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## RESEARCH INTO PROPERTIES OF POWER ELECTRONICS DEVICES MADE OF SILICON CARBIDE SiC, IN CONDITIONS OF COMMUTATING CURRENT WITH HIGH FREQUENCY

**ABSTRACT** *The paper presents results of measurements of the reverse recovery current and dynamic forward voltage of the SiC Schottky diodes at a current variation slope in a device, of  $500 \text{ A}/\mu\text{s}$ . These data were compared with the corresponding parameters determined for ultrafast silicon diodes. Results of tests of power losses in diodes made of silicon carbide, at a current commutation frequency of  $(10 \div 200) \text{ kHz}$  are presented, comparing them with corresponding data determined for ultrafast silicon diodes. Test results of power losses in transistors constituting elements of d.c. voltage controllers are also shown. Investigations were conducted with an ultrafast SiC diode and with an ultrafast silicon diode at the transistor switching frequency of  $100 \text{ kHz}$ .*

**Keywords:** *semiconductor devices, silicon carbide, high frequency converters.*