Title: Lift Off Gate MOS Device

ABSTRACT OF THE DISCLOSURE

An improved lift off gate MOS device such as a lateral double diffused metal oxide semiconductor field effect transistor (LDMOSFET) or a vertical double diffused metal oxide semiconductor field effect transistor (FET) device includes a silicon substrate, a source, a drain and a gate, the gate being spaced from the peripheral surface of the substrate by an oxide layer. The peripheral portions of the gate which are oriented toward the substrate are graded, beveled or curved. The portions of the oxide layer proximate the graded gate portions are also graded in a manner complimentary to the graded gate portions so that the thickness of the oxide layer proximate the graded gate portions is greater than the thickness of the oxide proximate the ungraded portions of gate. In this manner, high transconductance of the channel region is provided without reducing blocking voltage.

Fig 4