US006670687B2

(12) **United States Patent**
Satoh et al.

(10) **Patent No.: US 6,670,687 B2**
(45) **Date of Patent: Dec. 30, 2003**

(54) **SEMICONDUCTOR DEVICE HAVING SILICON CARBIDE LAYER OF PREDETERMINED CONDUCTIVITY TYPE AND MODULE DEVICE HAVING THE SAME**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/976,157**

(22) Filed: **Oct. 15, 2001**

(65) **Prior Publication Data**

US 2003/0006471 A1 Jan. 9, 2003

(30) **Foreign Application Priority Data**

Jun. 25, 2001 (JP) 2001-190991

(51) **Int. Cl.**[7] **H01L 29/47**; H01L 29/812; H01L 31/07; H01L 31/108

(52) **U.S. Cl.** **257/471**; 257/55; 257/77; 257/267; 257/280

(58) **Field of Search** 257/77, 472, 279, 257/485, 280, 607, 267, 12, 200, 347, 453, 476, 481, 55, 603, 612, 622, 655, 764, 53, 750, 506, 471

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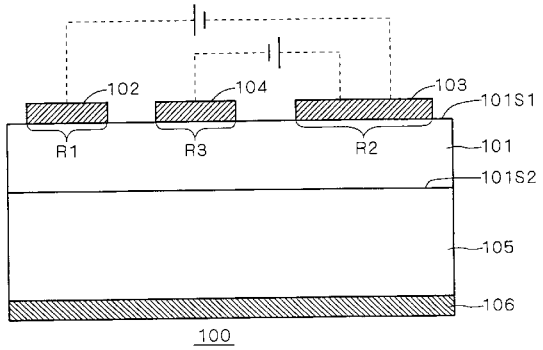
(57) **ABSTRACT**

A semiconductor device having a silicon carbide layer of a singular conductivity type. The silicon carbide layer includes a surface having a first region, a second region, and a third region sandwiched between the first region and the second region. An anode electrode having a Schottky contact with the first region, a cathode electrode having an ohmic contact with the second region, and a control electrode having a Schottky contact with the third region are included in the semiconductor device.

8 Claims, 5 Drawing Sheets