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(54) **PLANAR COMPLEMENTARY MOSFET  
STRUCTURE TO REDUCE LEAKAGES AND  
PLANAR AREAS**

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(57) **ABSTRACT**

The present invention discloses a planar CMOSFET structure used in the peripheral circuit of DRAM chip and in sense amplifiers of array core circuit of DRAM chip, the planar CMOSFET structure comprises a planar P type MOSFET with a first conductive region, a planar N type MOSFET with a second conductive region, and a cross-shape localized isolation region between the planar P type MOSFET and the planar N type MOSFET; wherein the cross-shape localized isolation region includes a horizontally extended isolation region contacts to a bottom side of the first conductive region and a bottom side of the second conductive region. The present invention could be similarly applied to the transistors for CMOS logic circuits as well.

