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ADVANCES IN MEASUREMENT AND ANALYSIS OF ELECTROSTATIC DISCHARGE SIGNIFICANCE OF HUMAN BODY CAPACITANCE

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Abstract

The first part of the paper is focused on actual measurements of Human Body Capacitance (HBC). Even if we have developed three fundamental key diagrams for factual measurements of this capacitance, we have here detailed and compared only the obtained results for two variants of the method based on the measurement of the influence of a precisely-known capacitance upon the human (alternative or continuous) potential, with respect to earth.

The second part aims to investigate the relationship between the real capacitance and the truthful disturbing potential of the associated discharge on three different but typical loads. This impact was evaluated by three parameters: peak value of the discharge current, its rise-time and its integral in terms of time. We concluded on the influence of the capacitor (and its mount) in a simulator, upon the results and repeatability of the electrostatic discharge (ESD) susceptibility tests.

Key words: ESD susceptibility, human body capacitance

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