



# HBM Discharge Simulator PDS-510

## Data Sheet

### HBM Simulator used to test devices in compliance with ANSI/ESDA/JEDEC JS-001

The PDS-510 is a manual two pin tester which means that only two pins at a time can be tested. The user must design a way to connect the PDS-510 to the pins under test. In addition, they must have a way to check for damage to the device either by using a curve tracer or functional tester. HBM data collected using the PDS-510 can be used for data sheet reporting.





Data Sheet

Specifications for the PDS-510 HBM Discharge Simulator

PDS-510 HBM Discharge Simulator	
Discharge Output	Adjustable up to 4kV
Power Supply Output	Adjustable up to 4kV
Power Supply Accuracy	±2%
Discharge Waveform ANSI/ESD STM11.31	Rise time @ 0Ω: <10 nsec @ 500Ω: <20 nsec Fall time @ 0Ω: 150±15 nsec @ 500Ω: 200±20 nsec Ringing: <15%
Power	<b>Batteries:</b> 4 each AA 2600 mAh low self-discharge, Rechargeable, Nickel-Metal Hydride Battery <b>Power Supply:</b> From 90VAC to 264VAC, 47Hz to 63Hz. UL and TUV 60950-1 approved.
Battery Life	> 100 hours (with average of 50 discharges in 8 hours)
Dimensions	7.5”L x 4.5”W x 2.5”H (19.05cm x 11.43cm x 6.35cm)
Weight	2.0 lbs (907g)

ANSI/ESDA/Jedec JS-001-2014						
Voltage Level (V)	I <sub>peak</sub> for Short, I <sub>ps</sub> (A)	I <sub>peak</sub> for 500 Ω I <sub>pr</sub> (A)	Rise Time for Short, t <sub>r</sub> (ns)	Rise Time for 500 Ω t <sub>rr</sub> (ns)	Decay Time for Short, T <sub>d</sub> (ns)	Maximum Ringing Current I <sub>R</sub> (A)
125 (optional)	0.075 - 0.092 <b>.082</b>	N/A	2.0 - 10 <b>5.0</b>	N/A	130 - 170 <b>153.7</b>	15% of I <sub>ps</sub>
250	0.15 - 0.18 <b>.169</b>	N/A	2.0 - 10 <b>4.5</b>	N/A	130 - 170 <b>149.7</b>	15% of I <sub>ps</sub>
500	0.30 - 0.37 <b>.307</b>	N/A	2.0 - 10 <b>5.0</b>	N/A	130 - 170 <b>159.4</b>	15% of I <sub>ps</sub>
1000	0.60 - 0.73 <b>.654</b>	0.37 - 0.55 <b>0.435</b>	2.0 - 10 <b>4.5</b>	5.0 - 25 <b>10.0</b>	130 - 170 <b>151.3</b>	15% of I <sub>ps</sub>
2000	1.20 - 1.47 <b>1.302</b>	N/A	2.0 - 10 <b>4.5</b>	N/A	130 - 170 <b>151.0</b>	15% of I <sub>ps</sub>
4000	2.40 - 2.93 <b>2.72</b>	1.5 - 2.2 <b>1.728</b>	2.0 - 10 <b>4.0</b>	5.0 - 25 <b>10.0</b>	130 - 170 <b>143.3</b>	15% of I <sub>ps</sub>

The PDS-510 HBM Discharge Simulator meets ANSI/ESDA/Jedec JS-001-2014 Standard. The numbers in red are results from the PDS-510 with a PicoScope® and the Pico software<sup>1</sup>.

<sup>1</sup> Data Graphs available upon request. No 8000 volt discharge available on the PDS-510. PicoScope and Pico Technology are registered trademarks of Pico Technology Ltd.