
**COMMENT**

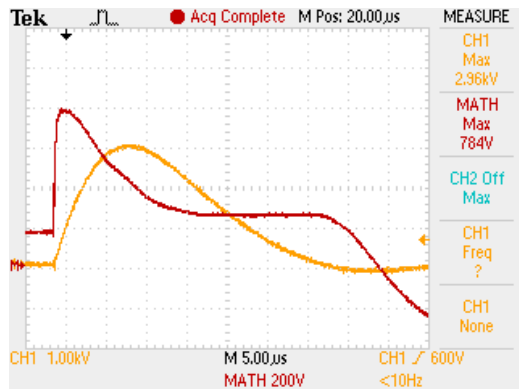
42  
SL3-100-208-3Y-MDT-M0-F  
Sample #6  
B-N 20.46kV/100kA 8/20uS

**EVENT**  
**GRAPHIC**  
**FILENAME**

S:\nb\_eng\cmckenzi\T&B Surge Test October 2011\TEK0041.BMP



### Post VPR Surge Test #1 A-G



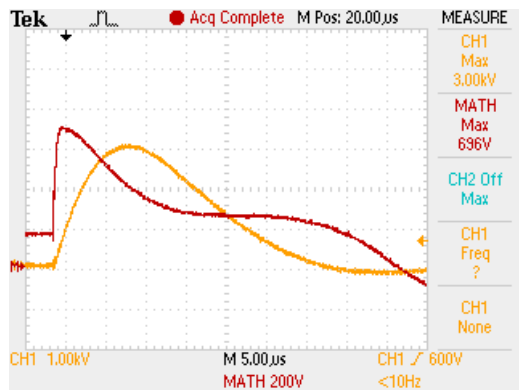
**ID**  
**COMMENT**

55  
SL3-100-208-3Y-MDT-M0-F  
Sample #5  
A-G Post Measured Limiting Voltage (MLV)

**EVENT**  
**GRAPHIC**  
**FILENAME**

S:\nb\_eng\cmckenzi\T&B Surge Test October 2011\TEK0054.BMP

### Post VPR Surge Test #1 B-N



**ID**  
**COMMENT**

67  
SL3-050-208-3Y-MDT-M0-F, SL3-100-208-3Y-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\TEK0066.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.