

LVS Series Low Voltage Surge Tester



1. Description

The LVS-500 series low voltage surge testers, output waveforms described in the IEC 61000-4-5 standard and/or surge waveforms described in GR-1089-CORE and C62.45-2002 IEEE, are designed for testing the surge immunity of devices at both wafer and package levels. Determination of the surge stressed EOS failure thresholds is made easy using the pulse generator.

The pulse source design and pulse source delivery method ensure waveform performance directly at the device under test, not at the generator output. Current waveforms can be captured and analyzed for each surge event with automated pulsed-failure measurement setup. In addition, voltage waveforms can be captured and used to determine the turn-on level of protection structures. They can also be used as a means of failure determination, as the leakage characteristics show changes after pulse events.

2. Features

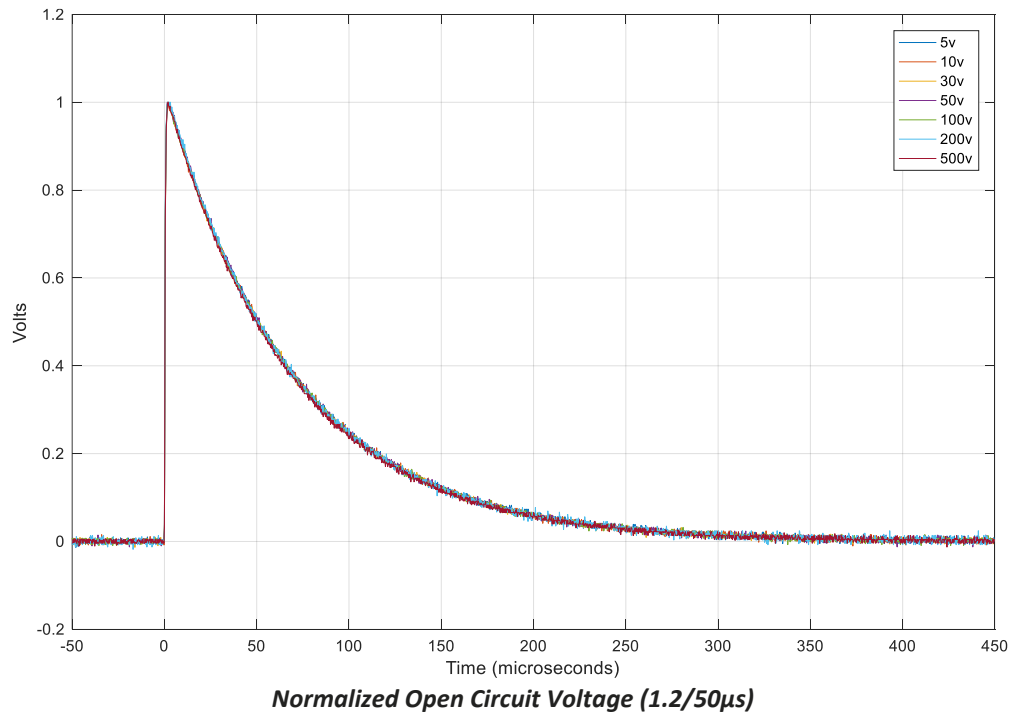
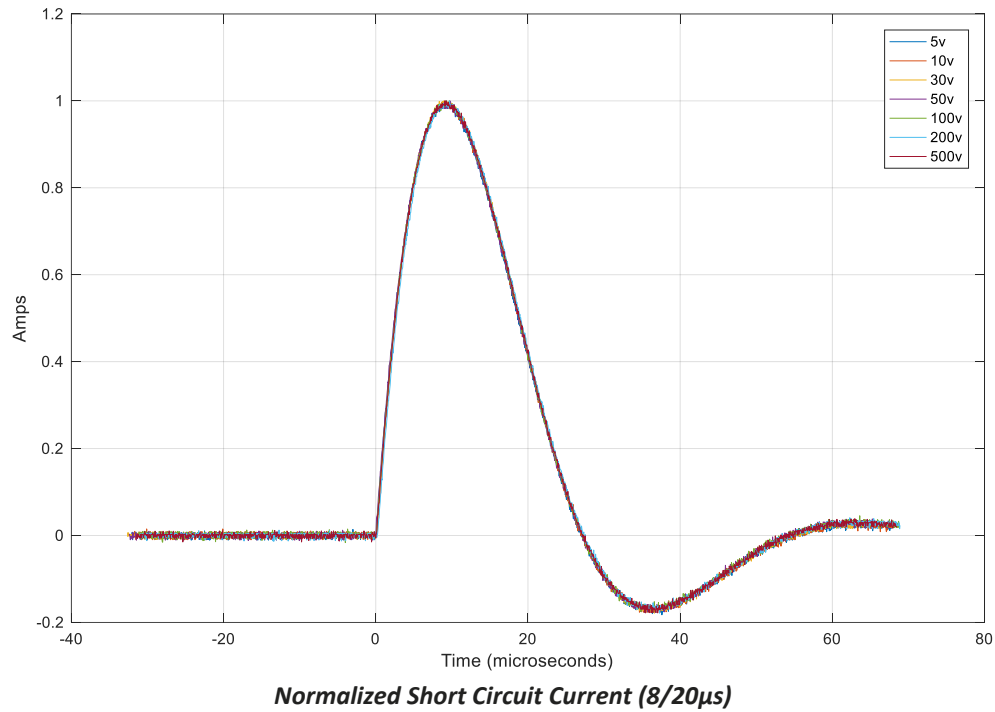
- Waveform exceptionally clean and linear from min to max
- Fully isolated surge pulsing circuit
- Optional software controlled automatic measurement
- Optional automatic failure detection includes DC spot check and static IV

3. Applications

- Test the surge pulse immunity for power supply, drive PCBs, communication systems, LCD display panels per 8/20 μ s and 10/1000 μ s specification
- Test the surge pulse immunity for wafer, packaged and PCB surge/EOS immunity

4. Specifications

Parameters	LVS-500	LVS-1000	LVS-1500	LVS-2000	LVS-500	LVS-1000	LVS-1500	LVS-2000	Unit
	-8/20				-10/1000				
Output Voltage @ open load	1 – 500	1 – 1000	1 – 1500	1 – 2000	1 – 500	1 – 1000	1 – 1500	1 – 2000	V
Output Current @ short load	0.5–250	0.5-500	0.5–750	0.5–1000	0.1–50	0.1-100	0.5–150	0.1 – 200	A
Output Precision	± 5 % ± 0.1 V								
Output Resistance	2 ± 5%				10 ± 10%				Ω
Short Circuit Current Front Time	8 ± 30 %				10 (+0, -5)				µs
Short Circuit Current Time-to-Half	20 ± 20 %				1000 ± 20 %				µs
Open Circuit Voltage Front Time	1.2 ± 30 %				10 (+0, -5)				µs
Open Circuit Voltage Time-to-Half	50 ± 20 %				1000 (+1000, -0)				µs
Dimensions	347 X 300 X 145								mm
Weight	5	6	8	10	5	6	8	10	kg



5. Ordering Information

Line	Part # or Option #	Description
LVS Pulser Series Low Voltage Surge		
1.1	LVS-500	LVS-500 Controller, voltage @ open load up to 500V (Main Controller only, with touch panel, remote control USB port, at least 1 pulse output option for LVS-500 must be selected)
1.2	LVS-500-8/20	Low Voltage Surge 8/20 μ s module for LVS-500 (Injection current for @ load from 0.5 to 250A)
1.3	LVS-500-10/1000	Low Voltage Surge 10/1000 μ s module for LVS-500 (Max injection current @ short load $\geq$ 50A)
1.4	LVS-1000	LVS-1000 Controller, voltage @ open load up to 1000V (Main Controller only, with touch panel, remote control USB port, at least 1 pulse output option for LVS-500 must be selected)
1.5	LVS-1000-8/20	Low Voltage Surge 8/20 μ s module for LVS-1000 (Max injection current @ short load from 0.5 to 500A)
1.6	LVS-1000-10/1000	Low Voltage Surge 10/1000 μ s module for LVS-1000 (Max injection current @ short load $\geq$ 100A)
1.7	LVS-1500	LVS-1500 Controller, voltage @ open load up to 1500V (Main Controller only, with touch panel, remote control USB port, at least 1 pulse output option for LVS-500 must be selected)
1.8	LVS-1500-8/20	Low Voltage Surge 8/20 μ s module for LVS-1500 (Max injection current @ short load from 0.5 to 750A)
1.9	LVS-1500-10/1000	Low Voltage Surge 10/1000 μ s module for LVS-1500 (Max injection current @ short load $\geq$ 150A)
1.10	LVS-2000	LVS-2000 Controller, voltage @ open load up to 2000V (Main Controller only, with touch panel, remote control USB port, at least 1 pulse output option for LVS-500 must be selected)
1.11	LVS-2000-8/20	Low Voltage Surge 8/20 μ s module for LVS-2000 (Max injection current @ short load from 0.5 to 1000A)
1.12	LVS-2000-10/1000	Low Voltage Surge 10/1000 μ s module for LVS-2000 (Max injection current @ short load $\geq$ 200A)
LVS Measurement options		
2.1	ES510-A1	LVS package level waveform and leakage test accessories
2.2	ES510-A2	LVS wafer level waveform and leakage test accessories
2.3	LVS-SW	Remote control software of the LVS system with PC

2.4	BT-LVS600V1A	Surge Bias Tee / CDN (designed for 8/20 surge) Max DC 600V, DCR <5 Ohm, Max 1A DC, 5A Pulse, 1kHz – 100MHz
2.5	Voltage Probe	Optional, Passive voltage divider probe, 101:1
2.6	CT-T10-0p1	Passive current probe, 0.1 V/A

Other options are available with customization:

2/10 μ s, 10/1000 μ s, Telcordia GR-1089 core

10/700 μ s, IEC 60950, detailed in ITU-T, K 17

1.2/50 μ s, IEC 60950, detailed in ITU-T, K 21

10/350 μ s, IEC 62305-4(IEC 61643-1)

0/200 μ s, 5/50 μ s, JIS