

ABSTRACT

A semiconductor device includes a substrate having a first region and a second region, the first region including memory cells, and the second region including transistors for driving the memory cells, and device isolation regions disposed within the substrate to define active regions of the substrate. The active regions include a first guard active region surrounding the first region, a second guard active region surrounding a portion of the second region, and at least one dummy active region disposed between the first guard active region and the second guard active region.

FIG. 3