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(54) **SEMICONDUCTOR DEVICE**

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(57) **ABSTRACT**

A semiconductor has a layer of a first conductivity type with a main surface, a trench separation structure which includes a separation trench formed in the main surface, a separation insulating film that covers a wall surface of the separation trench and a separation electrode that is embedded in the separation trench across the separation insulating film, the trench separation structure demarcating an outer region and an active region in the main surface, a floating region of a second conductivity type which is formed in an electrically floating state at a surface layer portion of the main surface along the trench separation structure in the outer region, and a Schottky electrode which is electrically connected to the separation electrode such as to retain the floating region in the electrically floating state in the outer region and which forms a Schottky junction with the main surface in the active region.