

ABSTRACT

A semiconductor device includes an active region extending in a first direction on a substrate; a plurality of channel layers on the active region and spaced apart from each other in a vertical direction that is perpendicular to the first direction; a gate structure on the substrate, the gate structure intersecting the active region and the plurality of channel layers, extending in a second direction crossing the first direction, and respectively surrounding the plurality of channel layers; inner spacer layers on both sides of the gate structure in the first direction, and on respective lower surfaces of the plurality of channel layers; a protective layer in contact with the inner spacer layers, the plurality of channel layers, and the active region; and a source/drain region on the active region, on at least one side of the gate structure, and in contact with the inner spacer layers.

FIG. 2A