

SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING THE SAME

ABSTRACT

Both a HEMT and a SBD are formed on a nitride semiconductor substrate. The nitride semiconductor substrate comprises a HEMT gate structure region and an anode electrode region. A first laminated structure is formed at least in the HEMT gate structure region, and includes first to third nitride semiconductor layers. A second laminated structure is formed at least in a part of the anode electrode region, and includes first and second nitride semiconductor layers. The anode electrode contacts the front surface of the second nitride semiconductor layer. At least in a contact region in which the front surface of the second nitride semiconductor layer contacts the anode electrode, the front surface of the second nitride semiconductor layer is finished to be a surface by which the second nitride semiconductor layer forms a Schottky junction with the anode electrode.

(FIG. 1)