

## High voltage silicon carbide Schottky diode for low temperature applications

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*Received May 24, 2022*

***The current-voltage characteristics of a high-voltage russian silicon carbide Schottky diode 5DSH410A1 have been studied experimentally and theoretically in the temperature range from 298 K to a liquid nitrogen temperature. It has been established that decreasing of temperature from 298 K to temperature of 78 K, the value of the direct current increases approximately twice (up to 211 A) and the reverse voltage reaches ~1450 V. The forward and reverse current-voltage characteristics at a temperature of 78 K have been described theoretically. The possibility of 5DSH410A1 silicon carbide Schottky diode stable operation under low temperatures is demonstrated.***

*Keywords:* silicon carbide, Schottky diode, current-voltage diagram diode, low temperatures.

DOI: 10.51368/1996-0948-2022-3-49-55

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