

ABSTRACT OF THE DISCLOSURE**METHOD OF MAKING THE SELECTION GATE IN A SPLIT-GATE FLASH
EEPROM CELL AND ITS STRUCTURE**

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A method of making the selection gate in a split-gate flash EEPROM cell forms a selection gate on a trench sidewall of a semiconductor substrate to minimize the sidewise dimension of the selection gate and to maintain the channel length. The disclosed method includes the steps of: forming a trench on a semiconductor substrate
10 on one side of a suspending gate structure; forming an inter polysilicon dielectric layer on the sidewall of the suspending gate structure and the trench; and forming a polysilicon spacer on the inter polysilicon dielectric layer as the selection gate. Such a split-gate flash EEPROM cell can produce ballistic hot electrons, improving the data writing efficiency and lowering the writing voltage.

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Fig. 6.

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