ABSTRACT

A memory device including a plurality of memory cells, a peripheral circuit configured to perform a read operation of reading data from memory cells connected to a selected word line, and a read operation controller configured to apply a plurality of read voltages to the selected word line, apply a first pass voltage to unselected word lines while first read voltages for determining a program state of memory cells having a threshold voltage higher than a reference voltage among the plurality of read voltages are applied to the selected word line, and apply a second pass voltage higher than the first pass voltage to the unselected word line while second read voltages for determining a program state of memory cells having a threshold voltage lower than the reference voltage among the plurality of read voltages are applied to the selected word line.

FIG. 9