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[54] **P-N JUNCTION DIODES IN SILICON CARBIDE**

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[57] **ABSTRACT**

The invention comprises a method of forming a diode which is operable at high temperature, at high power levels, and under conditions of high radiation density. The method comprises bombarding a region of a substrate of doped silicon carbide having a first conductivity type with high temperature ion implantation of doping ions into the substrate to give the bombarded region an opposite conductivity type. Regions of opposite conductivity type adjacent one another and a respective p-n junction are thereby formed. Ohmic contacts are added to the substrate and to the bombarded region to complete the diode.

8 Claims, 3 Drawing Sheets