ABSTRACT

SEMICONDUCTOR MEMORY DEVICE AND OPERATING METHOD THEREOF

A semiconductor memory device includes a memory block including plurality of string groups, a peripheral circuit, and control logic. The peripheral circuit performs a program operation on source select transistors included in the memory block. The control logic controls the program operation of the peripheral circuit. Each of the plurality of string groups includes at least one cell string, and the at least one cell string includes inner source select transistors located adjacent to memory cells and outer source select transistors located adjacent to a common source line. The control logic controls the peripheral circuit to perform program operations on the outer source select transistors and the inner source select transistors by an ISPP method. The control logic controls the peripheral circuit to perform a verify operation by dividing the inner source select transistors into at least two groups during the program operation of the inner source select transistors.

FIG. 1