

ABSTRACT OF THE DISCLOSURE**METHOD FOR PROGRAMMING A NONVOLATILE MEMORY**

A method for programming a nonvolatile memory cell having a control gate, a floating gate, a drain, a source, and a channel region disposed between the drain and source, the method includes the steps of applying a first voltage to the control gate to form an inversion layer in the channel region, the first voltage being varied to program at least two threshold levels of the memory cell, applying a second voltage to the drain and a third voltage to the source, the second voltage being greater than the third voltage, monitoring a current flowing between the drain and the source during the programming of the at least two threshold levels, and terminating any one of the first voltage, the second voltage, and the third voltage when the monitored current reaches a preset reference current to thereby stop the programming of the at least two threshold levels.

Figure 2