PRACTICAL ASPECTS OF SHORT-CIRCUIT WITHSTAND OF THE POWER SEMICONDUCTOR DEVICES

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ABSTRACT Short-circuit withstand of electric power system equipment is a part of the tests carried out by Institute of Power Engineering in Warsaw. In this article we have gathered our experience gained during the research of the power semiconductor devices. It shows the behavior of devices equipped with semiconductor components during short-circuit currents flow in case of nominal and emergency operation. The advantages of such solutions and method of obtaining the dynamic characteristics of semiconductor devices were shown as well. Attention was also drawn to the advantages of the use of transient thermal impedance based on semiconductor structures during the designing stage.

Keywords: semiconductors, thyristors, diodes, short circuit withstand, research