ABSTRACT

A memory device includes memory cells and a peripheral circuit. The memory cells are coupled to a plurality of word lines. The peripheral circuit is configured to, in a first interval, while a program voltage is applied to a selected word line among the plurality of word lines, apply a pre-program pass voltage to one or more adjacent word lines adjacent to the selected word line in a first sub-interval included in the first interval, and discharge the one or more adjacent word lines in a second sub-interval included in the first interval, and in a second interval, apply a program pass voltage to the one or more adjacent word lines while the program voltage is applied to the selected word line.

FIG. 1