

ABSTRACT

A PROCESS TO CONTROL THE LATERAL DOPING PROFILE OF AN IMPLANTED CHANNEL REGION

A process for fabricating a MOSFET device, featuring a narrow lateral delta doping, or a narrow anti-punchthrough region, located in the center of the MOSFET channel region, has been developed. The process features formation of the narrow, anti-punchthrough region, via use of an ion implantation procedure, performed using an opening, comprised with sidewall spacers, as an implant mask. After formation of the narrow, anti-punchthrough region, the sidewall spacers are removed, and a gate insulator layer, and a polysilicon gate structure, are formed in the spacerless opening, defining a channel region wider than the narrow, anti-punchthrough region.

(FIGURE 1 IS SUGGESTED FOR PUBLICATION)